

# An-Najah National University



## Academic Catalog 2009 - 2010

# ACADEMIC CATALOG





design by abd el- hadi jawapreh

# ITRO.



## IN THE NAME OF GOD THE MOST MERCIFUL

The Department of Public Relation at An-Najah National University is pleased to offer its students this 'guide' which contains complete information on the University, its formation and development along with introductory information about the Colleges and Departments affiliated with this University.

This Guide contains information on the awarding of academic degrees which is highly essential for students to be acquainted with in order to follow well-defined steps in their pursuit of their desired academic study. In addition, this 'guide' provides students with the study plans which help students decide on the programs of study offered by the various colleges of the university and lays out the ways and steps which enable students to select their major which he/she desires to pursue to obtain a university degree on.

Seeking Al-mighty God help and strength

### *University's Origin & Evolution*

An-Najah began as an elementary school in 1918, welcoming students from all parts of Palestine and some other Arab countries and then it has evolved and developed over the years to become to be one of the largest Palestinian Universities in Palestine.

In 1941, this elementary school came to be known as An-Najah National College while its evolutionary program had been in progress until 1965 when an institution for the preparation of teachers was established during which this university used to award a two-year-degree of instruction in various disciplines. This college then evolved and developed into a full-fledged institution during which it came to be known as An-Najah National University in 1977. During that year the university opened the college of Sciences & the college of Arts and the university joined the Council of Arab Universities. In the following year the university opened the following colleges: the college of Economic & Administrative Sciences and the College of Education and Engineering.

During the eighties the university stood as a witness to the construction and development of new buildings such as the new building of the college of Arts and the opening of new specialized and scientific centers such as the Center for Urban Studies and the Center for Documentation & Research. During the nineties, the university witnessed the establishment of Marine & Environmental Center, the Center for Studies & Consultation and other technical services.

In 1981, the university was accepted as a member in the World Federation of Universities and due to the increasing need of Palestinians for education and the enhancement of their level, the university established M.A. programs in Administration & Curriculum at the college of Education which started 1980/1981.

In 1985 the university expanded its field of graduate studies to include various specializations such as chemistry.

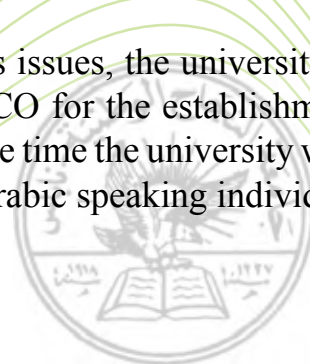
The increase of students' population has prompted the university to develop new specializations such Agricultural Sciences, Medical Tests, and Fine Arts. Such development has extended itself to cover university apparatuses represented in human resources: academic and administrative service, staff; and university buildings, library, encyclopedias, and lab facilities etc.

The university has spared no efforts to develop and enhance the academic capabilities and competence of its faculty staff in addition to attracting other competent candidates with higher education whether at home or abroad. The university has also sent many graduates with B.A.s and M.A.s from various academic disciplines abroad to pursue their graduate and postgraduate studies. In the nineties, the university was able to turn three academic departments into three full and independent colleges. These academic departments have developed into the following colleges: college of Shari'ah, college of Agriculture, and college of Fine Arts. The university has also started granting a Master degree in Arab language, History, Civil Engineering, and Water and Environment Specialization.

In 1994 the university established a College of Pharmacy, and has developed some Colleges and specialized Scientific Centers such as the Academic Program of Forced Migration and the Center for Marine & Environmental Studies which has been transformed into the Institute of Water and Environmental Studies, Center for Studies, Consultancies, and Professional Services; and Business and Technology Incubator.

In 1995, a College of Law was established. In 1996, there was a gigantic leap in the academic life of the university when the university began working with other German, British, Canadian, and Spanish Universities to open a Ph.D. program in chemistry in addition to opening two new departments – Industrial and Mechanical Engineering at the College of Engineering. It has also developed the Master programs in Environmental Sciences, Mathematics, and Physics at the College of Sciences. The Center for Renewable Energy was established along with the Center for Earth Sciences & Seismic Engineering. During the same year the College of Agriculture was transferred to the College of Al-Khudury in the city of Tulkarim due to the availability of spacious land which gives students the opportunity for practical application.

In 1997 and in an act confirmation for human rights issues, the university signed an agreement with the Director General of the UNESCO for the establishment of a program on Human Rights & Democracy and at the same time the university was keen on establishing an Arabic language Program for non-Arabic speaking individuals.



The year 1998 had witnessed a remarkable development when the Board of Trustees took the decision to establish the Center for Urban & Regional Planning. The year 1999 witnessed another major accomplishment manifested itself in the establishment of a College of Medicine. Such an accomplishment was done with the cooperation of three major Palestinian universities: An-Najah National University; Al-Quds University; and Al-Azhar University in Gaza. It is important to note that the Medical College at An-Najah National University has been considered an independent and a credited college by the Ministry of Learning & Higher Education since the academic year of 2007-2008.

The year 2000 has also witnessed a remarkable accomplishment represented by President Yasser Arafat's laying out the foundation stone for the College of Technological Engineering in Munib Al-Masri Building. Such remarkable accomplishment occurred on the new campus of the university at Al-Junaid campus on 25 of June, 2000.

The same year had also witnessed the establishment of the College of Veterinary Medicine, and other scientific majors such as Computer Engineering at the College of Engineering, Statistics at the College of Science, and Economics & Agricultural Development at the College of Agriculture. In the year 2001, the College of Information Technology was established which includes: Computer Science Dept, Management Information Technology (MIS), and Computerized Information Systems (GIS).

In 2003, the university established two M.A. programs in Private and Public Law along with a Bachelor degree of Methods of Technological Education. In 2004, the university was able to establish several undergraduate programs in Nursing, Computer Information Systems, and Optics.

During the academic year of 2004-2005, the university was able to make some impressive accomplishments which have given it an excellent reputation. Of these impressive accomplishments, the opening of Al-Qasim Palace in Beit Wazan which was latter transformed into a Center for Urban and Regional Planning and the Unit of the Architectural Preservation and Construction; the launching of An-Najah Scholarship Award for Scientific Research in both the scientific and humanistic fields; the opening of the College of Honors which was established for distinguished students; the opening of the Recruitment Unit for the purpose of training university graduates to find job opportunities through contacting prospective employers. In addition, the university was able to make the following accomplishments by establishing the morgue equipment to be used as an anchor for Forensic Medicine in Palestine, and the launching of a web site called Zajil in Spanish.

At the graduate level, the university has created two different specialization programs: an M.A. program in Animal Product and an M.A. in Clean Energy & Reduce Consumption. At the start of the first semester of the academic year of 2005/2006 the College of Engineering, the College of Sciences, and the College of Pharmacy moved to the new campus in Al-Junid thus making the new campus a house of ten different Colleges.

The year 2006/2007 was opened with more accomplishments for the service of both university students and the Palestinian community. During this year the Medical-legal Institute was opened as part of the Medical College; and An-Najah Recruitment Unit whose primary purpose is to assist and qualify university students to enter the job market and to function as a liaison between prospective employers and university graduates. This year had also witnessed the opening of the Center for Poison Control & Drug Information which is considered to be the first of its kind in Palestine in terms of providing valuable information for people working in medical professions to diagnose poison, poison prevention, and provide treatment.

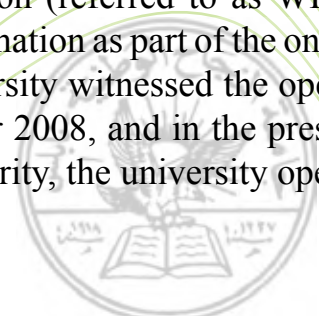
In addition, this year witnessed the transformation of the Department of Physical Education into a full-fledge independent College; in addition it has witnessed the completion of the process of accreditation of the program of Al-Sharia'a, Islamic Banks, the Master program of Plant Production, the Master Program of Engineering Management, the B.S. degree in Pharm.D., the B.S. degree in Midwifery, and the B. S. degree in Medicine.

This year was concluded by the university's earning and for the ninth times the Hisham Adeeb Hijawi's Award in the field of Energy and Manufacturing.

However, in 2007 the university opened a Computer Center for the visually impaired on the old campus; in addition to the opening of the Korean-Palestinian Information Technology Institute for Excellence through a Korean fund; this year has witnessed also the opening of an eye-clinic as part of the College of Optics; a hall cafeteria, the completion of the construction of the mosque, a theater, and the laying down of the foundation stone for the library building on the new campus; in addition, the board of trustees agreed to begin offering Evening Study during the academic year of 2008-2009.

In 2008, the university was able to obtain a separate provision for the College of Medicine from the Association of Accreditation and Quality of the Ministry of Education & Higher Learning and was also able to lease the hospital of the Zakat Committee in the Asera Street in the city of Nablus for 99 years. This hospital would eventually be converted to a teaching hospital for medical and nursing students at the university. The same hospital would be utilizing the entire northern region of the West Bank in cooperation with the Palestinian Ministry of Health. In addition, the university was able to sign an agreement with the Ministry of Transportation in order to start examining vehicles for licensing at Hisham Hijawi College of Technology in the governorate of Nablus, Tulkarim, Jenin, Qlqilia, Salfit, and Tubas.

It was noted also that the World Health Organization (referred to as WHO) has recognized the Center for Poison Control & Drug Information as part of the ones listed in the Middle East region. In August 2008, the university witnessed the opening of the new mosque on the new campus and in November 2008, and in the presence of Mahmud Abbas, the President of the Palestinian Authority, the university opened the Sports Complex in the new campus.





In 2009, the University College of Medicine was placed on the International List of Medical Colleges of Medicine known to as (IMED) - an international list which includes recognized medical colleges throughout the world. At the same, the bachelor degree in biomedical sciences is officially credited by the Ministry of Education and higher learning.

The importance of including the college of medicine on this list lies in enabling and qualifying graduates of the university medical college to take the test/examination of American Equivalence and the accreditation of kindergarten teacher for the bachelor degree from the College of Education, the Communication Engineering, and Mechatronic Engineering at the College of Engineering. In addition, the program of community-based mental health nursing and the program of specialization in Pediatrics at the college of graduate studies have been adopted and accredited.

In 2010, Tourism and Archaeology program and the faculty of Media have been adopted and accredited.

### ***University's vision***

An-Najah National University strives to earn a global respect on the basis of the grand quality of its higher education; at the same time; it spares no effort to be a worldwide scientific center and an effective base for community service and leadership.

### ***University's mission***

By and large, An-Najah National University aims at preparing professional cadres qualified enough for leadership; and developing their abilities in various fields and spheres; and providing them with the scientific knowledge and individual skills which enhance their competitiveness in the local, Arab, and International market. The university strives to make its graduates ethical and effective catalysts. It also endeavors to be instrumental in the contribution of its scientific research on a global level and to meet the needs of its community in the area of economic, social, humanitarian, and technical development. And finally, it strives to the enrichment of the human knowledge and the preservation of the cultural and religious heritage of the Palestinian people.

### ***The Strategic Plan Goals:***

1. Promoting Higher education and its development and enhancement in all fields and spheres
2. Promoting scientific research in all scientific and human fields for the enrichment of human knowledge
3. Activating the role of the university as a pioneering and instrumental catalyst in serving its community and participating in providing remedies to its problems.
4. Developing the competence of its administrative staff performance at the university level in order to enhance its administrative services which is key to helping the university achieve its mission.

### ***An-Najah University Councils:***

University policies are determined by university councils which operate in harmony with university regulations, provisions, and systems. These university councils consist of:

First: Board of Trustees: this council is considered the highest legislative authority at the university. It approves the university financial and administrative provisions and systems; it supervises the provisions of financial resources of the university.

### ***The board of trustees consists of:***

Mr. Sabih Taher Al-Masri                      Chairman of the board of trustees

Mr. Farouq Zuaiter                              Vice-President

Board of Trustees:

1. Dr. Nihad Al-Masri
2. Dr. Hashim Abed Al-Hadi
3. Mr. Mustafa Al-Natsheh
4. Mr. Wahid Al-Hamdallah
5. Mr. Farouq Tuqan
6. Judge Imad Salim
7. Dr. Mazin Inibtawi
8. Mr. Akram Haniyeh
9. Mr. Walid Al-Sabe'a
10. Dr. Muhamed Hani An-Nabulsi
11. Mr. Samir Izreiq
12. Father. Yousif Sa'ada
13. Miss Adlah Ghanim
14. Mr. Nasir Al-Alul
15. Mr. Bashar Al-Masri



## ***Second: Deans' Council***

This council determines and reviews the university academic policies; makes the proper decisions and recommendations in accord with university provisions and regulations which result in the approval of study and teaching plans and defining and determining the needs of the various colleges and departments at the university.

The Dean's Council consists of

1. The President of the University: Chairman of the Council
2. Vice-president and their assistants
3. Deans
4. Coordinators of Scientific Centers

## ***Third: Colleges' Councils:***

A college council is usually formed for each college. This council is charged with responsibility to study the academic and administrative affairs of that college and to coordinate the relations among its various departments and with other colleges at the university and other administrative units. This council is also charged to make decisions and provide recommendations through its Dean to university specialized departments. It also decides on and approves of matters pertaining to each college.

The college council consists of:

1. College Dean: Chairman of the Council
2. Dean Assistant
3. Department Chair
4. Representatives in the rank of assistant professors from the faculty members of the same college would be elected annually by the faculty members of the same college.

## ***Fourth: Department Councils:***

A department council is usually formed in each academic department at the university. It consists of the faculty members of affiliated in that department.

This council studies the academic affairs pertaining to the faculty members of its department; provides recommendations to that effect to the college council. The chairman of the department is responsible for administering the affairs of the department, the application and implementation of all university provisions and regulations pertaining to his responsibilities.

The department chairman is charged with the responsibility of coordinating curriculum and teaching plans for the department courses, providing proposals and suggestions to the college council on study plans, reviewing and evaluating students' academic results per semester.

## ***Deanship of Students' Affairs:***

The deanship of student's affairs is considered one of the most distinguishing and leading university deanships. It sponsors students; oversees their various activities; and plays an instrumental role in developing student's personality and acclimating them to shoulder the responsibility of becoming effective and active members in their society.

The following are some of the responsibilities of Deanship:

1. Supervising the work and performance of the various departments at the deanship and laying out the plans and directions in coordination with department chairs.
2. Coordinating students' reviews with the deanship and its departments.
3. Copying and printing of forms, letters, and books pertaining to the deanship and the Council of Students' Union with keen supervision of the incoming and outgoing process.

## ***Departments of Deanship of students' affairs***

1. Department of Cultural, Social, and Technical Activities
2. Department of Students' services
3. Department of Sports Activities
4. Department of Health
5. Department of Social Supervision

Various Activities of Deanship of Students' Affairs

### ***1) Physical Activity:***

This type of activity includes:

- Organizing training for the preparation of sports teams
- Organizing meeting and matches between university teams and other sport teams from outside the university
- Laying out sports programs to develop students' hobbies and expand student's sports base
- Supervising sports facilities and coordinating the effective use and benefits from its tools and equipment
- Social Activity: The deanship of students' affairs promotes and encourages social activities by organizing and supervising such events to include the following activities:
  - Acquainting students with historical, geographical, and cultural sites and landmarks;
  - Organizing students trips/visits to public institutions;
  - Coordinating students' services for the local community;
  - Inspiring & instilling a spirit of moral commitment among students; organizing the relationship between students and community through holding social events and seminars.

## **2) Cultural & Artistic Activities:**

The Deanship of Students' Affairs promotes and encourages cultural and artistic activities which are likely to enhance students' national, cultural, and spiritual awareness through the adoption of the following means:

- The organization of programs for lectures and seminars;
- The holding of concerts, exhibitions, and festivals;
- Displaying students' intellectual and artistic works in the university special publications;
- Preparing training programs in the fields of performing arts and music.

## **3) Transportation:**

The Deanship of Students' Affairs insures the availability of transportation means for its university students living outside the city of Nablus through contacting transportation companies and providing remedies to any related contingencies.

## **3) Cafeteria:**

It offers students a daily full meal in addition to light snacks along with soft drinks. A committee of university students along the Deanship of Students' Affairs and the working staff oversee the works at this cafeteria. The annual income of this cafeteria goes directly to students' income fund

## **Public Service:**

The Deanship of Student's Affairs issues university identification cards, certificate of good conduct, and assists in organizing and directing newly accepted students by introducing them to the university facilities and make them feel at home and experience a sense of abundant friendship at the university.

## **Students' Fund**

This fund offers financial assistance to university students through student loans and by providing scholarship to needy students; In addition, it assist students in terms of providing them with job opportunities on and off campus within the capacity and limitation of the university.

## **Medical Clinic**

Through the supervision of its nursing medical staff, the health clinic on campus is able to provide first aid medical services to university students. Serious medical cases are usually transferred to local hospitals, specialized labs, and medical sealifts.

## **Guidance**

The Deanship of Students' Affairs prides itself on the type of services it provides its students in finding solution to the type of problems they face at the university whether these problems are personal, social, or academic in nature. The university provides students with professional counseling to help them select their program of

interest/ major field of study which is consistent with their abilities and aptitudes. The university provides students also with academic counseling pertaining to their academic accomplishment and else by referring them to a counselor at the Department for which they are applying. It also provides students with some psychological counseling by making them understand their psyche and analyzing their situations and offering remedies and solution which are likely to assist them overcome any impediments by adapting themselves to any circumstances.

### ***Library:***

The university has a central library which serves the university and local community. It has developed over the years which compelled the university administration to construct another building in 1999. The newly constructed building is a five-story building designed in accord with the latest architectural specifications of libraries. It includes a range of private libraries donated by several professors, researchers, and scientists from the Palestinian people. It contains a wide range of collection of rare books, manuscripts, documents, and tapes of microfilm and microfiche. At the present time the new campus is witnessing the establishment of a central library.

### ***Library Sections:***

Periodicals: are designed to serve the library with the most recent periodicals, Journals, and news papers with proper binding and easy access.

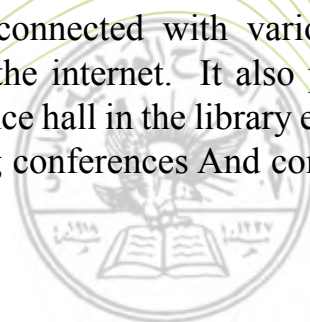
Supply; this section is related to publishers and book sellers to follow up on the latest publication in various majors and specializations.

### ***Indexing & Classification:***

This section focuses on the indexing of books in accord with the descriptive rules of the world indexing catalogue and the classification of books according to the 'Dew Decimal'.

- References: which include dictionaries, encyclopedias, atlases, and books of Facts?
- Circulation: this section is in charge of handing out and receiving books and renewals of borrowed books and other materials.
- Counseling & Guidance: this section serves students in terms of checking out and accessing some information.
- Photocopying services: this section provides photocopying services of pages of books and journals for students.

The library provides online information services connected with various data bases available on CD-ROM and directly online via the internet. It also provides abstracts and indexes to researchers. There is a conference hall in the library equipped with the most up-to-date technology set up for holding conferences And conducting communication via video-conferencing.



## ***Deanship of Admission & Registration***

By and large, the initiation of the relationship between students and university begins at the college of Deanship of Admission & Registration where new students obtain an application form for admission to be filled out and returned back to the same Deanship. So the deanship is also the place in which students obtain their graduation documents. Therefore, there is some sort of continuing relationship which develops between students and their university throughout students' period of study. So the deanship provides students with certificates of proof of their enrollment for various purposes and it also issues academic transcripts upon request for the purpose of transferring when students intend to transfer to other institution. Furthermore, the relationship is not only continual but also renewable particularly when the deanship keeps its students posted and informed about any academic changes in their study plans or any changes on the awarding of a bachelor degree and other pertinent matters. Consequently the importance of the Deanship of Admission & Registration lies in having a lasting relationship with students throughout their study period.

## ***The Deanship's Objectives and Works***

The Deanship aims to apply and comply with the academic rules and regulations which are in force and approved. It relies on records and statements which point out students' academic status ever since their enrollment in the university until their graduation. And in cooperation with other specialized committees, the Deanship lays down the instructions and procedures concerning registration for various semesters. It also announces the study program and prepares the examination program.

On account of its being the Department where all students academic grades are stored, it is part of the responsibility of the Deanship to notify students who are failing, or are bound to receive an academic warning via 'Zajil program; at the same time it is part of the responsibility of the Deanship to inform the deans of the students whose names should be on the 'honor list'.

On account that An-Najah National University is an emerging and developing institution, the Deanship of Admission & Registration strives to develop the work procedures adopted at this institution by bringing in experts in registration procedures, visiting more developed universities, subscribing to global registry associations, and attending conferences for Admission & Registration officials at Arab universities for the purpose of exchanging experiences in the areas of admission & registration.

## ***Admission Procedures:***

After the completion of the General Secondary School Examination, the Deanship of Admission & Registration announces its readiness to accept admission application from high school students in Palestine. The basis on which high school students

are accepted at AN-Najah University depends on students' average or GPA on the General Secondary Examination which should not be less than 90% if students intend to apply to Medical College, 85% TO Pharmacy College, 80% for the College of Engineering and College of Optics, 75% for the College of Veterinary Medicine & Nursing, 70% for the College of law & Information Technology, and 65% for the remaining Colleges with exception to the College of Fine Arts and College of Physical Education where admission at these two colleges is contingent upon the fulfillment of two conditions: student's GPA on high school examination and passing the so called capability entrance exam.

Students would not be eligible to apply to any college at An-Najah should their certificate of General Secondary high school have passed five years with exception to the college of Fine Arts.

After determining the accepted GPAs in each college, the university will advertise a time-table for the completion of the other admission procedures in the local news papers.

New applicants should submit an original copy of their high school grade record/transcript or a certified copy, an original birth certificate or a certified copy, a copy of the student's personal I.D. (Hawiah), a personal photo taken recently, and paid enrollment fees. After complying with all of the above procedures including the submission of the proper documents and paying off the tuition fees, the student has become officially enrolled in the university and he/she will receive a registration number and a university student's I.D.

### **Public Relation Department**

The department of public relation is responsible for the activities related to the university's relation with other parties whether inside or outside. It is also responsible for the regulation and organization of such relationship including maintaining and preserving the reputation of the university and the enhancement of its standing in the community. It is also responsible for the coordination of university relations with its Arab, foreign, and friendly counterparts of institutions.

The Department of Public Relation serves the following functions:

- Organizing relationship with national parties at home, and with other friendly universities abroad;
- Coordinating relationships and cultural & public activities with other universities; organizing exhibitions and concerts which help the university's interaction with the community and enhances its leading role;
- Collecting information from various media outlets pertaining to the university and being able to classify and analyze such information and then inform the university officials about it.
- Collecting and storing statistics and information about cultural, scientific, and



educational institutions in the world.

- Supervising the execution of scientific studies pertaining to citizens' attitudes or students' attitudes towards the university in cooperation with the concerned academic and administrative bodies in the university.
- Issuing bulletins & printed publications about the university and its various activities.
- The Department of Public Relations is the official entity authorized to speak on behalf of the university.

# INSTRUCTION ON THE AWARDING OF A BACHELOR DEGREE

## AT AN-NAJAH NATIONAL UNIVERSITY 2009-2010

Article (1) : These instructions are modified ones for the instructions on the granting/awarding of a Bachelor degree at An-Najah National University for the year 1985/1986. These instructions apply to university students starting from the second semester of the academic year 1998/1999.

Article(2): The provisions of these rules apply to regular and registered students bound to obtain a B.A. degree at the university colleges in the following specializations: Sciences, Arts, Educational Sciences, Physical Education, Economics & Administrative Sciences, Engineering, Agriculture, Fine Arts, Al-Shari's, Pharmacy, Law, Veterinary Medicine, Information Technology, Optics, Nursing, Human Medicine.

Article (3): The Dean's Council acknowledges and approves the study plans leading to the Bachelor degree in the specializations offered by the various colleges at the recommendation of both the boards of colleges and the boards of various academic departments.

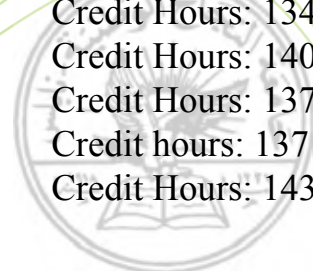
Article: (4) A: Study plans are organized in a way where credit hours required to obtain a B.A. degree would be as follows:

### COLLEGE OF SCIENCE

Mathematics Department	Credit Hours: 137
Physics Department	Credit Hours: 137
Chemistry Department	Credit Hours: 137
Applied Chemistry Department	Credit Hours: 137
Plant Science Department (not active)	Credit Hours: 131
Biology/Biotechnology Department	Credit Hours: 137
Medical Tests Department	Credit Hours: 157
Statistics Department	Credit Hours: 137
Physics/Electronics Department	Credit Hours: 137

### COLLEGE OF ARTS

Arabic Language Department	Credit Hours: 147
English Language Department	Credit Hours: 147
French Language Department	Credit Hours: 146
History Department	Credit Hours: 134
Geography Department	Credit Hours: 140
Sociology Department/Social Service	Credit Hours: 137
Archaeology Department	Credit hours: 137
Journalism Department	Credit Hours: 143



## **COLLEGE OF EDUCATIONAL SCIENCES**

Department Of Psychology/ Psychological Counseling	Credit Hours: 143
Department of teacher of upper basic level - Teaching Technology	Credit Hours: 145
Department of teacher of Lower basic level	Credit Hours:140
Department education with a major in per- school education	Credit Hours:137
Department of teacher of upper basic level - Teaching Mathematics	Credit Hours:140
Department of teacher of upper basic level - Teaching Science	Credit Hours:140
Department of teacher of upper basic level - Teaching Social studies	Credit Hours: 140
Department of teacher of upper basic level - Teaching Arabic	Credit Hours: 140
Department of teacher of upper basic level - Teaching English	Credit Hours: 140

## **COLLEGE OF ECONOMICS & ADMINISTRATIVE SCIENCES**

Department of Business Administration	Credit Hours: 131
Department of Accounting:	Credit Hours: 131
Department of Economics	Credit Hours: 131
Department Of Political Science	Credit Hours:131
Department of Finance & Banking	Credit Hour: 131
Department of Marketing	Credit Hours:131

## **COLLEGE OF ENGINEERING**

Department of Civil Engineering	Credit Hours: 166
Department of Architectural Engineering	Credit Hours: 170
Department of Electrical	Credit Hours: 165
Department Of Industrial Engineering	Credit Hours: 163
Department of Chemical Engineering	Credit Hours: 164
Department of Computer Engineering	Credit Hours: 173
Department Of Construction Engineering	Credit Hours: 166
Department of Mechanical Engineering	Credit Hours: 160
Department of Mechatronics	Credit Hours: 163
Department of Communication Engineering	Credit Hours: 165

## **COLLEGE OF AGRICULTURE**

Plant Production & Protection Department	Credit Hours: 142
Animal Production & Health Department	Credit Hours: 142
Agricultural Economics & Rural Development Department (frozen):	credit hours: 153
Nutrition & Food Processing Department:	credit hours: 151 (under study)

## **COLLEGE OF SHARIA'A**

Jurisprudence & Legislation Department:	Credit hours: 141
Theology (Usul Al-Din) Department:	Credit hours: 141
Sharia'a & Islamic Banks Department:	Credit hours: 141

## **COLLEGE OF FINE ARTS**

Musicology Department:	Credit hours: 140
Photography (Painting) Department:	Credit hours: 140
Design (Interior Design) Department;	Credit hours 141
Graphic Department:	Credit hours: 141
Ceramics Department:	Credit hours 140

## **COLLEGE OF PHARMACY**

Pharmacy:	Credit hours 16
Pharmacy.D.	Credit hours: 198

## **COLLEGE OF LAW**

Credit hours: 143

## **COLLEGE OF VETERINARY MEDICINE**

Credit hours: 174

## **COLLEGE OF INFORMATION TECHNOLOGY**

Computer Department:	credit hours: 131
Department of Management Information Systems:	credit hours: 134
Department of Computer Information Systems:	credit hours: 135

## **COLLEGE OF HUMAN MEDICINE**

Department of Biomedical Sciences: Credit hours: 264

Credit hours: 135

## **COLLEGE OF NURSING**

Midwifery Credit hours: 147

Credit hours: 154

## **COLLEGE OF OPTICS**

Credit hours; 159

## **COLLEGE OF PHYSICAL EDUCATION**

Credit hours: 139

## **COLLEGE OF HONORS**

Credit hours: 15

(B) For academic needs or the Dean's council is allowed to raise the minimum requirements of the bachelor degree at the various colleges on count of academic needs and necessities.

C)Students study the credit hours required by each college in accord with the provisions and instructions along with terms of each study plan as designated by the specialized



Article (5): In consideration of item 4/B, the study plan of each specialization, which awards a bachelor degree, includes the following requirements:

### University Requirements:

1) Compulsory: 20 credit hours should be taken by all colleges' students as distributed below:

Number	Course Title	credit
10101	Islamic Culture	3
10102	Arabic Language	3
10103	English Language (1)	3

*	University English (2)	3
10105	Palestinian Studies	3
10117	Leadership & Communication Skills	1
10108	Community Service	1
10100**	Introduction to Computer	3
	Total	20

### university requirements (2)

#### Electives: 6 credit hours:

these courses have to be taken from the elective courses offered by the various colleges except from the student college. Students are not allowed to take more than one university elective course from each college of the university colleges which offer such courses. The elective courses are listed below:

Faculty	Course Name	Course No.
Science	Public health	10125
	Environmental Geology	10128
	Science in community service	10127
Arts	Geography of Palestine	10131
	History of Jerusalem	10135
	Population Communication	10137
Shari'a	Family system in Islam	10142
	Principles of Religious	10143
	Observances	
	Fiqh of Siyra	10144

- 10322 for scientific colleges except the medical colleges
- 10323 for humanities
- 10324 for medical colleges
- 10325 for economics and law colleges

Economics and Administrative Sciences	General principles in Administration	10151
	Accounting and Book-keeping	10152
	Principles of investment	10156
Engineering	Principles of Occupational Safety	10168
	Earthquak Eng'g & Hasards Assessments	10165
	Environment in Palestine	10162
	Engineering and society	10161
Educational Sciences	Psychological Culture in our Recent life	10710
	Education in Palestine	10713
Fine Arts	Palestinian folk Arts	10189
	Introduction to Music	10181
Agriculture	Farm Animals Husbandry	10112
	Household Gardening	10111
Pharmacy	Poison Prevention	10155
Law	Democracy and human Rights	10115
Veterinary Medicine	Animal and human health	10251
Physical Education	Physical Fitness	10253
	Sports and Health	10254

### College requirements

Students should study courses in accord with the terms and provisions described in the study plans for the departments of each individual college. The following are the designated credit hours distributed for each college as indicated below:

College of Science:	33 credit hours
College of Arts:	27 credit hours
College Education:	33 credit hours
College of Economics:	30 credit hours
College of Engineering:	21 credit hours
College of Agriculture:	55 credit hours
College of Shari'a:	40 credit hours
College of Fine Arts:	27 credit hours
College of Pharmacy:	138 credit hours
Pharmacy Dr.	172 credit hours
College of Law:	24 credit hours
College of Veterinary Medicine:	148 credit hour
College of Information Technology:	26 credit hours
College of Human Medicine;	18 credit hours
College of Nursing:	36 credit hours
Midwifery Program:	36 credit hours
College of Physical Education:	24 credit hours
College of optics:	133 credit hours

### C. Department Requirements:

Students' study should be consistent and in accord with the study plan of each department and the following credit hours are allocated as follows:

College	Department	Compulsory	Electives	Total
1. Science	Mathematics	54	24+3From college of Education	81
	Physics	60	18+From college of Education	81
	Chemistry	57	21+3From college of Education	81
	Biology/minor Biotechnology	50+22Minor	9	81
	Medical Tests	86	12	98
	Applied Chemistry	60	18+3College of Education	81
	Statistics	63	15+3college of education	81
	Plant Sciences/frozen	48	24	72
	Physics/minor Electronics	51+24 Minor=75	3+ 3 college of education	81
2.College of Arts	Arabic language	72	15	87
	English language	73	21	94
	French language	81	12	93
	History	51	30	81
	Geography	69	18	87
	Sociology& Community Service	45+15minor	15+9minor	81
	Archaeology	48	30	78
	Journalism	78	12	90
3. Educational Sciences	Department Of Psychology/ Psychological Counseling	60	27	87
	Department of teacher of Lower basic level	72	12	84
	Department of teacher of upper basic level - Teaching Technology	80	9	89
	Department of teacher of upper basic level - Teaching Science	75	6	81
	Department of teacher of upper basic level - Teaching Mathematics	75	6	81
	Department of teacher of upper basic level - Teaching English	75	6	81

College	Department			
3. Educational Sciences	Department of teacher of upper basic level - Teaching Social studies	75	6	81
	Department of teacher of upper basic level - Teaching Arabic	75	6	81
	department education with a major in per- school education	72	9	81
4. Economics & Administrative Sciences	Business Administration	51	18	69
	Accounting	51	18	69
	Economics	51	18	69
	Political Science	51	18	69
	Finance & Banking Sciences	51	18	69
	Marketing	51	18	69
5. Engineering	Civil Engineering	104	15	119
	Architectural Engineering	111	12	123
	Electrical Engineering	99	19	118
	Industrial Engineering	104	12	116
	Chemical Engineering	105	12	117
	Computer Engineering	108	18	126
	Construction Engineering	110	9	119
	Mechanical Engineering	101	12	113
	Mechatronic Engineering	107	9	116
	Communication Engineering	103	15	118
6. Agriculture	Plant Production & Plant Protection	51	10	61
	Animal Production & Animal Protection	51	10	61
	Agricultural Economics & Rural Development	frozen		
	Nutrition & Food Processing Under study	60	10	70
7. Shari'a	Jurisprudence & Legislation	63	12	75
	Theology (Usul Al-Din)	63	12	75
	Shari'a & Islamic Banks	63	12	75
8. Fine Arts	Music/ology	72	15	87
	Painting/Photography	72	15	87
	Decoration/interior design	73	15	88
	Graphics	73	15	88
	Ceramics	72	15	87
9. Pharmacy	Pharmacy	123	15	138
	Pharmacy. D.	172	-	172
10. Law		57	30	87
11. Veterinary Medicine		143	5	148
12. Information Technology	Computer	60	21	81



College	Department			
12. Information Technology <sup>1</sup>	Management Information Systems	66	18	84
	Computer Information Systems	67	18	85
13. Human Medicine		238	0	238
Biomedical Sciences		85	6	91
14. Nursing	Nursing	85	0	85
	Midwifery	92	0	92
15. Optics		133	-	133
16. Physical Education	Physical Education	83	6	89

### ***D) Free (optional) courses:***

Students have the opportunity to pick out Free courses from a variety of courses offered by various departments at the university with exception to the courses which are offered by a specific department for non-major students. Students are not allowed to sign up for a course which happens to be equivalent to a course which the student has taken.

Article (6) A: Includes department requirements which consist of required and elective courses which the department determines and defines the ones from outside the department of specialization.

(B) A particular course shall not be counted more than once for or towards any requirement.

A decision by the college council and at the recommendation of the department council a course can be added to the list of elective courses which the department offers on account of its needs for the accomplishment of the university's objectives in general and the department's needs in particular. In most cases the presidency of the university and the Deanship of Registration & Admission should be informed in writing when such thing occurs. .

Article (7): Students are not allowed to register for courses which have prerequisites before taking such prerequisites. It is possible for students to sign for a course and its prerequisite simultaneously if he/she is graduating in that semester or if he/she took the required course but failed it. Such permission requires that students obtain the approval of the department they are enrolled in.

Article (8): Terms of Department specialization

After completing thirty credit hours successfully a student can register or be enrolled in the department for which he/she has fulfilled its terms of admission provided that that department has a place for that particular student. This does not apply to students

applying to the college of Fine Arts, college of physical Education, and department of Architecture Engineering, department of Economics, and department of political science. If the student has not been admitted to any department of his college after three academic semesters from the time of his/her initial enrollment, then the student shall be under probation and will be dismissed at the end of the fourth semester unless he gets enrolled in any department at his college and he/she should transfer to a lower-ranking college.

And in all cases the period of study should be taken into consideration. If the transferred student from one college to another has not been admitted to any department of new college after three academic semesters from the time of his/her initial enrollment, then the student shall be under probation and will be dismissed at the end of the fourth semester unless he gets enrolled in any department at the new college and he/she should transfer to a lower-ranking college.

(B) A student has to have passed 18 credit hours at least at the college before majoring. These 18 credit hours should include the required courses for the specialization of the department for which the student intends to apply to or join.

### ***Study length & load***

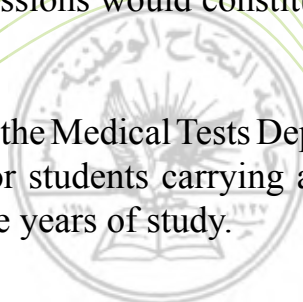
Article (9) A/1. The time length for a university student carrying a normal study load of courses is eight-month-period or four-year-period at most colleges at the university with exception to those students who are expected to complete their undergraduate study at the college of Optics, Engineering, Pharmacy, Medical Tests Department, Human Medicine, and Veterinary Medicine. Students who carry a heavier academic load exceeds the normal one to obtain their undergraduate degree in a time period less than seven academic semesters by taking two summer sessions which constitutes/ can be equivalent to an academic semester of study load.

9/A/2:

The time length of study to obtain a bachelor degree in Engineering for students carrying a normal load is ten academic semesters or five-year-period for students of Architecture Engineering. However, for other Engineering students it takes nine semesters or four and half years to obtain a bachelor degree. It is possible for students who carry a heavier load of study to obtain their bachelor degree in a period of time not less than nine semesters taking into account that the two summer sessions would constitute or be an equivalent to an academic semester.

9/A/3:

The time length of study to obtain a bachelor degree from the Medical Tests Department and the College of Veterinary Medicine for students carrying a normal study load is ten academic semesters or five years of study.



9/A/4:

The time length period to obtain a degree in Pharmacy and Optics for a student carrying a normal study load is ten semesters or five years of study.

9/A/5:

University students officially registered are not allowed to spend more than six years of study or twelve semesters to obtain a bachelor degree with exception to students of Engineering colleges. Students of Veterinary Medicine, Pharmacy, Optics, and Medical Tests can spend seven years or fifteen academic semesters of study to complete their bachelor degree.

9/A/6:

The minimum time length of study at the Medical College is six years and the maximum period is 10 years. The minimum time length to obtain a bachelor degree in Biomedical Sciences is 3 years of study and maximum time length is 5 years of study. The college of Human Medicine is subject to the instructions of the college of Human Medicine at An-Najah National University.

9/B: The time length of an academic semester is 16 weeks; it includes the exams periods, the eight-week Summer Session period including exams.

9/C:

9/C: Credit hours evaluation for each course is usually determined and calculated on the basis that a weekly lecture or a seminar for sixteen weeks is counted one credit hours; however, laboratory hours or practical application would be evaluated individually for each course and in most cases each credit-hour-course would count no less than two credit-hours of laboratory or practical application.

9/D/1:

The minimum credit hours which students can study to obtain a bachelor degree is 12 credit hours and the maximum number is 18 credit hours for each academic semester. Sometimes it is possible for students to register for 21 credit hours provided that they obtain the permission of their advisor/counselor and the approval of their respective department chair under the following two conditions/circumstances:

Student's GPA should not be less than 3;

A) student's graduation is contingent upon allowing him/her to study 21 credit hours in that semester-graduation semester;

B) Students are not allowed to sign up for more than 21 credit hours- the maximum study load.

9/D/2: A student is allowed to register for less than the minimum credit hours required or to continue to study a number of credit hours less than the required number as a result of his/her withdrawal from some

courses due to certain justified cases or circumstances and at the recommendation of his counselor and the approval of the Counseling & Guidance Committee at the college.

9/D/3: In the previous two cases: 1& 2, the Deanship of Registration & Admission has to be informed in writing due to the fact that it is considered to be the authorizing department/body.

9/D/4: Students' study load during the Summer Session, who are registered to obtain a bachelor degree, must not exceed ten credit hours and eleven credit hours for graduating students only.

9/E/5: In order to count the study load of the Summer Session as equivalent to a half of a typical academic semester, students' study load during the summer has to be six credit hours.

9/F: Registered students classified as the ones bound to get a bachelor degree can be considered as Sophomore, Juniors, or Seniors, if and only if they have successfully completed 25% or 50% or 75% of the required credit hours for their graduation, with exception to the bachelor degree in the following specializations: Optics, Veterinary Medicine, Engineering, Medical Tests, Pharmacy, Human Medicine.

9/G: Registered students for a bachelor degree in Optics, Engineering, Veterinary Medicine, Medical Tests, and Pharmacy are classified as Sophomore (second year), Juniors (third year), Seniors fourth year), or fifth year, if and only if they have successfully completed 20% or 40% or 60% or 80% of the credit hours of their study for their graduation.

### **Attendance:**

Article 10/A:

Attendance policy obligates university students to attend all lectures, discussion sessions, practical & applied classes registered for. This policy obligates university instructors to keep an attendance record of their students' absents for the implementation of this policy.

10/B:

Students are not allowed to absent from their classes more than 12.5% of their classes for each course without a valid excuse deemed acceptable to the instructor of that specific course.

10/C:

A student is deprived of the opportunity to take his final exam if his/her absenteeism exceeds 12.5% from the number of required hours for any course without furnishing or submitting a valid excuse attesting to his physical condition

or to any compelling circumstances and acceptable to the instructor of that specific course. In this particular situation an absent student is usually given the lowest grade which is F and this result shall enter with due consideration to Item 13, the student's academic record for that semester and shall be counted in his GPA for the purpose of putting him/her on probation pending receiving an academic warning or dismissal.

10/D

If a student's absenteeism has exceeded 12.5 % from the total number of hours required for specific course and his/her absenteeism is due a compelling health condition or compelling circumstance which is acceptable to the instructor of that course such absenteeism whether excused or not it should not exceed 25% of the total hours required for that course. And in the event that such absenteeism exceeds such percentages (25%) with acceptable excuse, that student should be given the opportunity to withdraw from that course and the Dean should inform the Deanship of Registration & Admission of this so that the word 'withdraw' be posted on the student's record.

10/E:

A student's medical report should be approved and certified by the university health doctor and this medical report /certificate should be submitted to the instructor of the course in a specific form in a period of time which does not exceed a week from the time of the student's return to attending his classes. In other circumstances, the student is obligated to submit a proof of having had a compelling circumstance within a week after his return to his classes.

10: Notice

Review procedures should be applied for the ratification of Medical report.

10/F: The facts described in item C, D, & E should be put in the records of the courses in that specific department; and the Deanship of Registration & Admission should be informed in writing in order to take the proper action.

10/G:

Department chairs and the faculty members along with the Dean of Registration & Admission shall implement the provisions of this item and the Deanship of Registration & Admission will inform the Students who will be deprived of taking the final exams, by posting their names on their course schedules online or on Zajel program.

Examinations, Grades, Averages (GPA)

Item 11:

11/A: Grades are calculated and registered for each course out of 100, taking into account that the grades record (or transcript) points out the number of credit hours for each course.

11/B/1:

The final grade of each course is the sum of the grades of the final and those of the entire academic semester...

11/B/2:

The final exam for each course is usually held once at the end of each academic semester. It is usually comprehensive in terms of covering the entire course requirements. It is assigned 50% of the total grade on that specific course. The final exam may include final exam, practical and oral exam, and reports.

11/B/3:

Two written exams at least would constitute a major component of the works which have to be carried out by students for each course per academic semester provided that students are informed a week in advance before sitting for such exams, with exception to Seminar and Research Courses in which semester assignments consist of oral examinations, or reports, or research papers or all of them together. Instructors are obligated to turn back students' reports and research papers after evaluating & grading them. The department council of each department determines and approves of the optimal method to assess students' level of achievement on departmental courses.

11/C:

It is the responsibility of the instructor of the course to correct his students' exam papers, transfer and post their grades on official statements, and turn students' final grades signed and dated to the chair of the department for final approval within a fixed period of time designated and defined by the Deans' council.

11/D:

Students' final grades must not be changed on any course once grades are posted or announced. If a particular student disputes his grade during the first three days from the day the grades were announced or posted, that student has to pay 5.Jordianian. Dinars fees and his objection has to be submitted to the instructor of the course for a review and to double check whether there was a calculation errors or if there were some parts left uncorrected. In exceptional cases of grade disputes, a student must pay 10 J. dinars and his objection should be turned to the Dean of his college for a proper action to be taken by the dean of the same college.

E/11:

Students' examination papers are kept by the department chair for two months after the completion of all exams, and then the university determines when to dispose of them (exams).

F/1/11: An absent student from an announced final exam should furnish/submit a written proof attesting to his compelling circumstance and be acceptable to his instructor within three days from the time of the expiration of his excuse.

F/2/11:

Any student who absents from an announced exam whether quarterly or final without a valid excuse and deemed unacceptable to his instructor, shall receive 'F'.

F/3/11:

If a student fails to complete the requirements of a particular course or be absent from a final exam for a particular course and the excuse which the student submits for such two cases is deemed acceptable to the instructor, then the student has to work hard to remove the 'incomplete' within 10 days from the end of the semester in which he enrolled and 5 days if it is in the summer session. Otherwise he/she receives a 'F' on that course.

G/1/11: The minimum passing grade for a course is '1', and the minimum failing grade is 'F'.

Grades (or student's GPA) are classified according to the accumulative average as described in the schedule below through the use of 'letters system'.

### **(1) The bachelor degree for non-medical students**

Estimate	Accumulative Average
Excellent	3.65 - 4
Very good	3 – 3.64
good	2.35-2.99
Satisfactory	1.7 -2.34
poor	less than: 1.69

Result	Letter value of the cumulative	Mark with letter value
Pass	A	4
Pass	A-	3.75
Pass	B+	3.5
Pass	B	3
Pass	B-	2.75
Pass	C+	2.5
Pass	C	2
Pass	C-	1.75
Pass	D+	1.5
Pass	D	1
Fail	D-	.75
Fail	F	0

(2) Medical College has its own special regulations and grades are classified as follows:

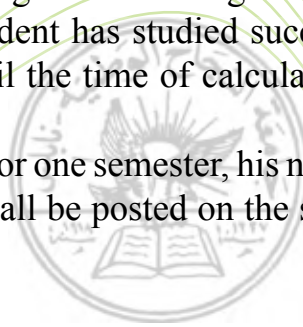
Estimate	Accumulative Average
Excellent	4 – 3.65
very good	3 – 3.64
good	2.5 – 2.99
Satisfactory	2 – 2.49
poor	Less than 1.99

Result	Letter value of the cumulative	Mark with letter value
Pass	A	4
Pass	A-	3.75
Pass	B+	3.5
Pass	B	3
Pass	B-	2.75
Pass	C+	2.5
Pass	C	2
Pass	C-	1.75
Pass	D+	1.5
Pass	D	1
Fail	D-	.75
Fail	F	0

- D: is “ pass” for University requirements.  
D+: is “ pass” for basic college requirements.  
C: is “ pass” for clinical courses.

G/2/11: a semester’s GPA (grade point average) represents the grades of the courses which the student has studied successfully or unsuccessfully in that academic semester. The accumulative average is the average of the sum of the grades for all courses which the student has studied successfully or unsuccessfully in various semesters until the time of calculating that average.

G/3/11: Every student who earns a GPA of 3.5 or above for one semester, his name will be on the college list of honors, and this shall be posted on the student’s academic record.





G/4/11: In consideration of the provisions of Item (13), the calculation of previous averages by multiplying the grade which the student has earned on each course with the number of credit hours and then dividing the total sum on the total number of credit hours.

G/5/11: The rate or average is calculated per semester or cumulatively to the nearest two decimal places.

### **Academic Warning & Dismissal**

Article: 12/A

Students are not warned at the end of their first semester of enrollment in the university. Students' grades have to be counted/calculated for the purpose of issuing a warning in later semesters.

12/B: A student whose GPA is less than 1.69 ( or less than 2 for medical students) on all the courses which he/she studied, has to be warned/ receive an academic warning. If the student has not been admitted to any department of his college after three academic semesters from the time of his/her initial enrollment, then the student shall be under probation and will be dismissed at the end of the fourth semester unless he gets enrolled in any department at his college and he/she should transfer to a lower-ranking college.

And in all cases the period of study should be taken into consideration.

If the transferred student from one college to another has not been admitted to any department of/at the new college after three academic semesters from the time of his/her initial enrollment, then the student shall be under probation and will be dismissed at the end of the fourth semester unless he gets enrolled in any department at the new college and he/she should transfer to a lower-ranking college.

12/C:

A student who has received an academic warning must remove such a warning in a period of time which does not exceed three consecutive semesters from the time of issuing the warning. If the student fails to rectify the situation at the end of the allowed period of time, he/she shall be dismissed from his/her college, unless he/she is able to raise his GPA to 1.69 (or 2 for medical student) and above.

D/12: a student receives a dismissal if he/she fails all his/her courses which he/she has studied in consecutive semesters after finishing or completing the first semester of his/her enrollment in the university.

E/12: A student, who has successfully earned 75% at least on the total sum of required credit hours for graduation, is excluded from all types of academic semester

F/12: the summer semester shall not be counted for warning or dismissal of the student.

- G/12: It is permissible for an academically dismissed student from his college to apply anew for another college with less admission requirements than the college from which he/she is dismissed academically. And in the event that the student gets accepted at the new college, he/she has the right to request a revival of his/her academic record and to be consistent with the plan of the college which has accepted him/her. The student would be able to count the period of study which he/she spent previously within the minimum and maximum limit of year of his/her graduation so that he/she would be able to count a semester for every 12 credit hours spent during previous study.
- H/12: An academically dismissed student is not eligible to apply for or enroll in the same university again.
- I/12: A dismissed student on account of his/her conduct and demeanor is not eligible to apply for the same university again in accord with the item 25/K on the system of control of students' violations and its provisions.

### ***Re-taking of courses (repeat)***

Article: 13/A:

Students are not allowed to retake course on which they have gotten a 2 or above.

13/B: If a student retakes a particular course, the highest grade which the student earns shall count in the semester average and the general grade point average.

13/C: in the event that the student repeats or retakes a course due to his failure, the number of credit hours for that course shall enter the calculation of the number of hours required for his graduation once and the highest grade shall count.

### ***Add & Withdrawal from courses***

Article 14

14/A:

Students are allowed to withdraw from courses they have registered or add new courses during the first week of the start of new semester provided that this happens in the first two semesters and during the first three days in the summer semester and the student's academic record shall not be affected by such withdrawal.

14/B: And in consideration of the provisions mentioned in paragraph 'A' of this article, a student is allowed to withdraw from a course during the first four weeks of the start of the study of the first and second semesters and during the first two weeks of the summer semester. In such cases, a note shall be posted on the student's academic record of the withdrawal; however, if the student has not withdrawn during the designated period of time, he/she is obliged to take the course. If there is a withdrawal

of a particular course, it is not permissible for students to be registered for less than the normal study load. Based on what has been mentioned of instructions and regulations, any change has to be approved by the student's mentor and the approval of the Committee of counseling & guidance at the concerned college.

14/C: If a student withdraws in accord with the provisions contained in Article 14/A, he/she can retain his/her financial right otherwise he/she loses such right.

14/D: withdrawal during the designated period of time and date as mentioned in the provisions of paragraph 'B' of this Article on the special form which has to be turned in to the Deanship of Registration & Admission after the consent and approval of the mentor.

E/14: if a student is considered withdrawn from all courses which he/she has registered for in accord with the provisions in paragraph 'D' of the Article '10', his/her study for that semester shall be deferred and such deferral must be posted on the student's academic record.

### ***Postponing, dropping out of study & withdrawal from University:***

#### **Article 15**

15/a: It is permissible for students to make a request for a deferral because of some reasons which are acceptable to the committee of Guidance & Direction at the college. Such deferral should not exceed two years whether consecutive or

Inconsecutive semesters.

15/B:

A student who intends to postpone his study, should submit a request for that regard to the college Dean at the end of the first week from the start of the first or second semester so that the Dean can reach a proper decision before the deadline of registration passes for that semester. The college Dean shall apprise the Dean of Registration & Admission & the Deanship of Students' affairs, department chair, student's mentor of his final decision regarding the student's deferral.

In compelling cases which occur after the period mentioned in this paragraph for the Committee of Guidance & Direction at the college to consider the request for deferral so that it can reach an appropriate decision and notify the concerned parties in due time- not later than the end of that semester. A student of medicine should not be allowed to defer more than two academic semesters.

15/B:

Taking into account the provisions in Article 9/A that the deferred time shall not /is not accounted from the maximum allowed time duration to obtain a bachelor degree at the university.

15/D: A student who wishes to defer his/her study for some reason and wishes to apply to another university during the deferral period should obtain a prior permission from the college Dean; and the university which he/she intends to join has to be accredited and recognized; and it's study plan should consistent and system-bound and take into consideration the provisions in Article 17.

15/D:

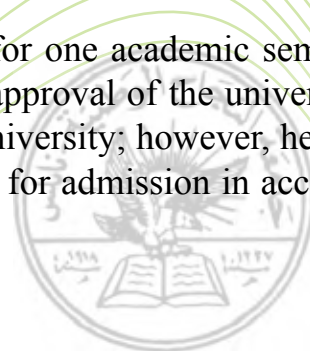
The student who wishes to defer his/her study for some reason and wishes also to study at another university during the deferral period should obtain a prior permission from the Dean of his college provided that the university he/she plans to join is recognized and accredited institution and that its study plan is consistent with attendance policy of the university and with due consideration to the provisions in the article 17.

15/E: if the student exceeds the allowed deferred period, he/she loses his/her seat at the university. However, the student is still eligible to re-apply and submit a new application form as a new applicant and the operative rule and regulations of admission at the university shall apply to his situation.

15/F: A request for a deferral shall not be granted to a new applicant unless he/she has spent at least one full academic semester at the university. In exceptional cases, a deferral request should be forwarded to the Committee of Guidance & Direction for approval and the Dean of Registration 7 Admission should be informed in writing about the outcome.

15/G: If the student wishes to withdraw from the university, he/she should fill out an a special form and submit it to the Deanship of Registration 7 Admission and at this point it will posted to his/her academic record a note of 'withdrawal from university' and he/she will lose his seat at the university. In the event that he/she wishes to rejoin the university after dropping out from it, he/she can provided that the period of interruption does not exceed four academic semesters, which the maximum period of deferral. If he/she wishes to join the university again he/she should submit an application to the same college which he/she withdrew from and he/she can maintain and retain his/her academic record according to the adopted plan and in this case the study period which the student has spent shall be counted on the basis of the maximum-minimum scale formula for graduation.

15/H: If a registered student interrupts his/her study for one academic semester or more without the written permission and approval of the university, he/she is destined to lose his/her seat at the university; however, he/she can reapply by submitting an application form for admission in accord with university rules and regulations.



## ***Transfer from other universities:***

### **Article 16: A**

Transfer applications are usually sent to the Deanship of Registration & Admission at An-Najah National University during the first & second academic semester and the summer semester on the day which does not pass or exceed the day before the process of course registration. The registration & admission committee decides on the status of these applications during the announced period of registration for that semester.

16/B: students are allowed to transfer to other colleges at An-Najah National University provided that there are vacancies available and that students who intend to transfer to other colleges meet the following condition & terms:

(1) Student's cumulative average on the General Secondary School Examination or its equivalent is acceptable at the college which the student wishes to transfer to in the year when the student earned his public Secondary School C.

(2) The student should be transferring from a recognized university by An-Najah National University.

(3) The student's previous study should be consistent with policy of attendance.

(4) The student's GPA or accumulative average should not be less than good or its equivalent.

The student's GPA should not be less than 'good' or its equivalent on all the courses he/she has taken at the university he/she wishes to transfer from.

The transfer/transferring student to the college of Engineering or Pharmacy should have a GPA of 'good' or its equivalent on all the courses which he/she has taken at the university he/she is transferring from.

The transfer student should not have received an academic warning about his/her conduct or be dismissed from the university he/she is transferring from.

5- Students transferring to medical college should have completed the basic biomedical science courses with an average not less than 'very good' or its equivalence. And his General Certificate Exam average should not be less than the accepted average at the medical college at An-Najah National University in the year of his enrolment at the university from which he is transferring.

Article 16/C: The specialized/concerned department determines the number of credit hours which the student has studied at the university from which he/she intends to transfer by calculating these credit hours in consideration of the study plan of the concerned department provided that the department will not count or accept more than 50% of the credit hours for graduation at An-Najah National University. The grades on the transferred courses must be 'good' or above; otherwise, the concerned department is not obligated to accept them and the Deanship of Admission & Registration shall be apprized of the department's decision in writing.

16/D; The courses which the student has taken at the university which he/she is transferring from shall not enter the student's GPA at An-Najah National University. 16/D:

16/E: A student can count each 12 credit hours to be equivalent of an academic semester in his/her previous study.

Account of credit hours transfer from universities other than An-Najah University for its students:

Article 17: An Najah National University students who deferred their study for some time and then return back after getting an academic record at some other university during the deferral period should submit this academic record of the credit hours they have completed at other universities to take credit for in a period of time which does not exceed the end of the semester of their return and in accord with the following terms and conditions:

The courses which the student has taken outside An-Najah National University during the deferral period are part of the requirements which lead the applicant to obtain a first university degree

No more than 50% of the credit hours shall be counted as transfer hours from the total credit hours needed to graduate at An-Najah National University.

The grades on the courses which the student wishes to count be less than 'good' or its equivalent

The concerned department determines the courses which have their equivalents in the study plan of that department and the Deanship of Admission & Registration shall be informed of the department's decision in writing.



## 2) Transferring from college to university

### Article 18/A:

A student can transfer from a college to another college at the university if and only if there is a vacancy at the college the student wishes to transfer to and his/her GPA in Secondary High School is acceptable at this college in the year during which the student wishes to enroll in or at the time of the student's submitting the transfer application form. And in the event that this condition is not fulfilled then the student's general secondary examination average with his university's GPA at the time of his enrollment or his submission of the enrolment application.

### 18/B:

Students who wish to transfer to another college should pay 25 Jordan dinars and fill out an application form for transfer at the Deanship of Admission & Registration during the first day which does not exceed the time of registration of courses of the first semester, second semester, and summer session of the academic year

Transfer application forms are not acceptable during the announced days/times of registration of that specific semester. The deanship of Admission & Registration shall not examine or decide on the status of these transfer application forms during the announced period of registration. The Dean's council has approved such revisions and such provisions shall apply and go into effect from the beginning of 2003-2004.

### 18/C

: If a student transfers from a department to another department at the same college or from another college, the transferring student must comply with the provisions and conditions of the study plan of the department or college he/she is transferring to during that year; and the concerned department is obligated to accept all the courses which correspond to the courses listed in the concerned department's study plan. The process of course equivalence has to be approved by both the concerned department and the College's Dean.

The transfer student shall be able to count all the courses which he/she has studied as university requirements in addition to the free courses. The concerned department where the student is transferring shall determine which courses to accept or not accept in light of the adopted study plan of that department.

The courses which are not acknowledged by the concerned department shall not be listed in the student's academic record regardless whether the student has passes or failed these courses. The student shall be able

to claim credit for one academic semester for each 12 credit hours taken. It is the responsibility of the concerned department where the student transfers to notify the Deanship of Admission & Registration in writing when such thing occurs.

18/D:

The transferring student to another college must fulfill the conditions and terms of specialization of the department he/she is transferring to during the first three academic semesters from the time of his/her transferring.

And he will be under probation and will be dismissed from the new college at the end of the fourth semester unless he gets enrolled in any department at that new college and he will be transferred to another college of a lower-ranking.

18/E:

In all the previous cases which are mentioned and discussed in this Article, the accumulative average of all the courses which the student has taken shall be counted and be part of student's GPA. The provisions of academic warning and dismissal shall apply and shall become effective after the student spends one academic semester at the college he/she is transferring to.

### ***The requirements for obtaining a bachelor degree***

Article C: the bachelor degree is granted to students after their completing the following requirements:

19/A/1: students must complete all required courses for graduation successfully and in accord with the assessed study plan of the department of specialization

19/A/2:

Students must obtain a cumulative average of 2 in all the courses which the student has studied 19/ب: 19/B: Students must spend the minimum period of time required to obtain a degree and they should not exceed the maximum period of time allowed as described in the paragraph A in the article 9.

19/c: Students must complete 50% of the required credit hours for graduation for transferring students to An-Najah National University.

### ***C: General Provisions:***

Article 20/A: If a student's graduation is contingent on a particular compulsory course from the required courses of his department and this course is not being offered in that particular semester which the semester of the student's graduation or in the event that that course is being offered but it happens that it is in conflict with another compulsory course; the department council is obliged to allow the student to study another



course as a substitute but it has to be equivalent to it in the department of specialization or from any other department at the university.

Article 20/B: If a student's graduation is contingent upon completing an elective course from the required courses of the department of specialization and he/she could not sign up for any offered courses, the department council is obliged to replace it with another elective course in the department of specialization or any department at the university

Article 20/C: The Deanship of Registration & Admission has to be apprised of the occurrence of either case A or B in writing.

Article 21: If a student needs to register less than 12 credit hours in his semester of graduation, he should be allowed to register for the remaining credit hours he/she needed to graduate.

Article 22: Both the department of specialization and the student's counselor are responsible for the follow-up of the student's academic record and verifying that the student has complied with all requirements for graduation and the student should be informed periodically about matters pertaining to him/her.

Article 23: A student must obtain a clearance certificate from the university attesting to the student's completion of his graduation provisions.

Article 24: Students are not allowed to dispute any of these instructions nor do they have any rights to claim their ignorance of what has been published on notice boards at the university.

Article 25: The bachelor's degree bears its due date and the graduation ceremony takes place once year at the end of the second academic semester.<sup>1</sup>

Article 26: The Dean's council decides on all matters which have not been mentioned or dealt with or have a text of its own in these instructions and shall preside over any problem or matter which might arise as a result of its application.

Article 27: The president of the university, the Deans of all Colleges, and the Dean of Registration and Admission are obligated to implement and faithfully carry out the provisions of these instructions & regulations.

Facilities, services and extracurricular activities offered by the university

### ***10100: Introduction to Computer:***

This course is designed to introduce students to computer components, its types, various systems, and general application of computer which includes its operating systems, dealing with computer text/materials, electronic slides, electronic tables, communication networks, internet, and data base. It also provides university students with an introduction to online web-designs

### ***10101: Islamic Culture***

This course is designed to introduce students to the concept of Islamic culture, its characteristics, and original sources; it also aims to introduce students to the definition of Islamic faith and Islamic law (Shari'a), and the various Islamic systems; furthermore, it aims to introduce students to the status of women in Islam and the issues pertaining to her in addition to the question of human rights in general; moreover, it aims to introduce students to the contemporary challenges which face Islamic culture particularly the impact of globalization; and finally, it introduces students to Palestine primarily to Al-Aqsa Mosque and its blessed importance.

### ***10102: Arabic Language***

This course aims at improving students' Arabic language proficiency in both linguistics and literature. In addition, this course is also designed to enhance students' reading, speaking, writing, understanding aesthetic aspects of language through their exposure to the works of highly prominent scholars, linguists, and poets in various ages and times. Furthermore, this course affords students the opportunity to learn syntax, morphological derivation and dictation; and have exposure to the types of dictionaries which are deemed necessary for students to draw on for information and as an important means for the enhancement of their linguistic ability.

### ***10103: English Language "1" (prerequisite 32100)***

This course is required for all university students from all majors and colleges for the purpose of enhancing their language/linguistic skills in reading, writing, listening, and speaking; it also aims to enhance students' ability to acquire more vocabulary words and maximize their reading comprehension. Moreover, this course encourages and focuses on the analytical approach to the study of language and adopts a set of mechanisms whose purpose is to prepare students to sit for international language proficiency exams such as the Cambridge Certificate Exam in advanced English language.

### ***10105: Palestinian Studies***

This is a required course for all university students regardless of their major field of study. This course is designed to provide university students with the necessary knowledge and information pertaining to the Palestinian reality primarily the political circumstances about the Palestinian question from its inception until now taking into

account the social, economic, and political developments which constitute the core principles for the study of the Palestinian political reality.

### ***10117: Leadership and Communication Skills***

This course aims at improving students' personality and teaching them leadership and communication skills deemed necessary for the enhancement of their creativity and making them bold enough to engage in political and social debate. In addition, this course is designed to introduce students to the theories of leadership and the strategies being adopted for the same purpose. Furthermore, this course underscores the importance of the keen connection between leadership and communication and points out that leadership would not be as effective and as persuasive as it should be without mastering the skill of communication. And finally, this course looks at the obstacles and barriers which undermine or stand as impediments to having effective human communication.

### ***10108: Community Service***

This course is designed to introduce students to the intended meaning of community service and to the various community organizations and the role of the student as a volunteer in such organizations in providing different types of community services to the individual, to the group, and to the local community. In addition, this course aims to define the principles of community services, its philosophy, its fields of community service, and its history. As volunteers, students have to work 32 hours at least in voluntary community services in order to pass and satisfy the requirements of this course. Starting from the first semester of 2002/2001 students are requested to attend a counseling meeting on voluntary service and should also attend a community intensive training program when the student opts for one of such programs.

### ***10323: University English language II (English for Humanities' Colleges: Arts, Fine Arts, Shari'a & Education)***

University English E10323 is intended to serve students of the Humanities' Colleges: Shari'a, Education, Arts, and Fine Arts. This course carries on reading skills emphasized in University English I (10103). Its main objective is to develop the students' reading comprehension skills of skimming, scanning, analytic thinking and on being able to stage, debate and take a stance on a particular topic for discussion. Besides these reading skills, the course provides students with an invaluable opportunity to develop their vocabulary inventory. Moreover, students are trained in realizing text organization and development of English style: this entails recognizing thesis - and topic sentences, subordination, exemplification and other organizational devices. Students will also be trained to see different types of style: descriptive, analytic, expository, narrative ... etc. The text chosen is geared towards achieving these aims. Emphasis shall be given also to speaking, listening comprehension, and writing on account of their being integral parts of the course. With respect to the latter, there are writing exercises that are to be done in class or as home assignments.

In fact, the vocabulary and comprehension exercises can also enhance the students' writing skills. Instructors are advised to have students listen, from time to time, to tapes with conversations performed by a native speaker. The aim of such activities is, of course, to test the students' oral comprehension as well as expose them to more than one form of pronunciation.

### **10322 University English language II** **(English for science colleges but not for medical colleges)**

is a basic University English requirement which is offered to students from the colleges of Science, Engineering, Agriculture, Veterinary, and Information Technology. The students will be exposed to a range of science-based writings in English that supply students with samples of the kind of academic English they are likely to encounter in their textbooks. Exercises on grammar, vocabulary and textual organization are geared towards developing students' observational and analytical skills that aid comprehension. The course uses an integrated approach which allows for communicative interaction in the class to actively test and broaden the listening and speaking abilities of the students. Furthermore, the acquisition of vocabulary items will be reinforced through their use in written sentences. Additional training in writing will be given through questions and answers, summaries of principal ideas in a reading passage and the preparation of reports.

### **10324 University English language II** **(English for medical colleges)**

This course aims at enhancing and developing the students of Medicine and Pharmacy's language skills to enable them to read and comprehend English texts relevant to their fields in addition to helping them enter work market or pursue higher education. It places emphasis on developing skills of reading comprehension and increasing students' vocabulary as well as on developing skills of critical thinking, problem solving and decision making through exercises and study cases and relatively, short texts relevant to healthcare, psychology profession-development of medical doctors and pharmacists. The course, also, stresses the skills of speaking and writing.

For this end, a special book and a group of miscellaneous texts from books and other sources will be used to enrich students' experience and provide them with the knowledge needed.

By the end of the course, students are expected to have gained the ability to read independently, write reports and summaries and communicate orally.

### **32100: Remedial English Language**

This intensive English course is offered to students who score poorly (i.e. below 50%) on the placement test. Since the major concern of this course is to improve students' English language proficiency before starting their ordinary university English basic courses and major courses which are taught in English, special emphasis has been placed on enhancing the students' ability to effectively acquire the four language

skills: reading, writing, listening, and speaking. Specifically, the course attempts to ensure an academically acceptable performance on the part of the students at the level of the English basic courses. Moreover, the course aims at expanding students' vocabulary words needed for various tasks.

### ***10112: Farm Animals Husbandry***

This course provides detailed explanation on feeding, breeding and managing of the milk cows, goats, sheep, poultry, rabbits, fish and bees in addition to the animal products and its saving and marketing. In addition, this course provides initial scientific information for University students whose major is not in Agriculture in order to help them identify animal production and its importance and impacts on food security.

### ***10111: Household Gardening:***

This course aims to introduce student with the basics of establishing and maintaining the home garden which contributes to the adornment of cities and the preservation of the environment. The course covers the basic concepts of the sections of a home garden, the designing and planning of the garden, households and garden plants including annual and durable plants, shrubs, ornamental trees, fences , climbing trees , green landmarks as well as internal ornamental plants, environmental needs and the internal and external care for the home garden.

### ***10155: Poisons prevention***

This course aims at teaching students the principles of toxicology. It involves assisting students in identifying toxic or poisonous materials surrounding them, its impact, and how such toxic materials penetrate the human body as well as its working mechanism. Furthermore, students should learn how to avoid being exposed to toxic dangers and the prevention of the risks of poisons at the work place and at home and at the farms. And finally, students will have the opportunity to learn how to act in the event of an outbreak of poison or toxic materials.

### ***10115: Democracy and Human Rights***

This course deals with the historical concept of democracy and its application in various political systems; it also introduces students to different models of democracy of various political and economic systems in the twentieth century by highlighting the importance of such system in modern and contemporary societies. This course affords students the opportunity to learn a great deal about human rights, its development, components, nature, and importance to modern societies and its relation to democracy and the challenges that face such societies as a result of adopting such system. This course looks at the role of international protection of human rights and the role of United Nations in developing and implementing and monitoring member States' compliance with this policy of human rights. And finally, students will have an opportunity to study the law of war, its definition, and sources and goals.

### ***10251: Animal and Human Health***

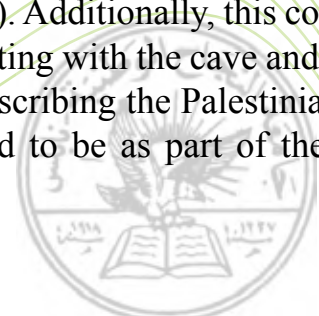
This course is designed to introduce students to the factors causing diseases such as viruses, bacteria, parasites, and fungi whose primary sources are agricultural animals and stranded/ wild animals. In addition, this course focuses on the outbreak of a particular disease and the ways of contraction, contagiousness and the transfer of such diseases to human beings. Furthermore, it focuses on studying the symptoms of diseases appearing on animals; finding the preventive measures against common diseases; and finding ways of getting rid of dead animals due to their adverse effect and consequences on the environment. It is also designed to provide students with the scientific, ideal, and healthy methods for the treatment of animals and the protection of their produce such as eggs, meat, milk, dairy stuff, and skins.

### ***10181: Introduction to Music***

This course affords students the opportunity to learn about the origin of music, the basic elements which music consists of, and the elements which constitute musical notes. In addition, students will learn about the most important Arabic and Western musical instruments in addition to some of their molds. The student also studies the biography of the most famous Western musicians.

### ***10189: Palestine Folklor arts***

This is a study of an aspect of the cultural constituents of our Palestinian people represented in our popular heritage which has been made by successive generations in the course of time so as to recognize, register and eternalize it as a national duty; this is meant also to preserve the common symbols among the Palestinian people inside and outside the country and to consider it as a symbol of the Palestinian identity by means of the Palestinian human's adapting to the surrounding environment and utilizing his natural and local resources as well as the means which the Palestinian person developed to serve his daily needs. These were, later, translated as instrumental branches of life experiment which reflected its intellectual aspects represented by oral arts (proverbs, popular poetry, riddles, etc), its material aspects represented by Palestinian popular crafts (pottery, ceramic, glass, straw, ditch reed, rag weaving and forming olive wood), aspects concerning Palestinian popular songs, "dabka" and popular dancing, Palestinian popular dress (dress variation according to place and religious belief, the historical reference of Palestinian dress) as well as embroidery (its elements, the development of its units, the development of its veins according to variation in time and political events as well as its tools). Additionally, this course is a study of the Palestinian systems of home residence starting with the cave and passing through with the tent, shed and the house as well as describing the Palestinian house and guest room and "al-taboon" which are considered to be as part of the simple Palestinian architecture systems.



### ***10710: Psychological Culture in our Recent Life:***

This course introduces students to different concepts in psychology such as the definition of psychology, the nature of learning and stimulation, some social concepts like frustration, struggle and the means of elementary defense and psychological therapy. In addition, this course aims at letting the student gain some valuable psychological education on a number of psychological subjects due to their overall importance in our modern and contemporary life.

### ***10713: Education and Teaching in Palestine***

This course aims at acquainting students with the history of education in Palestine during different periods of history as well as recognizing the varied variables which affected education in Palestine resulting from the changing, political situations in this country. In addition, this course aims at recognizing the consequences of the British mandate and the Zionist occupation of Palestine and its consequences on education in Palestine. And finally, this course acquaints students with the reality of Palestinian education and its future ambitions.

### ***10168: Principles of professional (occupational) safety:***

The purpose of this course is to raise students' awareness of public safety matters and those related to human health, safety and the preservation of man's property. In addition, this course aims to acquaint students with the sources of electrical, mechanical and chemical dangers and risks, and how to deal with them as well as with the fire and methods of prevention. Furthermore, it acquaints students the principles of professional safety in the work place; and it points out the role of evacuation and rescue teams in case of emergency disasters. And finally, students should have learned the proper ways of avoiding danger at the work place or at home and should have acquired a set of tips which enable them to deal with such contingencies as effectively as possible.

### ***10165: Earthquake eng. and Hasards Assessment***

This course aims to develop students' behavior by means of raising their educational level and awareness of a variety of subjects of which the most important are planning and danger/risk analysis, seismology, protection procedures and means, general characteristics of earthquake-resistant buildings, shortcomings of buildings and catastrophe management.

### ***10162: Environment in Palestine***

This course aims to introduce students to recognize the elements of the Palestinian environment and the changes which it has been exposed to as well as to prepare individuals who can adapt easily to their environment; it also aims to let them gain the awareness and the sense of responsibility concerning environmental problems and the correct value and trends for efficient participation in protecting and improving the

environment. In addition, the course contains several topics that relate the student's specialization to the various elements of the environment.

### ***10161: Engineering and Society***

This course is designed to provide university students with a clear picture on the specializations of engineering sciences, their diverse applications, and their role in the service of mankind ever since the dawn of history. This course looks at the role of engineering and the technological revolution in forming and enlightening civilization, keeping in mind and taking into consideration the influence of engineering thinking and the ethics of such profession in terms of enlightening our students to acquire the knowledge of new specializations in health, environmental, and transportation engineering. Finally this course aims to acquaint students with the fact that engineering represents the real application of any theoretical and scientific principle.

### ***10151: General Principles in Admenstration***

This course has two aims: First, to introduce university students who are from outside the college of Economics to the notion of administration and help them acquire the necessary managerial skills and use them in practical life. Second, to provide students with some skills which they need in their jobs after graduation.

### ***10152: Accounting and Book-Keeping***

The primary reason for this course is the need to introduce students to the required skills to deal effectively with the accounting operations and accounting files during the preparation of normal financial reports. This course is considered as one of the computerized courses for university students since accounting is the language of business. In addition to that, this course aims to familiarize students with the necessary knowledge for university students to be able to:

1. Recognise and be acquainted with the financial matters at professional and commercial institutions.
2. Deal with purchases, sales, expenses and other operations.
3. Recognize how to calculate and retrieve the business results of losses and gains
4. Recognize and envision the financial situation or standing of the institution at the end of fiscal year.

### ***10156: Principles of Investment***

This course is designed to introduce students to the fundamental principles of the process of investment and its basic components for any investment decision and the mechanisms which investors have to employ in order to minimize investments risks. In addition, this course aims to introduce students to the fundamental principles of investment and its tools and areas of investments. Furthermore, it aims to introduce students to the stock and financial markets and the ways of investing in it in Palestine. And finally, this course aims to help students invest their money in areas suitable to their circumstances and at the same time maximize their investment gains.



### ***10142: Family System in Islam***

This course is designed to introduce university students to the concept of family, its formation, the need for it, and the position of Islam towards family ties, the intention of Islamic law (or Shari'a) for its formation, foundations, and characteristics. It also looks at the concept of marriage and its ruling in Islam. The concept of separation between married spouses: its causes, types, and its consequences. It also looks at issues of great concerns such as family violence, birth control and its organization, the right of having children, artificial insemination pregnancy, marriage from foreigners, and all types of marriages: such as Al-messier, Al-mutah, Al-urfi, and advantageous marriage.

### ***10143: Principles of Religious Obseervances***

This course introduces students to the definition of faith (known as Al-aqeeda) from a linguistic and religious dimension and the need of mankind for Islam. It also introduces students to the characteristics of Islamic faith and its opinion of man. It also deals with the influence of Quran'an in reinforcing faith along with its verses which talk about the existence of Al-might God and reinforcing faith in Muslims.

### ***10144: Fiqh of Siyra***

This is an introduction to the prophet's biography and the definition of its methodologies. It highlights the birth of the prophet, the time of his childhood, his marriage, and the pre-prophetic signs, the period of holly messenger (Gabriel).

The course discusses the period of persecution and the immigration to Habasha (now Ethiopia), Alisra' wal Mi'raj, the first and the second A'qaba treaty, the immigration to Al-medina and the building of the first mosque in Islam, brotherhood and treaties.

The course also shows the prophet's holy battles and the description of the prophet's house hold, the prophet's characteristics, and his death.

### ***10131: Geography of Palestine***

This course is designed to introduce students to the history of Palestine (primarily during the British mandate) and its natural geography, climate, soil, and water. It also looks at the population and demographic changes which have taken place through out history particularly the mass expulsion of Palestinians in 1984. Furthermore, this course introduces students to the Palestinian economy particularly pertaining to agricultural, industrial and commercial sectors. Moreover, this course aims at instilling the spirit of national belongingness to the land and to their Palestinian community by providing them with the factual materials about their land and people.

### ***10135: History of Jerusalem***

This course is a historical study of the city of Jerusalem ever since its construction by the Ibusion and Canaanites and the military incursions which this city had been exposed to through out time. It is also designed to trace and underlie the demographic and economic changes which the holy city has undergone through out the various historical ages and times.

### **10137: Population Communication**

This course focuses on the importance of students' understanding of the situation of the Palestinian population since it is considered one of the principal foundations on which the process of development, and the laying out of strategies, and planning for the future of Palestine depends upon. In addition, this course focuses on population growth, human and natural resources, issues related to health and childbirth, the status of women and their role in society particularly in the perspective of Islamic vision.

This course is also designed to point out the influence and effect which the mass media and communication channels can exert on viewers' perception by inducing some change in the minds and behavior of viewers and the consequence of such undertaking on different aspects of the concept of population. This course attempts to underscore the influence of communication channels in terms of introducing students to the necessity to become knowledgeable about population needs, the profiling of public opinion and its diverse perspectives in various mass media be that visible, audible, or printed.

### **10253 Physical Fitness:**

This course aims to identify the concepts of fitness and its fundamental content which is force, speed, endurance, lightness and flexibility. The course also identifies the characteristics of the typical basis and some compensatory exercises for some distortions.

### **10254 Sports and Health :**

This course aims to identify students to the concepts of physical education and the relationship between it and the health education. It also identifies the concept of health, health levels, items of fitness, and integrated nutrition.

In addition, this course identifies the basic elements of food, sport injuries and the principles of first aid.

### **10125 Public health**

Study the basic principle of public health, health of individual, family and society.

Attention should be focused on pathological phenomena in society and their symptoms.

Water sources and water contamination. Infectious diseases and the route of their transmission (air, animals). Environmental pollution and disease resulting from the development of civilization, like noise pollution.

### **10128 Environmental Geology**

Environmental Geology is the application of geologic information to the entire spectrum of interactions between people and the solid earth. During this course students will develop an understanding of how geology interacts with major environmental

problems facing people and society (natural resources and pollution, natural hazards and catastrophes such as earthquakes, landslides, tsunamis, etc) .

### ***10127 Science and community***

This course mainly deals with general topics in chemistry, physics, mathematics, and biology for students who are not enrolled in Faculty of science

# COLLEGE OF

# SCIENCE



# COLLEGE OF SCIENCE

## ACADEMIC PROGRAMS

Established in 1977/1978, the college of science offers programs leading to the B.Sc. degree with majors in Mathematics, Physics, Physics and Electronics, Chemistry, Applied Chemistry, Biology and Biotechnology, Medical Laboratory Sciences, and Statistics. The Faculties of Mathematics, Chemistry, Biology and Physics offer graduate programs leading to M.Sc. degree, and the Faculty of Chemistry offers a program leading to Ph.D. degree.

Teaching is conducted through lecture and laboratory participation by highly qualified teaching staff, including a number of highly distinguished professors, who continue to positively affect students' academic achievement and improve the quality of both applied and basic scientific research in the college.

In addition to well equipped modern teaching laboratories, a number of research laboratories and facilities are available for faculty and students. Stock rooms, workshops (including glass blowing and electronics), clean rooms, dark rooms, exhibition rooms and a conference room are available on site.

Course #	Course title	Credit hours	Hours per week		Prerequisite
			Theory	Lab.	
21101	Calculus I	3	3	-	-
22102	Calculus II	3	3	-	21101
22101	General Physics I	3	3	-	-
22107	Practical General Physics I	1	-	2	22101, or concurrent
22102	General Physics II	3	3	-	22101, 22107, or with both
22108	Practical General Physics II	1	-	2	22102 or concurrent
23101	General Chemistry I	3	3	-	-
23107	Practical General Chemistry I	1	-	2	23101 or concurrent
23102	General Chemistry II	3	3	-	23102 or concurrent
23108	Practical General Chemistry II	1	-	2	23102 or concurrent
24101	General Biology I	3	3	-	-
24107	Practical General Biology I	1	-	2	24101 or concurrent
24102	General Biology II	3	3	-	24101, 24107 or concurrent
24108	Practical General Biology II	1	-	2	-
Total		30			

College Requirements (30 credit hours)

## **Course descriptions for college requirements:**

### **21101 - Calculus I**

Topics covered in this course include analytic geometry, continuity, limits, definite and indefinite integration, applications of integration and differentiation.

### **21102 - Calculus II**

This course introduces integration and differentiation of exponential and logarithmic functions, trigonometric and partial trigonometric functions, and methods of integration, polar coordinates, conic sections, extraordinary integration and indefinite quantities.

### **22101 - General Physics I**

This course introduces vectors, laws of two-dimensional motion, linear motion, quantity gravitation, conservation of mechanical energy, rotational kinematics, waves, thermal dynamics, Newton's mechanics, and simple harmonic motion.

### **22102 - General Physics II**

This course covers electrical fields and potentials, capacitors, electrical circuits, magnetic field induction, RC and RL circuits, electromagnetic waves, optics, interference and diffraction.

### **22107 - Practical General Physics I**

This course involves a number of selected experiments in mechanics.

### **22108 - Practical General Physics II**

This course includes a number of selected experiments in electricity and magnetism.

### **23101 - General Chemistry I**

In this course, students will learn basic concepts in chemistry, including the structure of atoms, chemical laws calculations, chemical bonding, forms of compounds, general laws in aqueous solutions chemistry, general laws for gases, and other theoretical subjects.

### **23107 - Practical General Chemistry I**

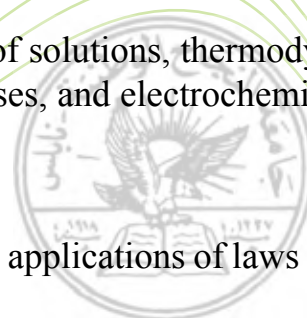
This course includes qualitative analysis of ionic elements (positive and negative) in addition to different periodic trends. Part of the course will focus on their compositions and contents.

### **23102 - General Chemistry II**

This course introduces basic concepts in properties of solutions, thermodynamics, mechanical interactions, chemical equilibriums, ion bases, and electrochemistry, and involves the application of these topics.

### **23108 - Practical General Chemistry II**

Students in this course will be provided with practical applications of laws of gases,



primary formula, volumetric analysis, solubility, molecular weight determination, freezing point depression, heat reaction, water crystallization, chemical equilibriums and other experiments.

### **24101 - General Biology I**

In this course, students will learn how to study the structure and function of cells in living organisms, their organs and systems, internal transportation and the exchange of gases in these organisms, forms of energy generation, and the photosynthesis process.

### **24107 - Practical General Biology I**

This course is an application of topics covered in General Biology I 24101.

### **24102 - General Biology II**

In this course, students will study hormones and their influence on living organisms, nerve control, animal movement and behavior, reproduction, and principles of genetics and its impact on diversity of living organisms.

### **24108 - Practical General Biology II**

This lab course includes a number of experiments on topics covered in General Biology.

# DEPARTMENT OF MATHEMATICS

## (1) Specialization Requirements

After successful completion of his/her first year at university, the student specifies his/her specialization major with the assistance of his/her academic supervisor. Then, the student fills and completes an application form submitted to the Faculty of Science.

The following requirements should be met for specialization:

- Successful completion of two mathematics courses (21101 & 21102) with a minimum overall average of 2/4.
- Successful completion of two physics courses (22101 & 22102).
- Successful completion of at least 30 credit hours of which at least 18 credit hours are within the Faculty of Science requirements.

If the number of students applying to the mathematics major is more than the required number set by the Faculty Council, then the students will be selected according to their highest average in the 21101 and 21102 courses.

## (2) Degree Requirements

All candidates for the B.S. degree in mathematics should successfully complete 137 credit hours as follows:

1. University Compulsory Requirements (20 credit hours)
2. University Elective Requirements (6 credit hours)
3. Faculty Compulsory Requirements (30 credit hours)
4. Departmental Compulsory Requirements (54 credit hours)
5. Departmental Elective Requirements (27 credit hours)

The departmental courses required are as follows:

### A. Departmental Compulsory Courses (54 credit hours)

Course Number	Course Title	Credits	Prerequisites
21201	Calculus (3)	3	21102
21203	Principles of Differential Equations	3	21201
21211	Principles of Mathematics	3	21102 & Dept. approval
21212	Modern Analysis (1)	3	21211
21220	Programming for Mathematics	3	21102 & Dept. approval
21231	Methods of Statistics (1)	3	-
21241	Linear Algebra (1)	3	21201
21242	Modern Algebra (1)	3	21211
21311	Modern Analysis (2)	3	21212
21312	Complex Analysis (1)	3	21212
21321	Numerical Analysis (1)	3	21241 & 21220
21334	Probability Theory (1)	3	21201



Course Number	Course Title	Credits	Prerequisites
21342	Modern Algebra (2)	3	21242
21361	Principles of General Topology	3	21212
21362	Modern Methods in Geometry	3	21211
21399	Scientific Research	3	100 cr.h
s 72292	Methods of Teaching Mathematics	3	-
s 72492	Practical Education for Math Students	3	72292
	Total	54	

\* Offered by the College of Education Sciences.



## B. Departmental Elective Courses (27 credit hours)

Candidates must meet departmental elective requirements by completing:

- 1- One 3 credit hours course offered by the College of Education Sciences.
- 2- 24 credit hours selected from courses offered by the Department of Mathematics.

Course Number	Course Title	Credits	Prerequisites
21232	Methods of Statistics (2)	3	21231
21301	Special Functions	3	21203
21302	Partial Differential Equations (1)	3	21203
21303	Vector Analysis	3	21201
21314	Advanced Calculus	3	21201
21320	Software Packages for Mathematics	3	21220 & 21241
21322	Linear Programming	3	21220 & 21241
21323	Operations Research (1)	3	21241
21331	Sampling Methodology	3	21231
21332	Experimental Design and Variance Analysis		21231
21335	Probability Theory (2)	3	21334
21336	Mathematical Statistics (1)	3	21334
21337	Mathematical Statistics (2)	3	21336
21341	Linear Algebra (2)	3	21241
21343	Number Theory	3	21211
21351	History of Mathematics	3	Dept. Approval
213732	Applied Mathematics	3	21203 & 21241
21403	Ordinary Differential Equations	3	21203
21414	Functional Analysis	3	21361
21421	Numerical Analysis (2)	3	21321
21431	Time Series Analysis	3	21336
21435	Applied Regression Analysis	3	21241+21334+21220
21462	Differential Geometry	3	21201 & 21241
21474	Combinatorics & Graph Theory	3	21241
21481	Special Topics (1)	3	
21482	Special Topics (2)	3	
s 72138	Classroom Environmental Management	3	-
s 72254	Educational Psychology	3	-

s Offered by the College of Education Sciences (Choose one course from 72138 & 72254).



### **(3) Course Descriptions**

#### **21103 - General Mathematics**

Topics covered in this course include: the Cartesian plane, equation of a straight line, equations and inequalities; linear programming; functions, their types, and the limits and continuity of functions; derivatives of polynomials, algebraic, trigonometric, logarithmic and exponential functions; rules of differentiation, applications of derivatives on extreme values and graphs; definite and indefinite integrals; applications of definite integrals; integration by substitution and by parts; matrices, determinants and solving systems of linear equations; partial differentiation.

#### **21104 - Mathematics for Pharmacy**

Topics covered in this course include: limits and continuity; the derivative, applications of the derivative; integrals and applications of the definite integral; transcendental functions.

#### **21105 - Mathematics for Education**

Topics covered in this course include: functions and their graphs - linear, quadratic, rational, natural exponential, natural logarithmic, sine and cosine functions; limits and the indeterminate form  $0/0$ , continuity of functions; derivatives using rules of differentiation, applications of derivatives on tangent lines, instantaneous rate of change, instantaneous velocity and applications on extreme values and graphs; definite and indefinite integrals, integration by substitution and by parts; solving first order ordinary differential equations; counting principle, permutations and combinations; the binomial theorem and Pascal's triangle, substitution and elimination methods in solving systems of linear equations in two or three variables; matrices, determinants and solving systems of linear equations in two or three variables using inverses and Cramer's rule.

#### **21201 - Calculus (3)**

Topics covered in this course include: parametric equations and polar coordinates; vectors in  $R^2$  and  $R^3$  & surfaces; vector-valued functions; partial differentiation with applications; multiple integrals.

#### **21203 - Principles of Differential Equations**

Topics covered in this course include: classifications and solutions of first-order ordinary differential equations with applications; higher-order and solutions; power series solutions; Laplace transforms; solutions of systems of linear differential equations.

#### **21211 - Principles of Mathematics**

Topics covered in this course include: logic and proofs; set theory, relations and functions; cardinality and examples on mathematical structures.

## 21212 - Modern Analysis (1)

Topics covered in this course include: properties of real numbers; open and closed sets; sequences; limits and continuity; differentiation; Riemann integral.

## 21220 - Programming for Mathematics

Topics covered in this course include: fundamentals of programming; algorithms, types of data and control statements, dimensions, functions and subroutines; some mathematical software with applications.

## 21231 - Methods of Statistics (1)

Topics covered in this course include: statistical data classifications; measure of central tendency and variability; probability concepts and rules; discrete and continuous random variables; probability distributions; the binomial and normal distributions; sampling distributions; point and interval estimations for one population mean; tests of hypotheses for one population mean.

## 21232 - Methods of Statistics (2)

Topics covered in this course include: sampling distributions; confidence intervals; testing hypotheses for one and two population parameters; regression and correlation; testing hypotheses for regression line parameters; analysis of variance; chi-square test and non-parametric tests.

## 21241 - Linear Algebra (1)

Topics covered include: matrices, vectors and elementary row operations; operations on matrices; determinants and inverses of matrices; systems of linear equations and method of solutions; vector spaces, linear independence and basis; linear transformations, kernel and range; Eigen values and eigenvectors.

## 21242 - Modern Algebra (1)

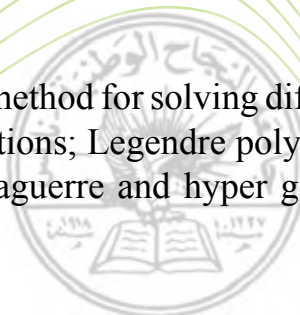
Topics covered in this course include: binary operations; groups, subgroups, finite groups, cyclic groups, symmetric groups, factor groups, normal subgroups; group homomorphism; Sylow theorems.

## 21262 - Principles of Geometry

Geometry: Hilbert's postulates, congruence, equivalence, similarities, circles, geometric transformations; space geometry: relations between lines, between lines and planes, between planes, theory of orthogonal projections; solid geometry: prisms, pyramids, cylinders, cones, sphere and related theorems.

## 21301 - Special Functions

Topics covered in this course include: the Frobenius method for solving differential equations; special functions like Gamma and Beta functions; Legendre polynomials; Bessel functions; Hermite polynomials; Chebyshev, Laguerre and hyper geometric functions.



## 21302 - Partial Differential Equations (1)

Topics covered in this course include: the formation of a partial differential equation; methods of solutions of first order linear and nonlinear partial differential equations; methods of solutions of second order linear and nonlinear partial differential equations; Fourier series and transforms; wave equation, Laplace's equation, potential equation, equation of an infinite wire, heat equation.

## 21303 - Vector Analysis

Topics covered in this course include: vector algebra, vector products, vectors and scalar fields; the gradient, divergence and curl theorems; line, surface and volume integrals, related theorems; curvilinear coordinates.

## 21311 - Modern Analysis (2)

Topics covered in this course include: metric spaces; Riemann-Stetitges integral; functions of bounded variations; sequences and series of functions.

## 21312 - Complex Analysis (1)

Topics covered in this course include: properties of complex numbers; complex functions, derivatives and Cauchy-Riemann equations; elementary functions and elementary transformations; complex integrals, residue theorem and improper integrals; power series.

## 21314 - Advanced Calculus

Topics covered in this course include: coordinate systems; functions of several variables, parametric representations of curves and surfaces, transformations of regions; derivatives and directional derivatives; implicit functions, Jacobians and related theorems; extreme; multiple integrals and related theorems.

## 21320 - Software Packages for Mathematics

Topics covered in this course include: mathematical modeling; using some software packages in mathematics and statistics; NETLIB, NAG, Derive, Mathematical, MATLAB, BLAS, Maple, MathCAD, SPSS, Minitab.

## 21321 - Numerical Analysis (1)

Topics covered in this course include: numbers, Binary, Octal and Hexadecimal number systems; floating point arithmetic, Errors, sources and types; solving nonlinear equations, direct and indirect methods in solving systems of linear equations, solving systems of nonlinear equations; approximation and interpolations, numerical integration.

## 21322 - Linear Programming

Topics covered in this course include: problem formulation; graphic solution; simplex method; duality theorem; linear sensitivity analysis and algebraic representation; transportation and assignment problems; network (PERT and CPM); game theory.

### 21323 - Operations Research (1)

Topics covered in this course include: introduction to operation research; inventory models, queuing models; Markov chains; case studies.

### 21331 - Sampling Methodology

Topics covered in this course include: simple random samples, estimation of means totals and proportions, estimation of the regression parameters, stratified sampling, cluster sampling, systematic sampling and other sampling methods.

### 21332 - Experimental Design and Variance Analysis

Topics covered in this course include: random column design, Latin squares design, two-factors design, multi-factors comparative experiment, testing model accuracy in analysis of variance, insufficient sector model factor analysis, and multiple comparisons.

### 21334 - Probability Theory (1)

Topics covered in this course include: basic concepts of probability; discrete and continuous random variables; probability distributions; the binomial, geometric, negative binomial, uniform, gamma and normal probability distributions; examination of moment generating functions; probability distributions of functions of random variables.

### 21335 - Probability Theory (2)

This course includes review of some properties of random variables and probability distributions, multinomial distributions, distribution of order statistics, and moments and moment generating functions for some probability distributions. Limiting distributions, types of convergence and characteristic functions are also examined.

### 21336 - Mathematical Statistics (1)

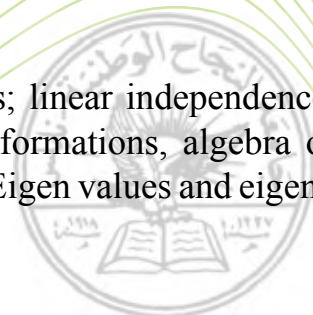
This course provides an introduction to decision theory, risk and loss functions, unbiased estimation, efficient and maximum likelihood estimation, confidence intervals, testing statistical hypotheses, sufficient statistics, the Rao-Blackwell theorem and Rao-Cramir inequality.

### 21337 - Mathematical Statistics (2)

This course covers properties of point estimates, the exponential family of distributions, sufficiency and completeness, Bayesian estimation, most powerful test, sequential test, and estimation and testing hypotheses for linear models.

### 21341 - Linear Algebra (2)

Topics covered in this course include: vector spaces; linear independence; direct product and direct sum of vector spaces; linear transformations, algebra of linear transformations; dual spaces; matrices; linear systems; Eigen values and eigenvectors; Hermite matrices; positive definite matrices.



## 21342 - Modern Algebra (2)

Topics covered in this course include: rings, sub-rings, ideals, division rings, factor rings; ring homo-morphisms; maximal ideals, principal ideal rings, principal ideal domains; polynomial rings, extension of fields.

## 21343 - Number Theory

Topics covered in this course include: divisibility and prime numbers; Chinese remainder theorem; congruence; Euler's theorem, Fermat's theorem, Wilson's theorem; linear congruence: congruent and non-congruent solutions; arithmetic functions; special numbers: perfect, deficient abundant and Mersenne numbers.

## 21351 - History of Mathematics

This course covers mathematical development as science; early numeral systems such as Babylonians, Egyptians and Greek; the three problems of antiquities: duplicating a cube, quadrating of a circle and trisecting an angle; Alexandria 1st and 2nd schools, Hindu and Arab mathematics; European mathematics before and after the 17th century; analytic geometry and related concepts; development before calculus and transition to the 20th century.

## 21361 - Principles of General Topology

This course covers topological spaces, basis and sub-basis; functions and homomorphism; separation and countability axioms; connectedness and compactness; Hausdorff space, metric spaces and product spaces.

## 21362 - Modern Methods in Geometry

Topics covered in this course include: Euclid's axioms; incidence geometry; Hilbert's postulates; absolute geometry; hyperbolic geometry; Riemann geometry; metric and non-metric geometric transformations.

## 21373 - Applied Mathematics

This course covers orthogonal functions; Fourier series and Fourier transform; discrete Fourier series and transform, Z-transform, minimization and least square method.

## 21399 - Scientific Research

This course involves discussion of characteristics of scientific thinking and its relationship with scientific research; it requires students to conduct a research on a specific topic in mathematics, and to deliver it and represent this research in a seminar for evaluation.

## 21403 - Ordinary Differential Equations

Topics covered in this course include solving ordinary differential equations using series; Laplace transform; existence theorem and applications; solving linear and nonlinear systems of ordinary differential equations; dynamical systems.

## 21414 - Functional Analysis

This course covers linear topological spaces, function spaces; weak topology; extension and separation theorems; open mappings; uniform bounded-ness; Banach and Hilbert spaces.

## 21421 - Numerical Analysis (2)

This course covers numerical methods for ordinary differential equations and systems; numerical methods for finding Eigen values and eigenvectors; numerical methods for solving nonlinear systems; and introduction to numerical methods for solving partial differential equations.

## 21431 - Time Series Analysis

This course covers time series description, trends, periods, moving averages, filterization, Fourier analysis, models of stable series, self correlation, predictions, Jenkins-Box methods and spectrum analysis.

## 21435 - Applied Regression Analysis

This course covers simple linear regression, multiple regressions, estimation, and goodness of fit tests, residual analysis, using matrices a regression, and factor rotation and applications.

## 21462 - Differential Geometry

Topics covered in this course include: curves in planes and in space; curvature and torsion; theory of curves: intrinsic equations, involute curves and evolute curves; surfaces, simple surfaces and topological properties; tangent planes; first and second forms of a surface; asymptotes; intrinsic geometry, theory of surfaces; tensors and families of related curves.

## 21474 - Combinatorics & Graph Theory

This course focuses on graphs: simple graphs, directed graphs, components, connected components; blocks, cut-vertices, and bridges; Euler graphs; trees, planar and non-planar graphs; graph matrices and coloring.

## 21481 - Special Topics (1)

This course covers some selected topics in pure and applied mathematics determined by the department and the course lecturer.

## 21482 - Special Topics (2)

This course covers some selected topics in pure and applied mathematics determined by the department and the course lecturer.





## DEPARTMENT FACULTY

### *Professors*

Mahmoud Al-Masri Ph.D. in Functional Analysis,  
University of North Carolina at Chapel Hill, USA, 1985.

### *Associate Professors*

Fawaz Abu Diyak Ph.D. in Topology,  
Michigan State University, USA, 1984.

Mohammad el-Amleh Ph.D. in Topology,  
University of Alabama, USA, 1981.

Abd Allah Hakawati Ph.D. in Functional Analysis,  
Lehigh University, USA, 1984.

### *Assistant Professors*

Mohammad Najib D. Sc. in Inventory Theory and  
Dynamic Programming,  
University of Munich, Germany, 1987.

Samir Matar Ph.D. in Numerical Analysis,  
Brunel University, UK, 1991.

Mohammad Omran Ph.D. in Applied Mathematics,  
Matrices, Linear Algebra,  
Brigham Young University, U.S.A. 1997.

Mohammad Abu Eideh Ph.D. Topology Nagpur university(India)(1989)

Subhi Riziyeh Ph.D. in Applied Mathematics,  
Clarkson University, USA, 1989.

Jaber Abu Jawkha Ph.D. in Algebra & Groups,  
Middle East Technical University, Turkey, 1990.

Anwar Saleh Ph.D. in Applied Mathematics – Numerical Analysis, 1994  
Clarkson University , USA, 1994

### *Instructors*

Farhan Antari M.Sc. Computational Mathematics.  
An-Najah National University, 2004.

Adnan Al-Salqan M.Sc. in Statistics and Algebra,  
Ohio University, USA, 1985.

Abdul munem Kharrosheh. M.Sc. in Computational Mathematics  
An-Najah National University ,2007

Hadi Hamad M.Sc. in Computational Mathematics  
An-Najah National University ,2007

Mohammed Ahmed Syam Diploma in Programming and data bases community  
College- An Najah National University 2005-2003  
Computer Laboratory Technician mathematic part.

## DEPARTMENT OF PHYSICS

The Department of Physics offers, currently, a program leading to B.Sc. in Physics. The students have two choices: a single major in physics or a major in physics coupled with a minor in electronics.

### *Specialization Requirements*

After successful completion of his/her freshman year, the student, with the help of his/her academic advisor, declares his/her major by completing an application form available at the College of Science office.

The following requirements should be met for specialization:

1. Successful completion of General Physics courses, 22101, 22102, 22107 and 22108 with a cumulative average of at least 70% in these courses.
2. Successful completion of General Mathematics: 21101 and 21102.
3. Completion, successfully, of at least 30 credit hours, 18 of which should be at least college requirements. In case of competition among potential majors in physics, priority will be given to highest cumulative averages in 22101, 22102, 22107 and 22108.

### *(2) Degree Requirements for B.sc in Physics .*

To earn a B.Sc in Physics with minor in electronics, students must successfully complete 137 credit hours. These include university, college, department and minor electronics compulsory and elective courses in addition to compulsory and elective courses from faculty of Education .

University Compulsory Courses (20 credit hours)

Course #	Course title	Credit hours
10105	Islamic Education	3
10102	Arabic Language	3
10103	English (1)	3
10322	English (2)	3
10105	Palestinian Studies	3
10117	Leadership and Communication Skills	1
10108	Community Service	1
10100	Introduction to Computers	3

University Elective courses (6 credit hours).

The student must choose 6 credit hours from University electives not from his

faculty and he can not choose more than one course from the same faculty.

Compulsory courses (60 credit hours)

### A. Department Compulsory Courses (48 credit hours)

Course #	Course title	Cr hrs	Classes	Lab	Prerequisite
22203	General Physics III	3	3	-	22102
22221	Waves and Optics	3	3	-	22102
22213	Physics Lab I	1	-	3	22203
22231	Electronics	3	3	-	22102
22241	Thermodynamics & Statistical Physics	3	3	-	22203, 21203 or concurrent with 21203
22242	Modern Physics I	3	3	-	22102
22233	Electronics Lab I	1	-	3	22231
22313	Physics Lab II	2	-	4	22213
22351	Electricity & Magnetism	2	-	4	22353 or concurrent
22352	Classical Mechanics	3	3	-	21203
22353	Mathematical Physics	3	3	-	21203
22354	Quantum Physics I	3	3	-	22242, 22353
22399	Research	3	3	-	Dept. approval
22413	Advanced Physics Lab	2	-	5	22313, 22371
22451	Electricity & Magnetism II	3	3	-	22351
22454	Quantum Mathematics II	3	3	-	22354
22462	Neckar Physics	3	3	-	22354

### B. Compulsory Courses from the Mathematics Department (6 credit hours)

Course #	Course title	Cr hrs	Classes	Lab	Prerequisite
21201	Calculus III	3	3	-	21102
21203	Differential Equations	3	3	-	21201

### C. Compulsory Courses from Education (6 credit hours)

Course #	Course title	Cr hrs	Classes	Lab	Prerequisite
72182	Methods of Science Teaching	3	3	-	
722491	Practical Education for Science Students	3	3	-	

#### 1. Elective Courses (21 credit hours)

##### A. Department elective courses (18 credit hours)

- The student can choose 18 credit hours from the following courses, or he can choose at least 12 credit in addition to 6 credit hours from Electronics minor, or Mathematics department .
- With course number more them 300.

## Department Elective Courses

Course #	Course title	Cr hrs	Classes	Lab	Prerequisite
22301	Computers in Physics	3	3	-	-
22314	Practical Physics	-	-	3	22313
22331	Electronics II	3	3	-	22231
22333	Workshop	1	-	3	Dept. approval
22453	Mathematical Physics II	3	3	-	22353
22356	Theory & Relativity	3	3	-	22242
22361	Atomic & Molecular Physics	3	3	-	22354
22364	Principles of Lasers	3	3	-	22242, 22221
22421	Acoustics	3	3	-	22353
22464	Laser Spectroscopy	3	3	-	22364
22465	Spectroscopy	3	3	-	22354
22452	Classical Mechanics II	3	3	-	22352
22455	Statistical Mechanics	3	3	-	22241 or concurrent with 22354
22457	Plasma Physics	3	3	-	22451
22463	Particle Physics	3	3	-	22462 or concurrent
22471	Solid State Physics II	3	3	-	22371
22481	Special Topics	3	3	-	Dept. approval
22391	Seminar	1	-	-	Dept. approval
22468	Astrophysics	3	3	-	22354 or concurrent
22342	Modern Physics II	3	3	-	22242 or concurrent with 22354
22385	Renewable Energy	3	3	-	Dept. approval

A. Elective course from Faculty of Education (3 credit hours)

Student must choose 3 credit hours from the following

Course #	Course title	Cr hrs	Classes	Lab	Prerequisite
72138	Classroom Margret	3	3	-	
72254	Educational Psychology	3	3	-	



### ***(3) Course Descriptions***

#### **PHY22101 - General Physics I**

In this course, the following subjects are introduced: vectors, linear and two-dimensional motions, Newton's mechanics, work and energy, linear and angular moment, gravitation and simple harmonic motion.

#### **PHY22102 - General Physics II**

This course covers electrical fields and potentials, capacitors, electrical circuits, magnetic field induction, RC and RL circuits, electromagnetic waves, optics, interference and diffraction.

#### **PHY22103 - General Physics for Pharmacy**

This course covers classical mechanics, electricity, thermodynamics, fluid mechanics, vibrations and wave motion, light and lasers, and microscopes

#### **PHY22105 - General Physics I (for College of Educational Sciences)**

In this course, students will learn about vectors, kinematics of one and two dimensional motions, Newton's Laws, linear momentum mechanical energy, work, power, gravitation, thermodynamics and wave motion.

#### **PHY22106 - General Physics II (for College of Educational Sciences)**

This course covers electric charges, electric force, electric fields, Gauss's Law, electric potential, capacitance, electric current and resistance, DC circuits, magnetic force, sources of magnetic fields, magnetic induction, inductance, and ray optics.

#### **PHY22107 - General Physics Lab. I**

This course involves a number of selected experiments in mechanics.

#### **PHY22108 - General Physics Lab. II**

This course includes a number of selected experiments in electricity and magnetism.

#### **PHY22109 - General Physics for Agriculture**

In this course, students are introduced to one and two-dimensional kinematic motions, Newton's mechanics, work energy and power, linear and angular momentum, gravitation wave motion, and laws of thermodynamics.

#### **PHY22110 - General Physics Lab. For Agriculture**

This lab covers experiments in mechanics, thermodynamics, and electricity.

#### **PHY22112 - General Physics Lab for Computer Science**

#### **PHY22113 - General Physics Lab for Pharmacy**

This lab covers mechanics, fluid Mechanics, electricity, and magnetism.

## PHY22115 General Physics Lab for Engin.

## PHY22203 - General Physics III

In this advanced course, students learn about fluids, sound waves, gas laws, heat laws, light laws in diffraction and interference.

## PHY22211 - General Physics for Computer Science

## PHY22213 - Physics Lab I

This lab covers experiments in optics, electricity, magnetism, thermodynamics, and modern physics.

## PHY22221 - Waves and Optics

Topics covered in this course include waves and vibrations, diffraction and interference, polarization of light, lasers and masers, holography.

## PHY22231 - Electronics

In this introductory course, students receive instruction on D.C. circuit analysis, formation of waves, A.C. circuits, semiconductors, diodes and diode circuits, small signal analysis and biasing for bipolar transistors, FET and MOS FET, amplifiers, biasing and types, introduction to digital logic systems, and oscillators.

## PHY22233 - Electronics Lab

This lab covers topics taken in Electronics 22231.

## PHY22241 - Thermodynamics and Statistical Physics

Students, in this course, are introduced to fundamental concepts of thermodynamics, equation of state of gas, expansivity and compressibility, first law of thermodynamics, entropy and second law of thermodynamics, properties of gases, thermodynamics potential, kinetic theory, intermolecular forces, statistical thermodynamics.

## PHY22242 - Modern Physics

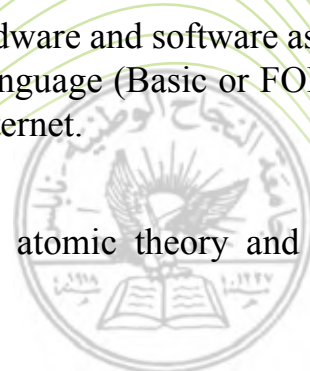
Topics covered in this course include special theory of relativity, particle aspects of e-m radiation, wave aspects of material particles, Schrodinger equation in one dimension, nuclear structure, electronics structure of solid materials, and atomic structure.

## PHY22301 - Computer in Physics

This course provides an introduction to computer hardware and software as well as algorithms and flow charts, high level programming language (Basic or FORTRAN or C<sup>+</sup>), applications of computers in physics, and the internet.

## PHY22313 - Physics Lab II

This lab covers the following experiments: optics, atomic theory and modern physics.



### PHY22314 - Physics Lab III

Experiments in this lab cover the following: modern physics, nuclear and atomic physics, and light.

### PHY22331 - Electronics

This course introduces numeral systems, Boolean algebra, logic gates, decoding and arithmetic circuits, practical and logic circuits flip flops counters and registers, and A/D and D/A convectors.

### PHY22333 - Workshop

In this workshop, students are expected to build up a physics instrument made from available raw materials.

### PHY22351 - Electricity and Magnetism

This course focuses on vector analysis, electrostatics, ways of solving electrostatic problems, electric circuits, magnetic properties of matter, the magnetic field of static currents, and Maxwell's equations.

### PHY22352 - Classical Physics

Topics in this course include coordinate systems, three-dimensional motion, supporting axis, central fields, presentation of rotational motion quantity, dynamics of LaGrange's equations, and Hamilton's principles.

### PHY22353 - Mathematical Physics

The course covers vector analysis, coordinate systems, matrices, determinants, complex variables, second-order differential equations, legendre functions, special functions (Hermite, Laguere, Beta and Gamma), and an introduction to complex analysis.

### PHY22354 - Quantum Mechanics

This course begins with a review of concepts of classical mechanics, old quantum theory, fundamental principles of quantum mechanics, quantum mechanics in one and three dimensions, spin angular momentum and approximation methods.

### PHY22356 - Theory of Relativity

The course focuses on relativistic kinematics, relativistic dynamics, Lorentz-Einstein transformations and the general theory of relativity.

### PHY22361 - Atomic and Molecular Physics

This course emphasizes Bohr's theory, hydrogen atoms, spin angular momentum, transition rates, approximation methods, interaction of atoms with electric and magnetic fields, molecular structure and central approximate field.

### PHY22364 - Principles of Laser

Emphasis in this course will be on the following topics: interaction of radiation with matter, amplification process, (optical) lasers oscillators, CU pulsed lasers, light properties of lasers, types of lasers

## PHY22371 - Solid State Physics I

Topics introduced in this course include crystal structure, reciprocal lattice, phonons, thermal properties of solids (matters), free electron gas, energy bands, semiconductors, Fermi surfaces and metal super-conductivity.

## PHY22399 - Scientific Research

Students in this course conduct either experimental or theoretical research, and then present a findings report. The topic of the research paper is chosen with the help of an academic advisor from the department.

## PHY22413 - Advanced Physics Lab

In this lab, students conduct advanced experiments covering modern, atomic and nuclear physics.

## PHY22421 - Acoustics

Topics covered in this course include: transverse waves in a string; longitudinal and transverse vibrations of rods and bars; the vibration of membranes and plates; plane sound waves; reflections and transmission of plane sound waves at plane boundaries; spherical waves and radiation from a piston; architectural acoustics; noise - its measurement and control; underwater sound; ultrasonics in liquids and solids.

## PHY22451 - Electromagnetism

This course covers Maxwell's equations, electromagnetic induction, propagation of electromagnetic waves, waves in bounded regions, and Lorentz transformation in electromagnetic fields.

## PHY22452 - Classical Mechanics

This course emphasizes LaGranges and Hamilton's equations, small vibrations, motion of solid bodies, and the theory of relativity.

## PHY22453 - Mathematical Physics II

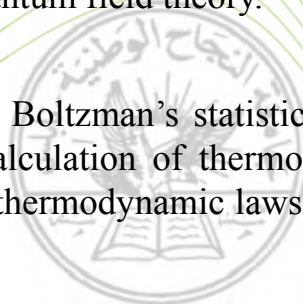
This course is mainly concerned with complex variables, Fourier's series, Fourier's and Laplace's transformations, Group theory, special functions and calculus of variations.

## PHY22454 - Quantum Mechanics II

Students in this course learn about perturbation theory, approximation methods, scattering theory, non-interacting particles, systems of multi-interacting particles, introduction to relativistic quantum mechanics, and quantum field theory.

## PHY22455 - Statistical Mechanics

Topics taught in this course include Maxwell's and Boltzman's statistics, Bose-Einstein statistics, Fermi-Dirac statistics, statistical calculation of thermodynamic quantities, applications on statistical thermodynamics, thermodynamic laws, state of equilibrium, temperature and randomness.





### PHY22462 - Nuclear Physics

Students in this course take a number of topics: nuclear properties; deuteron and nucleon-nucleon interaction; natural radioactivity; stopping potentials and searching for charged particles and objects; accelerators of nuclear particles; alpha  $\beta$  and  $\gamma$  spectroscopies; nuclear models; nuclear fission and fusion; introduction to particle physics.

### PHY22463 - Particle Physics

This course deals with a number of topics: fundamental cosmic forces; detectors; relativistic dynamics; conservation laws; introduction to electromagnetic interactions.

### PHY22464 - Laser Spectroscopy

In this course, students are introduced to spontaneous and stimulated emissions, atomic spectra, broadening of line spectra, non-linear optical processes, spectra resulting from photon absorption, saturated spectroscopy, and Raman spectroscopy.

### PHY22465 - Spectroscopy

Course topics include different levels (types) of energy, properties of electromagnetic radiation, Mossbauer Phenomenon (effect), Raman spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and vibration spectroscopy, atomic perturbation, spectrum of electrons of diatomic molecules.

### PHY22471 - Solid State Physics II

This course focuses on superconductivity, plasmas, light properties, magnetic resonance, and non-crystalline solids alloys, point defects, insulators and LCD's, and the weakness of penetration of magnetic fields.

### PHY22481 - Special Topics

Topics in this course vary according to instructor's interests.

### PHY22491 - Seminar

In this one-credit course, a student is required to deliver a presentation on an up-to-date topic in physics selected with instructor's help.

### PHY26331 - Solid State Electronics

Topics covered in this course include semiconductor materials, crystal lattices, growth of semiconductor crystals, energy bands and charge carriers, junctions, fabrication of p-n junctions, p-n junction diodes, bipolar junction transistors, FET, MOSFET, and integrated circuits.

### PHY26333 - Digital Lab

Hardware oriented experiments in this course will provide practical experience in the design, construction and checkout of components and IC for digital circuits covered in Digital Electronics I (26341).

## **PHY26341 - Digital Electronics I**

This course covers numbers systems, digital computers, digital systems, codes, Boolean algebra, logic gates, combinational logic with SSI, MSI, and LSI, ROM and PLA memories and RAM, DECODER, and Mux.

## **PHY26343 - Analog Electronics Lab**

This course involves experiments providing practical experience in the construction, design, and fault finding for analog circuits covered in Analog Electronics Circuits (36351).

## **PHY26351 - Analog Electronics Circuits**

Topics covered in this course include: transistor circuits; amplifiers; feedback general cascaded systems; RC-Coupled amplifiers; darlington current mirrors; class-A-amplifiers; SCR-operation and applications; interface; unijunction transistors; operational amplifiers and applications; RC-filters; practical power supplies regulators, comparators, and timers.

## **PHY26361 - Electrical Instrumentation**

Topics covered in this course include: characteristics of resistors; thermistors; varistors; resistor networks for D/A conversion; 2R-Ladder; capacitive and inductive reactance; phasor diagrams; real power; TTL-Circuits; op-amp as a buffer and distributor; analog DC and AC-ammeters; ayrton shunt; capacitance and inductance meters; transducers; voltage doublers; LC-filters; +ve and -ve supplies; regulators; D/A and A/D converters.

## **PHY26441 - Digital Electronics II**

This course covers flip-flops, sequential logic, registers, counters, memory units, register transfer logic, logic design processors, ALU-design, processor units, accumulators, and design of simple computers.

## **PHY26443 - Computer Technology Lab**

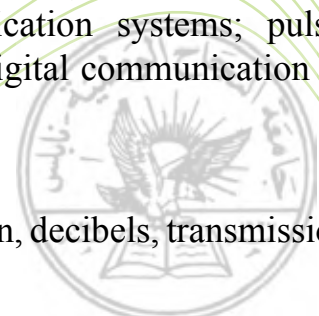
This course involves hardware oriented experiments providing practical experience in the construction, design and checkout of sequential circuits covered in Digital Electronics II (26441).

## **PHY26471 - Communications**

Topics covered in this course include: Fourier transforms and linear system analysis; random signals; autocorrelation functions and power spectral densities; analog communication systems; amplitude modulation; single sideband modulation; frequency and phase modulation; digital communication systems; pulse code modulation; phase shift; performance of analog and digital communication systems in the presence of noise; fiber optics.

## **PHY26472 - Microwaves**

This course covers basic concepts in microwave region, decibels, transmission lines,



coaxial cables, wave guides, reflection coefficients, voltage, standing wave ratio, Smith chart, power transfer, skin effect, circuit components, terminations, attenuator, coupler, filters, isolators, circulators, detectors, mixers, limiter amplifiers, antennas, polarization, beam width, and microwave antennas.

### **PHY26481 - Magnetic Instruments**

This course focuses on magnetic fields: their origin & effects, magnetic fields due to electric currents, Faraday's Law and induced E.M.Fs, measuring instruments, electric generators & motors, accelerators, telemeters, magnetic tapes & disk relays, magnetic resonance & applications (MRI), classification of magnetic substances, mass spectrometers, transformers, TV tubes & CROs.

### **PHY26482 - Control Systems**

This course covers mathematical models for control system components, transform and time domain methods for linear control systems, stability theory, Bode diagram, design specifications in time and frequency domains, compensation design in time and frequency domains, data systems, and CAD of control systems.

### **PHY26483 - Special Topics in Electronics**

This course provides an introduction to the fabrication technologies for integrated circuits including oxidation, diffusion, and photolithography, concepts of bipolar and MOS device design, and layout of simple digital ICS.

### **PHY26484 - VLSI Design**

This course covers electronic devices fabrication, characteristics, logic and mask design; MOS, CMOS and TTL devices and logic circuits; integrated circuits technology for LSI and VLSI; design rules; problems in system design; VLSI-technology and wafer tests.

### **PHY26491 - Projects in Electronics**

With consent of instructor; course involves individual projects on advanced systems in electronics.

## B. Department Elective Courses

# Course	Course title	Cr hrs	Classes	Lab	Prerequisite
22301	Computers in Physics	3	3	-	-
22314	Practical Physics	-	-	3	22313
22331	Electronics II	3	3	-	22231
22333	Workshop	1	-	3	Dept. approval
22453	Mathematical Physics II	3	3	-	22353
22356	Theory & Relativity	3	3	-	22242
22361	Atomic & Molecular Physics	3	3	-	22354
22364	Principles of Lasers	3	3	-	22221 ,22242
22421	Acoustics	3	3	-	22353
22464	Laser Spectroscopy	3	3	-	22364
22465	Spectroscopy	3	3	-	22354
22452	Classical Mechanics II	3	3	-	22352
22455	Statistical Mechanics	3	3	-	or concurrent 22241 with 22354
22457	Plasma Physics	3	3	-	22451
22463	Particle Physics	3	3	-	or concurrent 22462
22471	Solid State Physics II	3	3	-	22371
22481	Special Topics	3	3	-	Dept. approval
22391	Seminar	1	-	-	Dept. approval
22468	Astrophysics	3	3	-	or concurrent 22354
22342	Modern Physics II	3	3	-	or concurrent with 22354 22242
22385	Renewable Energy	3	3	-	Dept. approval
72182	Methods of Science Teaching	3	3	-	
722491	Practical Education for Science Students	3	3	-	

## C. Compulsory Courses from the Mathematics Department (6 credit hours)

# Course	Course title	Cr hrs	Classes	Lab	Prerequisite
21201	Calculus III	3	3	-	21102
21203	Differential Equations	3	3	-	21201

## D. Elective courses from Education (3 credit hours)

# Course	Course title	Cr hrs	Classes	Lab	Prerequisite
72138	Classroom Margret	3	3	-	72138
72254	Educational Psychology	3	3	-	72254



## ELECTRONICS MINOR

(1) Prerequisites: successful completion of Computer in physics (22301) in addition to Physics courses: 22231 and 22233.

### (2) Admission Requirements:

1. All compulsory courses in Physics Major except Physics: 22451, 22454, and 22462.
2. 27 credit hours distributed as follows:

#### A. Compulsory Courses in Electronics Minor (24 credit hours)

# Course	Course title	Cr hrs	Classes	Lab	Prerequisite
26331	Solid State Electronics	3	3	-	22231
26341	Digital Electronics I	3	3	-	22231
26351	Analog Electronic Circuits	3	3	-	26331
26333	Denial Lab	1	-	3	26341
26361	Electrical Measurements	2	2	-	26341, 26331
26343	.Analog Electronic Lab	1	3	-	26351
26441	Digital Electronics II	1	-	3	26341
26443	.Computer Techn Lab	1	-	3	26441, 26333
26471	Communications	3	-	-	22351
26481	Magnetic Devices	3	-	-	22351
26491	Research	1	1	1	Dept. approval

#### B. Elective Courses in Electronics Minor (Students choose 3)

# Course	Course title	Cr hrs	Classes	Lab	Prerequisite
26472	Microwaves	3	3	-	Dept. approval
26482	Control Systems	3	3	-	Dept. approval
26483	Special Topics in Electronics	3	3	-	Dept. approval
26484	VLSI-Design	3	3	-	Dept. approval

### (3) Course Descriptions

#### PHY22101 - General Physics I

In this course, the following subjects are introduced: vectors, linear and two-dimensional motions, Newton's mechanics, work and energy, linear and angular moment, gravitation and simple harmonic motion.

#### PHY22102 - General Physics II

This course covers electrical fields and potentials, capacitors, electrical circuits, magnetic field induction, RC and RL circuits, electromagnetic waves, optics, interference and diffraction.

#### PHY22103 - General Physics for Pharmacy

This course covers classical mechanics, electricity, thermodynamics, fluid mechanics, vibrations and wave motion, light and lasers, and microscopes.

### **PHY22105 - General Physics I (for College of Educational Sciences)**

In this course, students will learn about vectors, kinematics of one and two dimensional motions, Newton's Laws, linear momentum mechanical energy, work, power, gravitation, thermodynamics and wave motion.

### **PHY22106 - General Physics II (for College of Educational Sciences)**

This course covers electric charges, electric force, electric fields, Gauss's Law, electric potential, capacitance, electric current and resistance, DC circuits, magnetic force, sources of magnetic fields, magnetic induction, inductance, and ray optics.

### **PHY22107 - General Physics Lab. I**

This course involves a number of selected experiments in mechanics.

### **PHY22108 - General Physics Lab. II**

This course includes a number of selected experiments in electricity and magnetism.

### **PHY22109 - General Physics for Agriculture**

In this course, students are introduced to one and two-dimensional kinematic motions, Newton's mechanics, work energy and power, linear and angular momentum, gravitation wave motion, and laws of thermodynamics.

### **PHY22110 - General Physics Lab. For Agriculture**

This lab covers experiments in mechanics, thermodynamics, and electricity.

### **PHY22112 - General Physics Lab for Computer Science**

### **PHY22113 - General Physics Lab for Pharmacy**

This lab covers mechanics, fluid Mechanics, electricity, and magnetism.

### **PHY22203 - General Physics III**

In this advanced course, students learn about fluids, sound waves, gas laws, heat laws, light laws in diffraction and interference.

### **PHY22211 - General Physics for Computer Science**

### **PHY22213 - Physics Lab I**

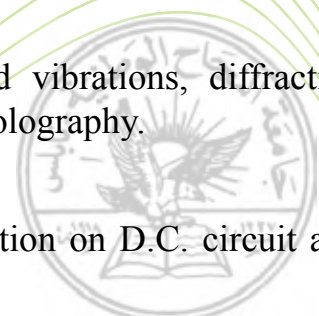
This lab covers experiments in optics, electricity, magnetism, thermodynamics, and modern physics.

### **PHY22221 - Waves and Optics**

Topics covered in this course include waves and vibrations, diffraction and interference, polarization of light, lasers and masers, holography.

### **PHY22231 - Electronics**

In this introductory course, students receive instruction on D.C. circuit analysis,



formation of waves, A.C. circuits, semiconductors, diodes and diode circuits, small signal analysis and biasing for bipolar transistors, FET and MOS FET, amplifiers, biasing and types, introduction to digital logic systems, and oscillators.

### **PHY22233 - Electronics Lab**

This lab covers topics taken in Electronics 22231.

### **PHY22241 - Thermodynamics and Statistical Physics**

Students, in this course, are introduced to fundamental concepts of thermodynamics, equation of state of gas, expansivity and compressibility, first law of thermodynamics, entropy and second law of thermodynamics, properties of gases, thermodynamics potential, kinetic theory, intermolecular forces, statistical thermodynamics.

### **PHY22242 - Modern Physics**

Topics covered in this course include special theory of relativity, particle aspects of e-m radiation, wave aspects of material particles, Schrodinger equation in one dimension, nuclear structure, electronics structure of solid materials, and atomic structure.

### **PHY22301 - Computer in Physics**

This course provides an introduction to computer hardware and software as well as algorithms and flow charts, high level programming language (Basic or FORTRAN or C<sup>+</sup>), applications of computers in physics, and the internet.

### **PHY22313 - Physics Lab II**

This lab covers the following experiments: optics, atomic theory and modern physics.

### **PHY22314 - Physics Lab III**

Experiments in this lab cover the following: modern physics, nuclear and atomic physics, and light.

### **PHY22331 - Electronics**

This course introduces numeral systems, Boolean algebra, logic gates, decoding and arithmetic circuits, practical and logic circuits flip flops counters and registers, and A/D and D/A convectors.

### **PHY22333 - Workshop**

In this workshop, students are expected to build up a physics instrument made from available raw materials.

### **PHY22351 - Electricity and Magnetism**

This course focuses on vector analysis, electrostatics, ways of solving electrostatic problems, electric circuits, magnetic properties of matter, the magnetic field of static currents, and Maxwell's equations.

### **PHY22352 - Classical Physics**

Topics in this course include coordinate systems, three-dimensional motion, supporting axis, central fields, presentation of rotational motion quantity, dynamics of LaGrange's equations, and Hamilton's principles.

### **PHY22353 - Mathematical Physics**

The course covers vector analysis, coordinate systems, matrices, determinants, complex variables, second-order differential equations, legendre functions, special functions (Hermite, Laguerre, Beta and Gamma), and an introduction to complex analysis.

### **PHY22354 - Quantum Mechanics**

This course begins with a review of concepts of classical mechanics, old quantum theory, fundamental principles of quantum mechanics, quantum mechanics in one and three dimensions, spin angular momentum and approximation methods.

### **PHY22356 - Theory of Relativity**

The course focuses on relativistic kinematics, relativistic dynamics, Lorentz-Einstein transformations and the general theory of relativity.

### **PHY22361 - Atomic and Molecular Physics**

This course emphasizes Bohr's theory, hydrogen atoms, spin angular momentum, transition rates, approximation methods, interaction of atoms with electric and magnetic fields, molecular structure and central approximate field.

### **PHY22364 - Principles of Laser**

Emphasis in this course will be on the following topics: interaction of radiation with matter, amplification process, (optical) lasers oscillators, CU pulsed lasers, light properties of lasers, types of lasers.

### **PHY22371 - Solid State Physics I**

Topics introduced in this course include crystal structure, reciprocal lattice, phonons, thermal properties of solids (matters), free electron gas, energy bands, semiconductors, Fermi surfaces and metal super-conductivity.

### **PHY22399 - Scientific Research**

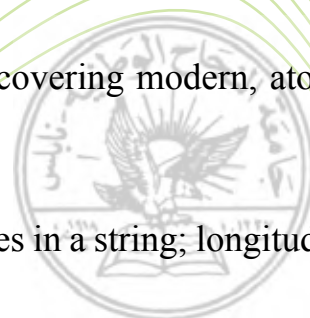
Students in this course conduct either experimental or theoretical research, and then present a findings report. The topic of the research paper is chosen with the help of an academic advisor from the department.

### **PHY22413 - Advanced Physics Lab**

In this lab, students conduct advanced experiments covering modern, atomic and nuclear physics.

### **PHY22421 - Acoustics**

Topics covered in this course include: transverse waves in a string; longitudinal and





transverse vibrations of rods and bars; the vibration of membranes and plates; plane sound waves; reflections and transmission of plane sound waves at plane boundaries; spherical waves and radiation from a piston; architectural acoustics; noise - its measurement and control; underwater sound; ultrasonics in liquids and solids.

### **PHY22464 - Laser Spectroscopy**

In this course, students are introduced to spontaneous and stimulated emissions, atomic spectra, broadening of line spectra, non-linear optical processes, spectra resulting from photon absorption, saturated spectroscopy, and Raman spectroscopy.

### **PHY22451 - Electromagnetism**

This course covers Maxwell's equations, electromagnetic induction, propagation of electromagnetic waves, waves in bounded regions, and Lorentz transformation in electromagnetic fields.

### **PHY22452 - Classical Mechanics**

This course emphasizes Lagrange's and Hamilton's equations, small vibrations, motion of solid bodies, and the theory of relativity.

### **PHY22453 - Mathematical Physics II**

This course is mainly concerned with complex variables, Fourier's series, Fourier's and Laplace's transformations, Group theory, special functions and calculus of variations.

### **PHY22454 - Quantum Mechanics II**

Students in this course learn about perturbation theory, approximation methods, scattering theory, non-interacting particles, systems of multi-interacting particles, introduction to relativistic quantum mechanics, and quantum field theory.

### **PHY22455 - Statistical Mechanics**

Topics taught in this course include Maxwell's and Boltzmann's statistics, Bose-Einstein statistics, Fermi-Dirac statistics, statistical calculation of thermodynamic quantities, applications on statistical thermodynamics, thermodynamic laws, state of equilibrium, temperature and randomness.

### **PHY22462 - Nuclear Physics**

Students in this course take a number of topics: nuclear properties; deuteron and nucleon-nucleon interaction; natural radioactivity; stopping potentials and searching for charged particles and objects; accelerators of nuclear particles; alpha  $\beta$  and  $\gamma$  spectroscopies; nuclear models; nuclear fission and fusion; introduction to particle physics.

### **PHY22463 - Particle Physics**

This course deals with a number of topics: fundamental cosmic forces; detectors; relativistic dynamics; conservation laws; introduction to electromagnetic interactions.

### **PHY22465 - Spectroscopy**

Course topics include different levels (types) of energy, properties of electromagnetic radiation, Mosshauer Phenomenon (effect), Raman spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and vibration spectroscopy, atomic perturbation, spectrum of electrons of diatomic molecules.

### **PHY22471 - Solid State Physics II**

This course focuses on superconductivity, plasmas, light properties, magnetic resonance, and non-crystalline solids alloys, point defects, insulators and LCD's, and the weakness of penetration of magnetic fields.

### **PHY22481 - Special Topics**

Topics in this course vary according to instructor's interests.

### **PHY22491 - Seminar**

In this one-credit course, a student is required to deliver a presentation on an up-to-date topic in physics selected with instructor's help.

### **PHY26331 - Solid State Electronics**

Topics covered in this course include semiconductor materials, crystal lattices, growth of semiconductor crystals, energy bands and charge carriers, junctions, fabrication of p-n junctions, p-n junction diodes, bipolar junction transistors, FET, MOSFET, and integrated circuits.

### **PHY26333 - Digital Lab I**

Hardware oriented experiments in this course will provide practical experience in the design, construction and checkout of components and IC for digital circuits covered in Digital Electronics I (26341).

### **PHY26341 - Digital Electronics I**

This course covers numbers systems, digital computers, digital systems, codes, Boolean algebra, logic gates, combinational logic with SSI, MSI, and LSI, ROM and PLA memories and RAM, DECODER, and Mux.

### **PHY26343 - Analog Electronics Lab**

This course involves experiments providing practical experience in the construction, design, and fault finding for analog circuits covered in Analog Electronics Circuits (36351).

### **PHY26351 - Analog Electronics Circuits**

Topics covered in this course include: transistor circuits; amplifiers; feedback general cascaded systems; RC-Coupled amplifiers; darlington current mirrors; class-A-amplifiers; SCR-operation and applications; interface; unijunction transistors; operational amplifiers and applications; RC-filters; practical power supplies regulators, comparators, and timers.

### **PHY26361 - Electrical Instrumentation**

Topics covered in this course include: characteristics of resistors; thermistors; varistors; resistor networks for D/A conversion; 2R-Ladder; capacitive and inductive

reactance; phasor diagrams; real power; TTL-Circuits; op-amp as a buffer and distributor; analog DC and AC-ammeters; ayrtton shunt; capacitance and inductance meters; transducers; voltage doublers; LC-filters; +ve and -ve supplies; regulators; D/A and A/D converters.

### **PHY26441 - Digital Electronics II**

This course covers flip-flops, sequential logic, registers, counters, memory units, register transfer logic, logic design processors, ALU-design, processor units, accumulators, and design of simple computers.

### **PHY26443 - Computer Technology Lab**

This course involves hardware oriented experiments providing practical experience in the construction, design and checkout of sequential circuits covered in Digital Electronics II (26441).

### **PHY26471 - Communications**

Topics covered in this course include: Fourier transforms and linear system analysis; random signals; autocorrelation functions and power spectral densities; analog communication systems; amplitude modulation; single sideband modulation; frequency and phase modulation; digital communication systems; pulse code modulation; phase shift; performance of analog and digital communication systems in the presence of noise; fiber optics.

### **PHY26472 - Microwaves**

This course covers basic concepts in microwave region, decibels, transmission lines, coaxial cables, wave guides, reflection coefficients, voltage, standing wave ratio, Smith chart, power transfer, skin effect, circuit components, terminations, attenuator, coupler, filters, isolators, circulators, detectors, mixers, limiter amplifiers, antennas, polarization, beam width, and microwave antennas.

### **PHY26481 - Magnetic Instruments**

This course focuses on magnetic fields: their origin & effects, magnetic fields due to electric currents, Faraday's Law and induced E.M.Fs, measuring instruments, electric generators & motors, accelerators, telemeters, magnetic tapes & disk relays, magnetic resonance & applications (MRI), classification of magnetic substances, mass spectrometers, transformers, TV tubes & CROs.

### **PHY26482 - Control Systems**

This course covers mathematical models for control system components, transform and time domain methods for linear control systems, stability theory, Bode diagram, design specifications in time and frequency domains, compensation design in time and frequency domains, data systems, and CAD of control systems.

### **PHY26483 - Special Topics in Electronics**

This course provides an introduction to the fabrication technologies for integrated

circuits including oxidation, diffusion, and photolithography, concepts of bipolar and MOS device design, and layout of simple digital ICS.

### **PHY26484 - VLSI Design**

This course covers electronic devices fabrication, characteristics, logic and mask design; MOS, CMOS and TTL devices and logic circuits; integrated circuits technology for LSI and VLSI; design rules; problems in system design; VLSI-technology and wafer tests.

### **PHY26491 - Projects in Electronics**

With consent of instructor; course involves individual projects on advanced systems in electronics.

## **DEPARTMENT FACULTY**

### ***Professors***

Full Professor Sami Jaber

Ph. D. in Theoretical Physics,  
Southern Illinois University, Carbondale, USA, 1991.

Full Professor Ghassan Safarini

Ph. D. in Experimental Condensed Matter Physics,  
Brunel University, London, UK, 1991.

### ***Associate Professors***

Sharif Musameh

Ph. D. in Condensed Physics,  
North Carolina State University, USA, 1984.

Mohammed Abu Jafar

Ph. D. in Computational Condensed Matter Physics,  
Southern Illinois University, Carbondale, USA, 1991.

Muneer Abdoh

Ph. D. in Crystal Structure,  
University of Mysore, India, 1982.

### ***Assistant Professors***

Hussein 'Ilayan

Ph. D. in Electronic Engineering,  
Maryland University, USA, 1986.

Musa El-Hasan

Ph. D. in Solid State Physics, (Computation)  
Middle East Technical University, Turkey, 1987.

Mohammed Y. Suh (On Leave)

Ph. D. in Mossbauer Effect,  
The Hebrew University of Jerusalem,

Zeid Qamhieh Jerusalem, 1982.  
Ph. D. in Atomic and Nuclear Physics,  
Katholieke Universiteit Leuven (KULL), Belgium, 1994.

Abdel-Rahman Abu-Labdeh. Ph. D Theoretical , both compontatiral and Analytical  
Condensed Matter. Memorial University, Canada 2004.

Iyad Saadden Ph. D Experinuntal, condensed matter, Chemical Physics  
field of study is material science and solid state Physics  
Bordeaux I University 2007.

**Lecturers**

Ribhi al-Haj Hamad, M. Sc. in Solid State Physics,  
Middle East Technical University, Turkey, 1983.

**Instructors**

Abdel Rahman Qamheih, M. Sc. in Electronics Engineering,  
University of Wales, Cardiff, UK, 1983.

Mohammed Walid Salah M. Sc. in Nuclear Engineering,  
Istanbul Technical University, Istanbul, Turkey, 1981.

Sabri Al-Tanneh M. Sc, solid state, magnetic properties experimental,  
An-Najah National University, 2001.

**Laboratory Technicians**

Mohamed Bahjat B.Sc. in Physics,  
(Lab. supervisor). An-Najah National University,  
Nablus, Palestine, 1991.

Maher Rabah Polytechnic Institute, Amman, Jordan, 1980.

Same'eh Abdel Aziz Qalandya Institute,  
Ramallah, Palestine, 1984.

Thurayya Tibi. B.Sc.in Physics,  
An-Najah National University  
Nablus – Palestine, 2004.

# DEPARTMENT OF CHEMISTRY

## INTRODUCTION

The Department was founded together with the establishment of An-Najah National University in 1977. Four programs are offered in the chemistry department: one leading to the B.Sc. degree in pure chemistry, another leading to the B.Sc. degree in applied chemistry, and two postgraduate programs - one leading to the M.Sc. degree and the other leading to the Ph.D. degree.

## THE UNDERGRADUATE (B.SC.) PROGRAM IN CHEMISTRY

### *(1) Specialization Requirements*

After completing his/her first year at University, the student, with the help of his/her academic advisor, specifies his/her specialization by completing an application form available at the college office. To be admitted to the Chemistry Department, the student must satisfy the following conditions:

1. Passing all general chemistry courses - 23101, 23102, 23107 and 23108 - with a cumulative average of 70% or more.
2. Passing general physics 22101 and 22107.
3. Passing Calculus 21101.

In case of competition among applicants, priority of admittance will be given to higher cumulative averages in 23101, 23102, 23107 and 23108.

### *(2) Graduation Requirements*

To finish the B.Sc. degree in chemistry, the student must complete a total of 137 credit hours, with a cumulative average 65% or higher. In addition to university and college requirements, the student must complete all chemistry department requirements (81 credit hours).



## Dept. of Chemistry Requirements:

### A. COMPULSORY COURSES (57 CREDIT HOURS)

Course No	Course Title	Credits	Weekly Hours		Prerequisite
			Lectures	laboratories	
21201	Calculus III	3	3	-	21102
21203	Differential Equations	3	3	-	21201
23211	Analytical Chemistry	3	3	-	23102 ,23108
23215	Practical Analytical Chemistry	1	-	4	23108, 23211 or concurrent
23231	Organic Chemistry I	3	3	-	23102 ,23108
23232	Organic Chemistry II	3	3	-	23231
23235	Practical Organic Chemistry I	2	1	4	23108, 23231 or concurrent
23241	Physical Chemistry I	3	3	-	23102, 23108, 21201 or concurrent
23311	Instrumental Analysis	2	2	-	23211
23315	Practical Instrumental Analysis	1	-	4	23215, 23311 or concurrent
23321	Inorganic Chemistry I	3	3	-	23102
23322	Inorganic Chemistry II	3	3	-	23321
23325	Practical Inorganic Chemistry	2	1	4	23321 ,23322 or concurrent
23331	Organic Chemistry III	3	-	-	23232
23335	Practical Organic Chemistry II	2	1	4	23235, 23232 or concurrent
23341	Physical Chemistry II	3	3	-	23241
23342	Physical Chemistry III	3	3	-	23321, 21203 or concurrent
23345	Practical Physical Chemistry I	1	-	4	23215 ,23241
23346	Practical Physical Chemistry II	1	-	4	23341 ,23345
23392	Chemistry of Research I	3	2	3	juniors
72182	Methods of Science Teaching	3			Department Approval
72491	Supervised Teaching for Science Students	3			Department Approval
23432	Analytical organic Chemistry	3	2	4	23335 ,23331

## B. ELECTIVE COURSES (24 CREDIT HOURS)

1) A chemistry major selects 21 credit hours from the following course list:

Course No.	Course Title	Credits	Weekly Hours		Prerequisite
			Lectures	Laboratories	
23411	Advanced Analytical Chemistry	3	3	-	23311
23421	Advanced Inorganic Chemistry	3	3	-	23322
23425	Advanced Practical Inorganic Chemistry	1	-	4	23325
23435	Organic Synthesis	2	1	4	23335 ,23331
23431	Advanced Organic Chemistry	3	3	-	23331
23441	Advanced Physical Chemistry	3	3	-	23241
23461	Industrial Chemistry	3	3	-	23232 ,23241
23464	Polymer Chemistry	3	3	-	23331
23481	Special Topics in Analytical Chemistry	3	3	-	Department approval
23482	Special Topics in Inorganic Chemistry	3	3	-	Department approval
23483	Special Topics in Organic Chemistry	3	3	-	Department approval
23484	Special Topics in Physical Chemistry	3	3	-	Department approval
23492	Research II	3	-	12	Department approval
23332	Biochemistry	4	3	3	23235 ,23232

2) A chemistry major selects 3 credit hours from the following two courses:

Course No.	Course Title	Credits	Weekly Hours		Prerequisite
			Lectures	Laboratories	
72138	Classroom Management	3			
72254	Educational Psychology	3			





### **(3) Course Description**

#### **23211 - Analytical Chemistry**

This is a lecture course dealing with basic principles of analytical chemistry, statistical methods, classical, analytical methods, volumetric and gravimetric methods along with equilibrium, titrimetry and redox reactions.

#### **23212 - Analytical Chemistry (for Non-Chemistry Majors)**

This is a lecture course that involves a broad spectrum of classical and modern methods of analysis. It deals with gravimetric, titrimetry, electrochemistry, spectrometry and chromatography are included.

#### **23215 - Practical Analytical Chemistry**

This is a laboratory course that includes experiments which fit with Analytical Chemistry (23211). Emphasis is given to quantitative chemical analysis.

#### **23216 - Practical Analytical Chemistry (for Non-Chemistry Majors)**

A laboratory course with a set of experiments designed to cover the topics included in 23212. Emphasis is given to lab technique.

#### **23231 - Organic Chemistry 1**

This is a lecture course that begins with introductory topics in organic chemistry. The chemistry of paraffins and olefins together with bonding and structure are included. Synthesis, reactivity and stereochemistry of these compounds and their derivatives are also covered.

#### **23232 - Organic Chemistry 2**

This is a lecture course that involves cyclic, aromatic and non-aromatic compounds together with synthesis, reactivity and structure. Reaction mechanisms and analytical methods are also discussed.

#### **23233 - Organic Chemistry (for Biology, Agriculture and Medicinal Sciences)**

This is a lecture course that gives a general survey of organic chemistry to non-chemistry majors. Nomenclature synthesis, properties and structure of alkanes, alkenes, alkynes, alcohols, amines, carboxylic acids and derivatives, carbohydrates and amino acids are covered.

#### **23235 - Practical Organic Chemistry 1**

A laboratory course that involves a set of experiments designed to introduce the student to laboratory techniques. Experiments also link theoretical concepts as well. Synthesis, separation, and characterization techniques are covered.

#### **23237 - Practical Organic Chemistry (for Biology, Agriculture and Medicinal Sciences)**

Experiments are designed to involve fundamentals of lab techniques in synthesis, separation and analysis techniques employed in the organic chemistry laboratory.

### **23241 - Physical Chemistry 1**

This is a lecture course that covers kinetic theory of gases, thermodynamics, applications, solutions, and phase equilibrium.

### **23311 - Instrumental Analysis**

This is a lecture course that includes different instrumental quantitative analytical methods, such as chromatography, polarography, pH-metry, electrochemistry, conductometry, refractometry and coulometry.

### **23315 - Practical Instrumental Analysis**

A laboratory course that includes experiments directly related to Instrumental Analysis (23311). Students learn to use instruments in quantitative analysis.

### **23321 - Inorganic Chemistry 1**

This is a lecture course that covers fundamentals of inorganic chemistry. Atomic structure, periodicity, chemical bonds and molecular shapes are rigorously treated. Nomenclature of inorganic compounds and acid/base chemistry are also included.

### **23322 - Inorganic Chemistry 2**

This is a lecture course that mainly focuses on the chemistry of transition elements. Coordination compounds, their properties, synthesis, reactivity, spectroscopy and bonding models are covered.

### **23325 - Practical Inorganic Chemistry**

A laboratory course that includes a set of experiments related to inorganic chemistry. Experiments include main-group and transition-metal elements and coordination compounds. Synthesis, characterization techniques and reactivity are rigorously treated. Different types of isomerism are also covered.

### **23331 - Organic Chemistry 3**

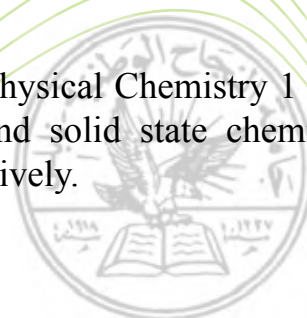
A lecture course dealing with special functional groups such as carboxylic acids and derivatives, heterocyclic compounds, amines, phenols and polycyclic compounds together with synthesis, reactivity and mechanistic aspects.

### **23335 - Practical Organic Chemistry 2**

This is a laboratory course that is a continuation of Practical Organic Chemistry 1 (23235). Basic synthetic routes are involved, such as Grignard, Freidel-Craft and Sand-meyer techniques, in addition to other condensation, oxidation and displacement reactions.

### **23341 - Physical Chemistry 2**

This is a lecture course which is a continuation of Physical Chemistry 1 (23241). Chemical equilibrium, surface chemistry, colloids and solid state chemistry are involved. Chemical reaction kinetics is covered extensively.



### 23342 - Physical Chemistry 3

Basic postulates and theorems of quantum mechanics are treated. Exact solutions of Shrodinger equation are involved.

### 23345 - Practical Physical Chemistry 1

A laboratory course that involves a set of experiments related to fundamentals of physical chemistry. Basic thermodynamics and phase equilibrium are the major components of this course.

### 23346 - Practical Physical Chemistry 2

This is a laboratory course which is a continuation of Practical Physical Chemistry 1 (23345). Experiments related to reaction kinetics, electrochemistry and surface chemistry are involved.

### 23392 – Research in Chemistry I

This is a compulsory course (lecture and Practical) that discusses the principles and rules used in chemistry literature and abstracts. The course aims to teach students about programs used in solving chemical problems. The course also discusses filing systems and the internet and its uses for finding scholarly articles and periodicals.

### 23411 - Advanced Analytical Chemistry

A lecture course that is a continuation of Instrumental Analysis (23311), and includes advanced instrumental methods of analysis. Different types of chromatography together with nuclear magnetic resonance spectroscopy, infrared spectroscopy, x-ray spectroscopy and thermo-chemical analytical techniques are covered.

### 23421 - Advanced Inorganic Chemistry

A lecture course that involves advanced topics in inorganic chemistry, including ganometallic chemistry and catalysis, solid state chemistry, molecular symmetry, point groups and molecular spectroscopy.

### 23431 - Advanced Organic Chemistry

A lecture course dealing with certain advanced topics in organic chemistry, including Arylhalides,  $\alpha$ - $\beta$  unsaturated carbonyl compounds, orbital symmetry and concerted reactions, neighboring group effects, heterocyclic compounds, lipids, carbohydrates, amino acids and proteins.

### 23432 - Analytical Organic Chemistry

This course covers applications of qualitative and quantitative analytical methods to analyze organic compounds. Functional groups and derivatives are included. Spectroscopic analytical methods are employed together with chemical methods.

### 23435 - Organic Synthesis

This is a lecture and laboratory course that focuses on synthetic in-roads to organic chemicals. Techniques to protect functional groups, throughout synthesis, are involved together with planning synthetic routes.

### **23441 - Advanced Physical Chemistry**

This is a lecture course dealing with chemical equilibrium in gaseous systems. Equations of state, compressibility factors, chemical potential and partial molar Gibb's function, fugacity, excess functions and other thermodynamic aspects of gases are covered.

### **23461 - Industrial Chemistry**

This is a lecture course introducing students to chemical industrial processes. Chemical reactors and other equipment are included together with industrial operations in production and technology. Examples include petrochemicals, plastics, detergents, dyes, and agricultural chemicals. A library literature search is mandatory.

Course description of 23471 & 23401 are missing as well as Master degree courses.

### **23464 - Polymer Chemistry**

This is a lecture course that introduces the student to polymer sciences, synthesis, classifications and properties. Relations of structure and properties are included together with stereochemistry and other topics.

### **23492 - Research in Chemistry II**

Laboratory and library research is conducted under the supervision of the faculty members. The course is intended to qualify students to undertake their own future research projects. Students are expected to spend 12 hours per week divided between practical and library research.

### **23481, 23482, 23483 and 23484 - Special topics**

Lecture courses are given under different titles, in advanced special topics of analytical (23481), inorganic (23482), organic (23483) and physical chemistry (23484).

### **23332 - Biochemistry**

This course covers chemical compounds – proteins and enzymatic catalysis - and their representation in the various organs of the body.



## A. Department compulsory courses in Applied Chemistry (60 credits)

Course #	Course title	Credits	Weekly Hours		Prerequisite
			Lectures	Laboratories	
21201	Calculus III	3	3	-	21102
23211	Analytical Chemistry	3	3	-	23102, 23108
23215	Practical Analytical Chemistry	1	-	3	23108, 23211 or concurrent
23231	Organic Chemistry I	3	3	-	23102, 23108
23232	Organic Chemistry II	3	3	-	23231
23235	Practical Organic Chemistry I	2	1	4	23108, 23231, 23238 or concurrent 23231 or concurrent 23238
23241	Physical Chemistry I	3	3	-	23102, 21201 or concurrent
23302	Firms Economics and Production Management	3	3	-	
23311	Instrumental Analysis	2	2	-	23211
23315	Practical Instrumental Analysis	1	-	3	23215, 23311 or concurrent
23231	Inorganic Chemistry I	3	3	-	23102
23232	Inorganic Chemistry II	3	3	-	23321
23325	Practical Inorganic Chemistry	2	1	4	23322 or concurrent
23331	Organic Chemistry III	3	3	-	23232
23335	Practical Organic Chemistry II	2	1	4	23235, 23232 or concurrent
23341	Physical Chemistry II	3	3	-	23241
23345	Practical Physical Chemistry I	1	-	3	23241, 23215
23346	Practical Physical Chemistry II	1	-	3	23345, 23341
23360	Practical Training	1	-	40	Dept. approval
23365	Chemical Operations Lab.	2	-	3	23235, 23215
23392	Chemistry of research (1 )	3	3	-	Dept. approval
23432	Analytical Organic Chemistry	3	2	4	23331, 23335
23461	Industrial Chemistry	3	3	-	23232, 23241
72182	Methods of Science Teaching	3	-	-	-
72491	Supervised Teaching for Science students	3	-	-	-

## B. Department elective courses in Applied Chemistry (21 credits)

1) An applied chemistry major selects 18 credits from the following courses:

Course #	Course title	Credits	Weekly Hours		Prerequisite
			Lectures	Laboratories	
23312	Chemical Pollution and Industrial Safety	3	3	-	23211
23332	Biochemistry	4	3	3	23232 , 23235
23334	Petrochemicals and Organic Chemistry Technology	3	3	-	23331
23361	Introduction to Chemical Engineering	1	1	-	-
23411	Advanced Analytical Chemistry	3	3	-	23311
23413	Food Industry Chemistry	2	2	-	23311
23464	Chemistry of Polymerized Materials	3	3	-	23331
23465	Applied Chemical Catalysis	3	3	-	23322 ,23232
23469	Material Science	3	3	-	Dept. approval
23472	Food Microbiology	3	3	3	Dept. approval
23485	Special Topics (1) in Applied Chem.	3	3	-	Dept. approval
23486	Special Topics in industrial Chem.	3	3	-	Dept. approval
23487	Special Topics (2) in Applied Chem	3	3		Dept. approval
23488	Special Topics (3) in Applied Chem	3	3		Dept. approval
23489	Phytochemistry	4	3	3	Dept. approval
23490	Special Topics (4) in Applied Chem	3	3		Dept. approval

2) An applied chemistry major selects 3 credit from the following two courses

Course No.	Course Title	Credits	Weekly Hours		Prerequisite
			Lectures	Laboratories	
72138	Classroom Management	3			
72254	Educational Psychology	3			



## **Applied Chemistry Course Description :**

### **23211 Analytical Chemistry**

This course mainly deals with the study of basic principles of analytical chemistry, statistical methods in chemistry, traditional/classical analytical methods such as volumetric and gravimetric analysis, chemical equilibrium, titrimetry and redox (Oxidation-Reduction) theory.

### **23215 Practical Analytical Chemistry**

This lab work focuses on experiments appropriate to Chemistry 23211. It particularly focuses on quantitative chemical analysis.

### **23231 Organic Chemistry I**

This course is a study of chemical properties of non-cyclic compounds. It also illustrates the nature of common links in particles. It is also a study of general reactions, and stereochemistry for these compounds.

### **23232 Organic Chemistry II**

This course covers several topics: cyclic, non-aromatic and aromatic compounds, chemical reactions displacement of different types, reaction mechanisms, different-types of analytical methods to determine bi-synthesis of compounds.

### **23235 Practical Organic Chemistry I**

Practical experiments are designed to cover theoretical fundamentals, techniques in synthesis, separation, primary identification of organic compounds of these syntheses: dehydration of water from alcohol, some addition and displacement reactions. Some theoretical instruction precedes the conduction of the experiments step by step.

### **23241 Physical Chemistry I**

This course is a study of gas properties, kinetic theory of gases, thermodynamics of chemistry, applications of dynamics chemistry in the study of solutions, chemical equilibrium and fluid properties.

### **23341 Physical Chemistry 2 :**

A lecture course that is a continuation of 23241. Chemical equilibria, surface chemistry, colloids and solid state chemistry are involved. Chemical reaction kinetics is rigorously treated.

### **23345 Practical Physical Chemistry 1 :**

A laboratory course that involves a set of experiments related to fundamentals of physical chemistry. Basic thermodynamics and phase equilibria are the major components of this course.

### **23346 Practical Physical Chemistry 2:**

A laboratory course that is a continuation of 23345. Experiments related to reaction kinetics, electrochemistry and surface chemistry are involved.

### **23311 Instrumental Analytical Chemistry**

This course is a practical exercise as well a theoretical explanation of different instrumental quantitative analytical methods such as chromatography, polarography, PH-metry, electrochemistry, conductometry, refractometry and coulometry.

### **23315 Practical Instrumental Analysis**

This lab course includes experiments directly related to Chemistry 23311. Students learn the hows of using instruments in quantitative analysis.

### **23321 Inorganic Chemistry I**

In this course, students receive instruction on fundamentals of inorganic chemistry. The course starts with an introduction about atomic structure and detailed study of periodicity, chemical bonds and molecular shapes. The course then proceeds to solid state chemistry, as well as acid/base chemistry.

### **23322 Inorganic Chemistry 2 :**

A lecture course that is mainly devoted to the chemistry of transition elements. Coordination compounds, their properties, synthesis, reactivity, spectroscopy and bonding models are included.

### **23325 Practical Inorganic Chemistry :**

A laboratory course that includes a set of experiments related to inorganic chemistry. The experiments include main-group and transition-metal elements and coordination compounds. Synthesis, characterization techniques and reactivity are rigoursouly treated. Different types of isomerism are also included.

### **23331 Organic Chemistry 3 :**

A lecture course dealing with special functional groups such as carboxylic acids and derivatives, heterocyclic compounds, amines, phenols and polycyclic compounds together with synthesis, reactivity and mechanistic aspects.

### **23335 Practical Organic Chemistry 2 :**

A laboratory course that is a continuation for 23235. Basic synthetic routes are involved, such as Grignard, Freidel-Craft and Sand-meyer techniques, in addition to other condensation, oxidation and displacement reactions.

### **23432 Analytical Organic Chemistry:**

Applications of qualitative and quantitative analytical methods to analyse organic compounds are involved. Functional groups and derivatives are included. Spectroscopic analytical methods are employed together with chemical methods.

### **23361 Introduction to Chemical Engineering**

This course covers the basic principles pertinent to solutions to chemical engineering industrial problems, as well as to basic computer software as applied to chemistry.



The course also focuses on mass and energy, and other related subjects, especially degree of productivity, efficiency and transformation.

### **23365 Chemical Operations Lab**

This course is a study of important industrial materials and their synthesis. These include soap, industrial detergents, shampoo, creams, plastics, dyestuffs, etc.

### **23302 Firms Economics and Production Management:**

The course includes the topics of consumer demand, production, cost, market structures and factors, also it includes introduction to operation management, product design, process analysis, facility layout, forecasting, operations scheduling, quality management and cost studies..

### **23332 Biochemistry**

This course is a study of chemical compounds and their representation in the various organs of the body: proteins, and enzymatic catalysis.

### **23360 Practical Training**

In this course, each student is expected to serve eight weeks in an industrial firm or in any institution concerned with the chemical field. Upon completion, the student must submit a report detailing his/her service.

### **23392 Chemistry of research 1**

A compulsory course (lecture and Practical) that discusses the principles and rules used in chemical literature and abstracts .The course aims also to teach students some programs that are used in solving chemical problems , filing system , internet and its uses for finding articles and periodicals..

### **23411 Advanced Analytical Chemistry:**

A lecture course that is a continuation for 23311, and includes advanced instrumental methods of analysis. Different types of chromatography together with nuclear magnetic resonance spectroscopy ,infrared spectroscopy, x-ray spectroscopy and thermo-chemical analytical techniques are included.

### **23465 Applied Chemical Catalysis**

An elective 3-lecture course that introduces applied chemistry students to different aspects of chemical catalysis. Both theory and applications of catalysis are included. The course covers different types of homogeneous, heterogeneous and hybrid types of catalysis. Catalysis by molecular organometallic compounds and zeolites is involved together with surface catalysis by metals and metal oxides. Photocatalysis is also included. Applications of catalysis in organic reactions such as hydrogenation, reforming, carbonylation, isomerization, and other petrochemical processes are included. Environmental applications of catalysis, such as cleanup processes by solar light and CO oxidation are also included.

### **23334 Petrochemicals and Organic Chemistry Technology**

This is a three credit hours elective course for students of Applied Chemistry. This course deals with major processes in Petrochemical Industry, such as synthesis of ethylene and co-products, ethylene derivatives, propylene derivatives, butadiene and butanes, benzene, toluene and xylenes production, and their derivatives, steam reforming and related processes, and some miscellaneous processes and products.

### **23312 Chemical Pollution and Industrial Safety**

This course covers several topics: sources of chemical pollution in water and air, causes of this pollution, pesticides, industrial detergents, polymers causing pollution, methods of pollution-monitoring, methods of treatment of radiating and chemical waste, safety in labs, and chemical projects on poisonous materials.

### **23413 Food Industry Chemistry**

Topics covered in this course are raw materials, major food industries, methods followed in producing foodstuff, storage and manufacturing food, additives, such as flavoring, preservatives, coloring and sweetening materials. In addition, the course focuses on food analysis by using modern techniques.

### **23461 Industrial Chemistry:**

A lecture course to introduce students to chemical industrial processes. Chemical reactors and other equipment are included together with industrial operations in production and technology. Examples are petrochemicals, plastics, detergents, dyes, agricultural chemicals and others. A library literature search is mandatory. Course description of 23471 & 23401 are missing as well as Master degree courses

### **23464 Polymer Chemistry:**

A lecture course that introduces the student to polymer sciences, synthesis, classifications and properties. Relations of structure and properties are included together with stereochemistry and other topics.

### **23469 Material Science**

This course involves the study of the fundamental principles of structure and properties of materials utilized in practice of engineering. Properties of materials are related to atomic, molecular, crystalline structure. Metals, ceramics, multiphases systems, and polymeric materials. Relationships between structure and electrical, mechanical, thermal and chemical properties. Thin film deposition and samples identification techniques using AFM, SEM, XRD, etc.



## DEPARTMENT FACULTY

### *Professors:*

- Radi Daoud Ph.D. in Analytical Chemistry,  
Strathclyde University, UK, 1977.
- Hikmat Hilal Ph.D. in Inorganic Chemistry,  
University of Manchester, UK, 1980.
- Basim Shraydeh Ph.D. in Physical Chemistry,  
University of Wales, UK, 1980.
- Maher An-Natsheh Ph.D. in Physical Chemistry,  
University of Manchester, UK, 1983.
- Mohammed Subu' Ph.D. in Inorganic Chemistry,  
University of Florida, USA, 1984.

### *Associate Professors:*

- Fu'ad Mahmoud Ph.D. in Organic Chemistry,  
University of Sussex, UK, 1979.
- Shukri Khalaf Ph.D. in Physical Chemistry,  
University of Manchester, UK, 1982.
- Nidal Za'tar Ph.D. in Analytical Chemistry,  
University of Kent, UK, 1983.
- Mohammed Al- Noori Ph.D. in Organic Chemistry,  
University of New York, Buffalo, N.Y., USA, 1983.
- Waheed Jondi Ph.D. in Organic Chemistry,  
University of Manchester, UK, 1990.
- Shehdeh Jodeh Ph.D in physical Chemistry  
Wayn State University ,USA,1991

### *Assistant Professors:*

- Nizar Mattar Ph.D. in Organic Chemistry of Polymers,  
University of Bradford, UK, 1984.
- Samar Al-Shakhshir Ph.D. in Inorganic Chemistry,  
University of Oklahoma, USA, 1995.
- Othman Hamed Ph.D. in Organic Chemistry ,  
Loyolla University , USA , 1996
- Muhammad Shtayeh Ph.D in Material Physics ,  
Georg-August University – Germany,2003.

### *Instructors:*

- Ismat Shakhsheer M.Sc. in Organic Chemistry of Polymers,  
University of Lancaster, UK, 1980.
- Ahmad Abu Obeid M.Sc. in Physical Chemistry,  
Middle East Technical University, Turkey, 1984.

Kamel Abdel Hadi	M.Sc. in Theoretical Chemistry, Southern Illinois University at Carbondale, USA, 1986.
Nisreen al-Masri	M.Sc. in Analytical Chemistry, University of the Pacific, USA, 1988.
Randa Arafat	M. Sc. in Chemistry, An-Najah National University, Nablus, Palestine, 1997.
Amani Zu'bi	M.Sc. in Analytical Chemistry An-Najah N. University, Nablus, 2003
<b>Lab Technicians:</b>	
Omair Nabulsi	M.A. in Administrative Sciences, An-Najah National University, Nablus, Palestine, 1993.
Ashraf Salman	B. Sc. in Chemistry, An-Najah National University, Nablus, Palestine, 1996.
Nafez Dweikat	B. Sc. in Chemistry, An-Najah National University, Nablus, Palestine, 1998.
Ameed Amereh	B.Sc. in Chemistry An-Najah N. University, Nablus, 2007
Mohammad Al masry	Diploma in Lab. Technique An-Najah College, 2007.
Mohammad Alqraini	Glass blowing



# DEPARTMENT OF MEDICAL LABORATORY SCIENCES

## *Vission*

Creation of knowledge and advanced learning that enrich individuals, local, national, and global communities' health

## *Mission*

Contributing to the advancement of medical applications, laboratory and research and to stimulate learning and development in the field of laboratory medicine in order to provide the society with the elite of laboratory technicians to achieve advanced level in the field of medicine laboratory to cope with scientific development in the areas of health, especially the inclusion of technical and applied research in the field of medical tests.

## *Aims*

Creation of laboratories technicians that cope with scientific development in this Field.

To Graduate qualified scientific and practical laboratories technicians that are able to deal with advanced and modern laboratory devices and techniques

Stimulate the scientific research in the field of medical laboratory

# DEPARTMENT OF MEDICAL LABORATORY SCIENCES

## 1- Specialization Requirements:

With the advisor's assistance, prospective majors should declare their majors by completing an application form available at the College of Science offices, immediately after meeting the following criteria for majoring in the department:

1. Successful completion of Biology 24101, 24102, 24107, 24108, with overall cumulative average of at least C in each of all these courses.
2. Completion, successfully, of Chemistry 23101, 23102, 23107, 23108.
3. Completion of at least 30 credits 18 of which must be college requirements.
4. If number of students wishing to major in MLS exceeds the number set by the department, the department council will accept students according to their grades in the following courses: 24101, 24102, 24107, and 24108 and interview in front of department committee

## 2- Graduation Requirements for

To earn a Bachelor of Science degree in Medical Laboratory Sciences, a student must complete 157 credit hours. These include completion of university, college, department compulsory and elective courses as well as "free" courses.

University compulsory courses	20 credit hrs
University elective courses	6 credit hrs
Faculty compulsory courses	30 credit hrs
Department compulsory courses	86 credit hrs
Department elective courses	12 credit hrs
Free courses	3 credit hrs
Total	157



## A. Compulsory courses (86 credits) including practical training

Course #	Course title	Credit hrs	Hrs per week		Prerequisite
			Class	Lab	
23212	Analytical Chemistry	3	3	-	23102, 23108
23216	Practical Analytical Chemistry	1	-	4	23212 or concurrent
23233	Organic Chemistry	3	3	-	23102, 23108
23237	Practical Organic Chemistry	2	-	4	23233 or concurrent
25201	First Aid	1	-	-	Dept. approval
25202	Biostatistics	3	3	-	Dept. approval
25225	Hematology	4	3	3	24102, 24108
25232	Medical Genetics	3	3	-	24102, 24108
25236	Serology and blood banking	3	2	3	25225
25262	Anatomy	4	3	3	24102, 24108
25264	Parasitology	4	3	3	24102, 24108
25311	Biochemistry	4	3	3	23233, 23237
25322	Histology	4	3	3	25262, or concurrent
25325	Coagulation and homeostasis	2	1	3	25225
25342	Medical Microbiology	4	3	3	24102, 24108
25351	Diagnostic Bacteriology	4	3	3	25342
25352	Immunology	4	3	3	25342
25362	Human Physiology	4	3	3	25311
25392	Molecular Biology	3	2	3	24102, 24108
25400	Quality Control	1	1	-	Dept. approval
25401	Project	1	-	-	Dept. approval
25403	Laboratory Management	1	1	-	Dept. approval
25412	Clinical Biochemistry	4	3	3	25311
25424	Pathology	3	3	-	25322
25446	Pharmacology	3	3	-	25412 or concurrent
25450	Practical training	6		-	
25451	Body Fluids in health and disease	4	3	3	25311, 25342
25483	Scientific Research	3	3	-	Dept. approval
Total		86	-	-	-

### 25450 Practical Training (6 credits)

MLS majors must complete 6 credit hours or equivalent to 105 days of practical training in medical and health centers determined by the department and in coordination with the Palestinian Ministry of Health.

## B. Elective courses

Each student must complete 12 credits of the following electives,:

Course #	Course title	Credit hrs	Hrs per week		Prerequisite
			Class	Lab	
25221	Microtechnique	3	1	6	24102, 24108
25344	Virology	3	3	-	25342
25347	Medical Mycology	3	2	3	25342
25348	Food microbiology	3	2	3	25342
25402	Ethics of Profession	1	1	-	Dept. approval
25430	Instrumentation & Identification	3	2	3	25412, 23212
25445	Forensic Medicine	3	3	-	25322, 25424
25447	Toxicology	3	2	3	25446
25462	Endocrinology	3	3	-	25322, 25412
25481	Special Topics	3	3	-	Dept. approval
25482	Public Health	3	3	-	Dept. approval

C. Free courses (3 credits) each student is expected to complete three credits:

### Course Description

#### MLS23212 Analytical Chemistry (for Non-Chemistry Majors):

A lecture course that involves a broad spectrum of classical and modern methods of analysis. Gravimetry, titrimetry, electrochemistry, spectrometry and chromatography are included.

#### MLS23216 Practical Analytical chemistry (for Non-Chemistry Majors):

A laboratory course with a set of experiments designed to cover the topics included in 23212. Emphasis is given to lab technique

#### MLS23233 Organic Chemistry

This course covers a number of topics: basic principles of organic chemistry, chemistry of hydrocarbonates and their derivatives, alcohol, proteins, amino acids, carbohydrates, phenols, ethers and halides. There is a special emphasis on their compounds, and important biological reactivity.

#### MLS23237 Organic Chemistry Lab

This is a lab course which focuses on lab methods and experiments to measure physical properties of organic compounds, methods of separation, purification, and synthesis of simple organic compounds in the lab.





### **MLS25201 First Aid**

This is an introductory course which aims at teaching essential skills needed in emergency cases and the methods of providing patients with first aid prior to later treatment. It also teaches appropriate behavior during sudden critical situations such as bleeding and burns and how to prevent these dangers.

### **MLS25202 Biostatistics**

This course introduces the methods of statistical data classification and presentation, as well as their collection, organization and analysis. It also introduces principles of probabilities, some probability distributions, and distribution of samples, testing of hypotheses, simple linear regression and correlation, analysis of variance. There will be also medical and biological applications on all of the aforementioned.

### **MLS25221 Microtechnique**

Students, in this course, will learn about the basic principles and techniques for the preparation of microscopic slides of animals, plants, and bacteria. In addition, they will also learn about tissue culture, using microtome, and microscopic photography. Study microscopy (light and electron)

### **MLS25225 Hematology**

This is a study of blood constituents in health and disease states with special emphasis on lab diagnosis. In addition, the course is a study of different pneumonia diseases, blood cancer, factors behind blood clotting and other related diseases.

### **MLS25232 Medical Genetics**

This course begins with the study of the basic principles of classical genetics, and modern molecular genetics. Then it moves to the study of the genetic diseases, which affect human beings with special emphasis on clinical applications of medical genetics.

### **MLS25236 Serology and Blood Banking**

The purpose of this course is to study different blood groups, Rh factor, test making, separation of blood constituents, methods of blood donation and reception and the precautions to be taken before and after blood taking

### **MLS25262 Anatomy**

This course is an introduction to anatomy of the entire body. That is, it is an anatomical and physiological study of human beings' organs.

### **MLS25264 Parasitology**

Topics covered in this course include morphology, structure, diseases and laboratory diagnosis of parasites, their life cycle, ways of infection and prevention with an emphasis on lab diagnosis of these parasites.

## **MLS25311 Biochemistry**

This is an introduction to the study of biological compounds, carbohydrates, proteins, and fats, in the human body, and their metabolic reactivity; the way the body gets energy. It also introduces, briefly, major aspects of enzymology, types of restraining enzymatic reactivity and enzyme structures and co-enzymes.

## **MLS25322 Histology**

This is a physical and microscopic study of structural appearance of different tissues, and the link between structure and function.

## **MLS25325 Coagulation & Hemostasis**

This course covers the normal blood coagulation, the pathophysiology of hemorrhagic and thrombotic diseases and the principles of assays performed in investigation of hemostasis. The practical part provides bench-level instruction on the performance, interpretation and quality control of routine and specialized tests in the evaluation of hemostasis

## **MLS25342 Medical Microbiology**

This is a microbial study of the structure, metabolism and genetics of microorganisms. In this course, students learn about principles of immunology, diseases caused by microorganisms with emphasis on study of microbial aspects of these diseases.

## **MLS25344 Virology**

This course introduces several topics related to viruses: structure, metabolism, genetics, diagnosis. It emphasizes infectious diseases caused by viruses in both human beings and animals, and ways of protection, treatment and diagnosis.

## **MLS25347 Medical Mycology**

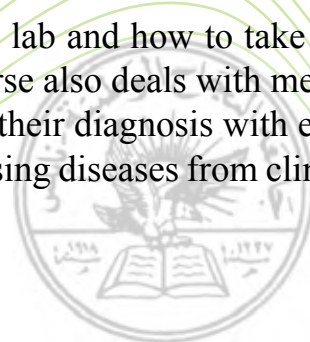
This course starts with principles of general fungi and other medically important fungi causing human diseases. The second part of the course deals with methods of protection, treatment and diagnosis of these diseases.

## **MLS 25348 Food Microbiology**

Study of food contamination, food spoilage and diseases transmitted by food. Focus on microbial food poisoning and food preservation and laboratory diagnosis of diseases transmitted by food and food contamination

## **MLS25351 Diagnostic Bacteriology**

This is a detailed study of running a microbiological lab and how to take samples from patients and send them to lab for testing. The course also deals with methods of isolating and identifying bacteria in these samples and their diagnosis with emphasis on microbial diagnosis. It is also a study of bacteria causing diseases from clinical and diagnostic aspects.



### **MLS25352 Immunology**

This is a study of biological and biochemical aspects of host resistance, immunity, types of hypersensitivity and suggested treatment. Particular emphasis is given to laboratory work on Ag/Ab interactions of strange bodies with immunoglobulins and the modern methods of separation of these human immunoglobulins.

### **MLS25362 Human Physiology**

This is an introductory course to the study of the human body; it is a mechanical study of different bodily organs, function of each, and basic cell structure.

### **MLS25392 Molecular Biology**

Study the basic principles of molecular biology, methods for controlling DNA replication, methods for repairing mutations, study factors that participate in RNA cloning from DNA, and protein transcription, using of these factors in diagnosis and treatment of genetic diseases and cancers

### **MLS 25400 Quality**

Introduction to Quality Management, quality in taking, handling and processing of samples and the result in addition to safety in laboratory

### **MLS25401 Project**

In this field research, students are asked to choose topics of interest suggested by department faculty members. The research project aims at training students to use different equipment available. It also aims at training the students on methods of research, how to use library resources, such as scientific periodicals, books, dissertations and how to collect, and analyze data and draw appropriate conclusions from scholarly papers. Each student is expected to submit a well-organized report on a topic of his/her own interest

### **MLS25402 Ethics of Medical Professions**

The course focuses on ethical considerations in the profession as well as professional issues relevant to the practice of Medical laboratory It deals with fundamental ethical principles underlying Medical laboratory practice. Ethical aspects of decision-making are discussed.

### **MLS 25403 Laboratory management**

Introduction to concepts and techniques of management and supervision as used in a medical laboratory

### **MLS25412 Clinical Biochemistry**

This is an advanced study of different human body fluids in health and disease states. The course also introduces methods of estimating these fluids by using high tech equipment and how to estimate normal and abnormal values in the body. It is also a quantitative and instrumental analysis. Particular emphasis is given to diagnosis, treatment, and disease prevention. Case studies of patients and quality control concepts will also be covered.

## **MLS25424 Pathology**

This course covers a number of topics: mechanisms of diseases, basic principles of morphology, pathophysiological aspects of organ diseases, causes of diseases, changes at the cellular level, cancer diseases and their classification, their effects and consequences.

## **MLS25430 Instrumentation and Identification**

Students, in this course, learn how to use instruments to determine, diagnostically, volume of different body fluids. These instruments include Flame Photometer, HPLC, G.C., Atomic Absorption, Clot Counter Blood Analyzer, PCR, and ELISA.

## **MLS25445 Forensic medicine**

Study of the basic principles of forensic medicine, signs, causes and types of death, anatomical and histological study of death, rape cases , wounds, injuries diagnosis, Revealed the apparent corpse, and result reporting

## **MLS25446 Pharmacology**

This course is a study of chemical properties of drugs and their medicinal effects, treatment significance and toxic effect of these drugs on man and his body organs.

## **MLS25447 Toxicology**

This is an introductory course which involves the study of chemical substances on living organisms as well as food, drugs, manufactured substances and pesticides, toxicology, protection against insects and chemical substances causing cancer.

## **MLS25450 Practical Training (6 credits)**

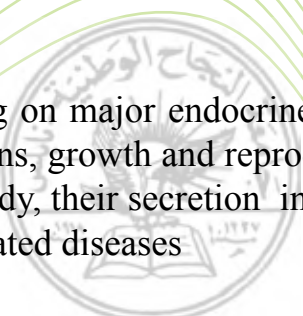
After the student's completion of theoretical courses, the Practical Training Committee in the department distributes students among hospitals, health and medical centers and institutions, government and non-government health societies. Each student is expected to spend at least four months in one of these institutions. The directors of institutions concerned will forward periodical reports about the students' training and performance. Based on these reports, the committee will make evaluation of the students and submit its evaluation to the department council.

## **MLS25451 Body Fluids**

This is a theoretical and analytical study of different body fluids. Pathological results, accompanied with clinical changes in the body, will be compared with the normal results of these fluids.

## **MLS25462 Endocrinology**

Study the basic principles of endocrinology, focusing on major endocrine glands which regulate the metabolism and biochemical functions, growth and reproduction, Structure synthesis, effects of major hormones in the body, their secretion in normal and abnormal cases, and laboratory diagnosis of associated diseases



### **MLS25481 Special Topics**

In this course, faculty members raise topics of their own interest, each according to his/her own specialization.

### **MLS25482 Public Health**

This course aims at studying individual, family and community relationships, the cause of pathological phenomena in the society and their symptoms, sources of water and its pollution, air-transmitted diseases, flora and fauna. In addition, the course highlights diseases resulting from technological and urban development. Noise pollution is a case in point.

### **MLS25483 Scientific Research**

This is an advanced study of the concepts, tools, and methods of scholarly research and the significance of research centers. Students are trained on how to conduct research and publish. They then conduct a community-oriented field research study, covering a relevant medical issue, take samples, analyze results and complete a proper research paper in a systematic fashion

## DEPARTMENT STAFF

### *Associate Professors*

Dr. Suleiman Khalil

Ph D in Medical Chemistry  
Loughborough university of Technology  
England, 1984.

### *Assistant Professors*

Dr. Majdi Dwikat

Head f the Department  
Ph D in Biology & Biotechnology (Human  
Physiology)  
University of Lecce (Salento) ,Italy, 2006

Dr .Lubna Kharraz

Ph d in cell & Molecular Biosciences  
University of Newcastle ,England, 2009

### *Instructor*

Imad Malhees

M Sc in Medical Biology  
Long Island University USA, 1980

Azzam Al Araj

M Sc in Medical Microbiology  
University of Karachi ,Pakistan, 1976

Suhad Al Alami

M Sc in Immunology  
University of Wisconsin  
USA, 1992

Mustafa Herzallah

M Sc in Clinical Biochemistry  
University of Bermingham  
England, 1978

### *Laboratory Technicians*

Ahmad Abdol-Rahim

B Sc in Medical Laboratory Sciences  
An Najah National University  
Palestine, 2005



# DEPARTMENT OF STATISTICS

## Specialization Requirements

After completion of first year, a student, with the advisor's assistance, declares her/his major by completing an application available at the College of Science office. The student has to meet the following conditions:

1. Successful completion of Mathematics 21101, and 21102 with a cumulative average of at least 70% in these two courses.
2. Successful completion of at least 18 credit hours of college requirements.

## Requirements for a B.Sc. in Statistics

Students wishing to obtain a B.Sc. degree in Statistics must complete 137 credit hours distributed as follows: University requirements 26; College 30; department must courses 63 credit hours, elective courses 18 (15+3) credit hours.

### I. Department compulsory courses: 63 credit hours distributed as follows:

Course #	Course title	Cr hrs	Prerequisite
21201	Calculus III	3	21102
21203	Principles of Differential Equations	3	21201
21211	Principles of Mathematics	3	21102
21212	Modern Analysis I	3	21211
21241	Linear Algebra I	3	21102
21321	Numerical Analysis	3	21241
131104	Introduction to Computer Programming	3	-
28201	Methods of Statistics I	3	-
28202	Methods of Statistics II	3	28201
28301	Statistical Applications Using Computer	3	28202
28302	Probability Theory I	3	21201, 21211
28304	Mathematical Statistics I	3	28302
28311	Sampling Methodology	3	28202
28321	Operations Research	3	21241
28331	Stochastic Processes	3	28302, 21212
28343	Applied Regression Analysis	3	28202 + 21241
28351	Experimental Design and ANOVA	3	28304
28352	Nonparametric Statistics	3	28304
28399	Project	3	Dept's approval
s 72292	Methods of Teaching Mathematics	3	-
s 72492	Practical Education for Math Students	3	72292

## II. Elective courses - Students may choose 18 credit hours from the following list:

Course #	Course title	Cr hrs	Prerequisite
21322	Linear Programming	3	21241+ 131104
28303	Probability Theory II	3	28302 + 21212
28305	Mathematical Statistics II	3	28304
28322	Decision Meory	3	28202
28353	Categorical Data Analysis	3	28202
28361	Demography	3	28201
28371	Time Series Analysis	3	28302
28441	Multivariate Analysis	3	28304
28442	Sequential Analysis	3	28304
28481	Special Topics in Statistics	3	Dept. approval
531510	General Principles of Economics	3	-
53458	Econometrics for Statistics Major	3	53151
56121	Principles of Finance	3	-
s 72138	Classroom Environmental Manage Management	3	-
s 72352	Evaluation in school	3	-
s 71254	Educational Psychology	3	-

s Offered by the College of Education Sciences (Choose one course from 72138 , 71254,or 72352).

### Course descriptions

#### STAT28201 Methods of Statistics I

Statistical data classification, measures of central tendency and variability, probability, concepts and rules, discrete and random variables and probability distributions, the binomial and normal distributions, sampling distributions. Point and interval estimate and testing hypothesis for population mean. , Simple linear regression & correlation.

#### STAT28202 Methods of Statistics II

This course covers sampling distributions, confidence interval and testing hypothesis for single and two population parameters simple and multiple, regression and correlation, confidence interval and testing hypotheses for regression line parameters. Analysis of variance, chi-square tests and non-parametric tests.

#### STAT28301 Statistical Applications on Computer

The course mainly focuses on data evaluation and statistical tests using software packages.

#### STAT28302 Theory of Probability I

In this course, students receive instructions on axioms of probability, discrete and continuous random variables, probability distributions; binomial, geometric, negative binomial, uniform, exponential, gamma and normal. The course ends with an examination of moment generating functions and transformation distributions.



### STAT28303 Theory of Probability II

This course begins with a review of properties of random variables and probability distributions as well as multinomial distribution. Then it moves to the study of distribution of order statistics, moments and moment generating function for some distributions. It also examines limiting distributions, types of convergences, in probability, in mean, in distribution, and characteristic function.

### STAT28304 Mathematical Statistics I

Topics introduced in this course include decision theory, risk and loss function, unbiased estimation, efficiency, maximum likelihood estimation, confidence intervals, composite hypotheses, and sequential tests. The course also introduces best test, sufficient statistics, Rao-Blackwell Theorem, and Rao-Cramer inequality.

### STAT28305 Mathematical Statistics II

Students in this course learn about properties of point estimate, exponential family, sufficiency and completeness, Bayesian estimation, most powerful test, sequential test, estimation and testing hypotheses for linear models.

### STAT28311 Methods of Sampling Methodology

Topics taught are simple random sample, mean estimations, totality, regression proportion estimations, stratified sampling, cluster sampling, systematic sampling, and other ways/methods of sampling.

### STAT28321 Operations Research

Topics raised in this course are formulations of linear programming problems, graphic method, Simplex method, sensitivity analysis, net flow problems and game theory.

### STAT28322 Decision Theory

This course examines basic concepts in statistical decision theory and relationship with game theory, games in normal structures, optimal strategies and values, prediction, induction and Bayesian method.

### STAT28331 Stochastic Processes

This course covers several topics: random process, examples on sample process, random walk, gamblers' destructive series, death and birth series, wait series, Markov discrete chain, classification of series cases, constant distributions, pure jumping process, Poisson process, Gaus process, and Weiner process.

### STAT28343 Applied Regression Analysis

Topics covered in this course include simple linear regression, multiple regression, interpretation of results, estimations and consistency check, error and residual analysis, using matrices in regression, factor rotation and real applications.

Completely randomized design, randomized block design.

### **STAT28351 Experimental Design and Analysis of Variance**

Students, in this course, are introduced to, Latin squares, two-factor designs, multi-factor comparative experiments, testing model accuracy in analysis of variance, insufficiency sector model factor analysis, and multiple-comparisons.

### **STAT28352 Non-Parametric Methods**

This course introduces applications on non-parametric methods, testing and interval and point estimate, consistency tables, order, Kolomogrov and Sameironov statistics.

### **STAT28353 Categorical Data Analysis**

This course gives an introduction to qualitative variables, two-variable tables, logistic regression equation , loglinear equation.

### **STAT28361 Demography**

This course covers population, numerated areas, population data, age and gender structures, mortality rates, life tables and its structures, emigration and immigration, society structure and general census.

### **STAT28371 Time Series Analysis**

Topics covered are description of time series, trend, cycle, moving averages constant rates, filterization, Fourier's analysis, models of stable series, auto-correlation, prediction, Jenkins-Box methods, spectrum analysis.

### **STAT28399 Project**

A student is assigned one specific topic to write about under the supervision of a department staffer. He/she is expected to submit a well-documented paper by the end of term.

### **STAT28441 Multivariate Analysis**

This course covers a number of topics: multivariate normal distribution, estimation of mean vector, co-variance matrix, design of complete independent test of statistics, main components and correlation methods.

### **STAT28442 Sequential Analysis**

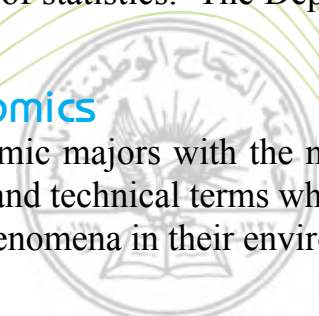
This course introduces sequential tests for statistical hypotheses, function of sample size average, characteristic function for sequential tests, testing percentage of sequential probability and characteristic function.

### **STAT28481 Special Topics in Statistics**

This course raises selected advanced topics in fields of statistics. The Department determines the nature of these topics.

### **ECO53150 General Principles of Economics**

The purpose of this course is to acquaint non-Economic majors with the nature of economics, and the most important economic concepts and technical terms which help students in understanding and interpreting economic phenomena in their environment.



## FIN53452 Principles of Finance

This course aims at introducing students to the value of money, the relationship between return and risk, financing foundations appropriate for companies, ways of studying and measuring risks, their types, profit policies followed by companies, cost of capital, and structure of optimal capital.

## ECO53458 Econometrics for Statistics Students

This course begins with an introduction to principles used in economics to examine quantitatively the degree of consistency between models and economic theories with the reality. The course surveys regression model foundations, mini-square method, estimates and their properties, analysis of variance, hypotheses testing, confidence intervals, general linear model, and curves. Students also learn about prediction through the use of the regression model.

## 72352 Evaluation in School

Students in this course learn about evaluation, development, goals and its various tools, and selection of measurements. They include types of tests, techniques of their construction and analysis as well as the hows of evaluating student's academic achievement.

## 71254 Educational Psychology

This course investigates the significance of adolescence, physical, emotional, mental and sexual changes teenagers experience. The course also looks at stages of adolescence, their characteristics and their link with preparatory, secondary school and university stages, The students also learn about the needs of each stage, in addition to psychological and social problems of adolescence.

## 131104 Introduction to Computer Programming

An introduction to the theory and practice of computer programming, the emphasis of this course is on techniques of program development. Topic include I-O, control structures, arrays, structures, functions, pointers, files, and basic concepts of software development, The programming language C or C++ can be used in the course and emphasis will be on numerical applications.

## DEPARTMENT MEMBERS

### *Associate Professors*

Ali Barakat

Ph.D. in Biostatistics (Non-Parametric),  
University of North Carolina at Chapel Hill,  
Chapel Hill, North Carolina, 1989.

### *Assistant Professors*

Abdel-Rahim Barham

Ph.D. in Mathematical Statistics,  
University of Carbondale, Carbondale, USA, 1996.

Nihaya Awartani

Ph.D in Mathematical Statistics,  
American University, USA, 1991.

Mahmoud Al-Masri

Ph.D. in Functional Analysis,  
University of North Carolina at  
Chapel Hill, USA, 1985.

Mohammad Ass'ad

Dr. Sc. ORs and DP  
Munich Univ. Germany (1987)

### *Imstnnctors*

Mehummad Qabaha

M.Sc. in Mathematical statistics ,  
yarmouk University Jordan , 1986 .

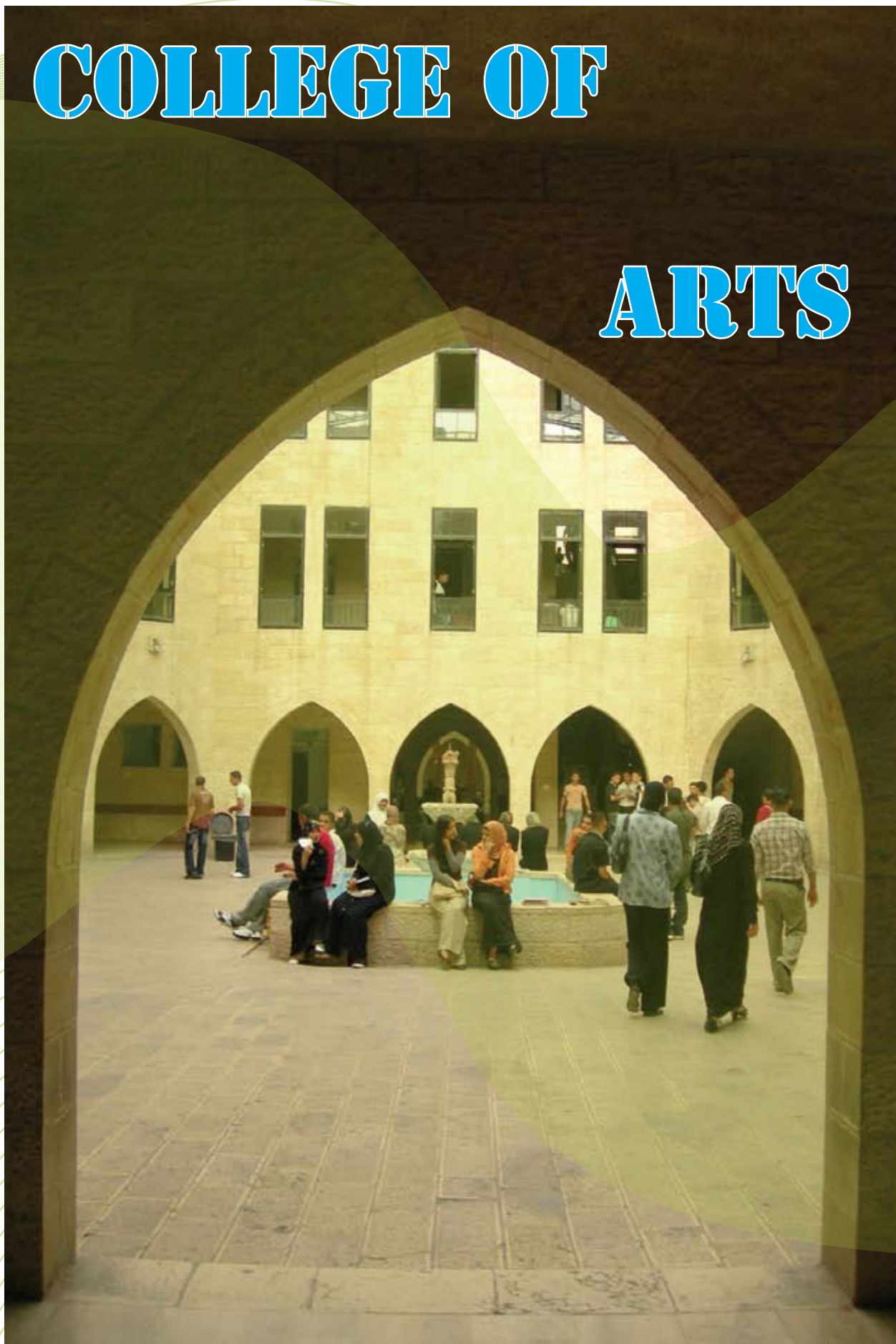
Amani Irman

M.Sc. in Mathematical statistics ,  
yarmouk University Jordan, 2008



# COLLEGE OF

# ARTS



## FACULTY OF ARTS

### HISTORICAL BACKGROUND

The College of Arts, established in 1977, is one of the first colleges at An-Najah National University. The college started with a small number of full-time faculty members and students. It also has had a few limited facilities and resources. However, in a short period of time, the college has been able to increase the number of academic staff in terms of quantity and quality as a result of the urgent needs of the local community. Thus it has developed its academic programs and administrative apparatuses to meet such urgent needs. It is now home to a large burgeoning student body. Its diversified programs, both graduate and undergraduate, are sought by a considerable number of students. These programs secure good working opportunities for them after graduation.

### ACADEMIC PROGRAMS

Like colleges of arts at other universities, the College of Arts at An-Najah offers two academic programs, leading to B.A. and M.A. degrees.

**B.A. Undergraduate Programs:** There are eight Departments at the college of Arts in addition to the language center. Currently, the Dept of “Archaeology” is closed.

- » Arabic Language and Literature
- » English Language and Literature
- » History
- » Geography
- » Sociology and Social Work
- » Archaeology “Frozen”
- » Journalism
- » French

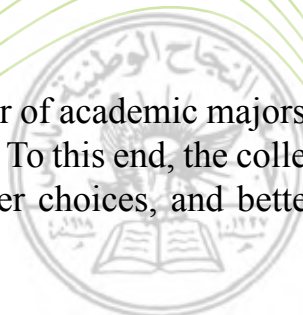
### M.A. GRADUATE PROGRAMS

- » Arabic Language and Literature
- » Geography
- » History
- » Applied Linguistics and Translation

**The college** is also planning to expand its graduate programs to include other areas. It is now considering offering some Ph.D. programs.

### FUTURE PLANS

The College of Arts is planning to increase the number of academic majors in order to meet the needs and changes in the Palestinian society. To this end, the college seeks to open new departments, provide students with greater choices, and better enable them to realize their educational ambitions.



## RELATIONSHIP BETWEEN COLLEGE AND COMMUNITY

The College of Arts seeks to establish strong ties with the Palestinian society. It has held and organized a number of symposia and conferences on Palestinian related issues, both past and present. The college plans to employ the Community Service course to establish a cooperative relationship between the community institutions and the college. In this way, institutions will develop as a result of students' services to them. At present, the students in the Department of Archaeology are providing their services and assistance to the preservation of Palestinian archaeological sites. They have done a number of excavations to uncover archaeological finds in Palestine.

## UNDERGRADUATE ACADEMIC PLAN

The College of Arts offers academic studies leading to a B.A. degree in the following

<b>Majors:</b>	<b>Department Code</b>
Arabic Language and Literature	(1)
English Language and Literature	(2)
History	(3)
Geography	(4)
Sociology and Social Work	(5)
Archaeology	(6) Frozen
Journalism	(7)
French Language and Literature	(8)

In the freshman year, students, joining the College of Arts, complete general course requirements totaling 27 credits, distributed as follows:

### 1. College compulsory requirements: 7 courses (21 credits)

Course #	Course title	Credit hours
31111	Introduction to Literary Appreciation	3
32111	College English I	3
33111	History of Modern Thought	3
34111	Geography of Palestine	3
35112	Arab Society	3
36112	Introduction to History of Ancient Civilizations	3
37111	Introduction to Mass Media	3

## 2. College electives

Course #	Course title	Credit hours
31112	Arabic Library	3
31113	Principles of Syntax	3
32112	College English II	3
32113	Spanish I	3
32114	Spanish II	3
32115	German I	3
32116	German II	3
32117	Turkish I	3
33113	History of Islamic Civilization	3
34112	Introduction to Human Geography	3
34113	Introduction to Physical Geography	3
35111	Introduction to Sociology	3
35113	Refugees and Involuntary Emigration	3
36113	Introduction to Ancient History of Palestine and Jordan	3
37112	Mass Media in Arabic	3
38111	Writing Practice in French I	3
38112	Oral Communication in French	3
31112	Arabic Library	3

**Requirements for major:** See department concerned.

”Free” courses:

Students are expected to take two or three courses (six credits) from university departments’ course offerings.\*

### **Students should take note of the following:**

The 1994 students only may take 15 credits from the college compulsory courses.

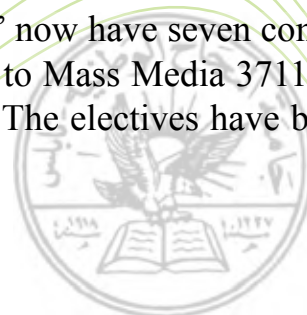
1. Introduction to Literary Appreciation 31111
2. College English I 32111
3. History of Modern Thought 33111
4. Geography of Palestine 34111
5. Arab Society 35112

They also have to complete 12 credits from College Elective Requirements.

Students whose registration numbers begin with ”95” and ”96” now have six (6) compulsory courses (18 credits) with the addition of Introduction to History of Ancient Civilizations 36112, in the Archaeology Department. The college electives are now 9 credits.

Students holding registration number ”97 and above” now have seven compulsory courses (21 credits), as a result of adding Introduction to Mass Media 37111, which came with the creation of the Journalism Department. The electives have become 6 credits.

\*Except for English and French Majors





## COLLEGE COURSE DESCRIPTIONS

### College compulsory courses

#### ART31111 Introduction to Literary Appreciation

This course introduces students to the artistic, intellectual and psychological dimensions of the literary text; it improves their reading abilities, thus establishing an affective relationship between themselves and the text, on the one hand, and with text and its social environment and values, on the other.

#### ART32111 College English I

This course emphasizes the major comprehension skills: scanning, skimming, understanding meaning of difficult words from context, drawing inferences, differentiating between literal and non-literal meaning. The course also aims at developing the skill of summarizing a text. In the writing part, emphasis will be on note taking, vocabulary acquisition, completing application forms, writing a summary, and advertisements. The grammatical part focuses on verb tenses, parts of speech, conditionals, and formulation of questions.

#### ART33111 History of Arab Thought

The purpose of this course is to study the modern (European) intellectual trends and Arabs' intellectual trends in particular. The course begins with an examination of the factors behind European Renaissance from the 16th-19th centuries. The course looks closely at the factors behind intellectual renaissance in the Arab World, namely, it provides a study and an analysis of religious trends and movements, such as salafiyah (Islamic reform movement) and modernism, political trends such as the Islamic League, Ottoman League, the national, regional and pan-Arabism movements, social factors, underdevelopment and its underlying causes, social justice, freedom, equality, emancipation of women; and finally, it examines scientific factors.

#### ART34111 Geography of Palestine

This is a regional study of Historical Palestine before 1948, the impact of historical events on it, political upheavals that have been storming the country for a long time, particularly from economic, human, and geographical perspectives.

#### ART35112 Arab Society

This course covers a number of topics such as: social institutions, social changes in the contemporary Arab World, Arab family, kinship system, ideological and class divisions. This course places some emphasis on the problems of growth and modernization.

#### ART36112 Introduction to History of Ancient Civilizations

This course is a study of Ancient East in terms of states and kingdoms established there and in terms of relationships among them politically and culturally. The course will also identify most important cultural centers in the Ancient East and the extent of man's contribution, in the area, to human civilization in general.

## **ART37111 Introduction to Mass Media**

In general, this course is an introduction to the principles, concepts and basic theories in public communication. The course introduces various mass media systems, print and electronic, and also traces the historical development of basic public mass media: books, newspapers, periodicals, cinema, radio and television.

### **College Elective Courses**

## **ART31112 Arabic Library**

This course introduces Arabic writing movements from different dimensions. The course also introduces mainly Arabic heritage library, particularly prose and poetry library and its two streams: literary and linguistic. Students also receive training on how to deal directly with these primary sources.

## **ART31113 Principles of Syntax**

In this course, student will receive instruction in general linguistic rules which help the student formulate a correct Arabic sentence. These rules include definition of grammatical terms, Arabic sentence and its types, number and its rules, grammatical tools representing syntactic methods such as conditional tools, question words and negation words. Students also learn about the principles of constructing the nominative or indicative in Arabic grammar. Student will apply these theoretical rules. These include selected texts taken from heritage books or volumes of classical poetry. Students are expected to make analysis of these texts, note down general grammatical information, thus helping them avoid mistakes in the mechanics of writing.

## **ART32112 College English II**

This course begins with a review of all types of sentences in English, and then proceeds to paragraph writing. Students learn how to write a topic sentence, develop and support it with examples. Students also learn how to organize their writing to achieve coherence among sentences in a paragraph. In addition, students learn about different modes of writing: argumentation, description, definition, comparison and contrast, cause and effect, narration and classification. The course also covers other writing styles such as C.V. and application form completion, in addition to cover letters. At the end of the course, students will again go over basic grammatical rules. If time allows, student may also learn about essay writing.

## **ART32113 Spanish I**

This is a course for beginners. The course primarily depends on the integration of the four language skills. It teaches students, in a simplified way, the basics of Spanish grammar. Students will be exposed to Spanish-oriented cultural texts in order to introduce students to Spanish society and civilization. This course should enable students to understand spoken Spanish and allow them to express themselves in writing

### ART32114 Spanish II

This course is a continuation of Spanish I 32113. In this course, students learn more basics of Spanish grammar and oral communication in Spanish. The course emphasizes advanced vocabulary and rules of grammar, correct pronunciation, the hows of writing common expressions used in spoken and written language. The course will also deepen students' knowledge of the Spanish society.

### ART32115 German I (for beginners)

This course teaches words and grammatical structures and rules mostly used in daily communication. The course covers a number of things: greetings, introducing people, naming household things, like food and drinks, ordering a meal, entertaining visitors, managing work, making arrangements for appointments, renting an apartment, buying things, ... etc.

### ART32116 German II

This course is a continuation of German I 32115. By the end of the course, students should have learned the basics of German grammar. Students will also learn how to communicate with native speakers of German. This course covers a number of topics: description of pain, providing advice, narrating a story/reporting an event, talking about urban life, traffic, marketing, German culture, and German-speaking countries.

### ART32117 Turkish Language (1)

The course takes an integrated skills approach to teaching oral and written communications. It introduces language grammars at a basic level for students who study Turkish for the first time. The course is also meant to introduce the Turkish society, culture and civilization to Palestinian learners.

### ART33113 History of Islamic Civilization

This course dwells on the following topics: concept of civilization and urbanism, difference between cultural and historical study, emergence of cultural studies, measures of civilization, potentials and elements of civilization, as well as social and historical potentials for the emergence of the Islamic civilization, the Holy Qur'an as the basis of Islamic civilization, elements and characteristics of Islamic civilization, status of Islamic civilization among other civilizations and its impact on them.

### ART34112 Introduction to Human Geography

This course examines human geographic research methodologies, the most important schools of thought, and how man came into being on earth and how he spread out.

### ART34113 Introduction to Physical Geography

This course introduces a number of topics: solar system, celestial bodies, theories on origin of this planet, age, dimensions and structure of stones, seas, oceans and their origin, movement of sea and ocean waters, climate, soil, water, formation of earth surface phenomena.

## **ART35111 Introduction to Sociology**

This is an introduction to basic concepts in sociology, social behavior, and scholarly methods used in sociological analysis.

## **ART35113 Refugees and Involuntary Emigration**

The purpose of this course is to acquaint students with the refugee phenomenon in a global context. The course begins with the historical development of refugee movements, reasons for seeking refuge, the refugee experience including accompanying social and psychological effects, especially when it comes to the life of refugees in a camp environment. Also this course looks at the influences of international policies and humanitarian aid, the role of donors, and policies of countries hosting refugees.

The role of international law in ameliorating the plight of the refugee and the theoretical frameworks, which have endeavored to explain this phenomenon, are addressed. Inevitably and specifically, the subject comes close to home with the longstanding anguish of our own Palestinian refugees, and deals with factors contributing to their displacement and homelessness, both here and in adjacent countries. Some light is also shed on the transfer process through its stages, and the resulting suffering inflicted on Palestinian people. The course concludes with some emphasis on increasing political awareness among the refugees, their role in the P.L.O., the mandate of the international community to protect Palestinian refugees, and the international initiatives proposed to solve their plight.

## **ART36113 Introduction to Ancient History of Palestine and Jordan**

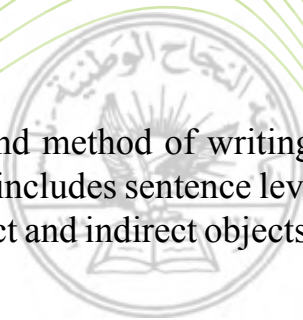
A study of historical ages of both Palestine and Jordan, course 36113 starts from the Old Stone Age up to the Iron Age. Further, the course highlights the relationships between Palestine and neighboring empires, especially those in Iraq and Egypt. The course also touches on cultural achievements of the region in past ages.

## **ART37112 Mass Media (in Arabic)**

An introduction to journalistic editing, this course reinforces students' command of the Arabic language and strengthens self-expression abilities through writing effectively and with clarity. The following areas are covered: Grammatical and morphological rules with emphasis on the countable, uncountable, the plural, the numbers, the dual, and the indeclinable, etc.; correct spelling; correct punctuation rules; journalistic idioms. The theoretical part of the course will be supported with examples and models culled from local newspapers, magazines and journals, in Arabic. This will acquaint students with the language of mass media and common mistakes (goofs) made by people in the field.

## **ART38111 Writing Practice in French I**

This course, which introduces the French alphabet and method of writing words, masculine and feminine nouns, singular and plural, also includes sentence level, types of sentences, personal pronouns, verb conjugations, direct and indirect objects. Visual



aids such as drawings and pictures are used to advantage. Editing short responses, accepting or turning down offers, giving thanks or apology, brief justifications of answers, are some learning exercises.

## ART38112 Oral Communication in French

This course teaches spoken French through the use of modern teaching methods typically employed in non-Francophone countries. At the end of this course, students are expected to speak and understand some French, especially when it comes to introducing themselves, getting to know others, and holding simple conversations or chats.



# DEPARTMENT OF ARABIC LANGUAGE AND LITERATURE

## Requirements for admission

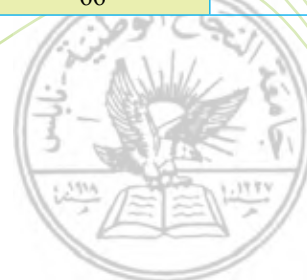
1. Successful completion of Arabic 31111 and 31112: Introduction to Literary Appreciation and Arabic Library
2. A minimum of 70% in each of the two courses.
3. Prospective majors should sit for a proficiency examination which counts for 30%.
4. In case of a large number of applicants, acceptance will be arranged in descending order according to their total major averages.

## I. Requirements for the Undergraduate Degree in Arabic

The Department of Arabic offers a single specialization in Arabic Language and Literature. Students wishing to obtain a B.A. in this specialization must successfully complete 137 credit hours. Of these, 23 are university requirements, 27 college, Dept. (66 as a compulsory and 15 as elective) and six are, 'free' hours.

### A. Compulsory courses: 66 credits

Course #	Course title	Credit hours	Prerequisite
31211	Morphology	3	-
31212	Syntax I	3	-
31213	Arabic Rhetoric	3	-
31214	History of Pre-Islamic Literature & Its Texts	3	31214
31216	History of Umayyad Literature & Its Texts	3	31215
31217	Arabic Rhetoric II	3	31213
31312	Syntax II	3	31212
31313	Abbassid Literature-Poetry	3	31216
31314	Arabic Phonetics	3	-
31315	Andalusi and Maghrebi Literatures	3	-
31316	History of Arabic Literary Criticism	3	-
31317	Abbassid Literature-Prose	3	-
31318	Research	3	-
31411	Literature in Egypt and Greater Syria	3	31313
31412	Syntax III	3	31312
31413	Modern Literature I	3	-
31414	Arabic Philology	3	-
31415	Modern Literature II	3	-
31416	Special Topic-Modern Arab Literature	3	-
31453	Special Topic-Modern Palestinian Literature	3	-
31454	Palestinian Popular Literature	3	-
Total		66	-



## IB. Elective courses (15 credits)

Each student is to choose 15 credits from the following list:

### Literature courses

Course #	Course title	Credit hours	Prerequisite
31228	Sciences of Hadith	3	-
31253	Special Topic in Pre-Islamic Literature	3	-
31254	Special Topic in Early Islamic Literature	3	-
31255	Special Topic in Umayyad Literature	3	-
31256	Rhetoric in Light of Modern Criticism	3	From Shari'a College
31257	Qur'anic Studies	3	From Shari'a College
31351	Prosody and Rhyme	3	-
31352	Literary Life in Aleppo	3	-
31353	Special Topic in Andalusí Literature	3	-
31331	Exegesis and Exegetist' Methods	3	From Shari'a College
31451	Special Topic in Literature of Egypt and Greater Syria	3	-
31452	Modern Palestinian Literature	3	-
31454	Special Topic in Modern Arabic Literature	3	-
33336	Special Topic in History of Islamic Civilization	3	From Dept.of History
31460	Comparative Literature	3	-

### Language courses

Course #	Course title	Credit hours	Prerequisite
31259	Hebrew Language I	3	-
31260	Hebrew Language II	3	-
31357	Arabic Dictionaries	3	-
31358	General Linguistics	3	-
31456	Schools of Arabic Grammar	3	-
31457	Syntax IV	3	-

### Methods courses

Course #	Course title	Credit hours	Prerequisite
31461	Methods of Teaching Arabic	3	-

## II. Course Descriptions

### ARA31211 Morphology

This course starts with a definition of morphology and its place in linguistic analysis. After this, the course moves to cover a number of morphological topics: morphological derivatives, dualism, I'lal (defectiveness), ibdal (appositional substantive). This is coupled with application in the form of exercises.

### ARA31212 Syntax

This course covers basic syntactic topics such as 'kana' (was) and its 'sisters', voice, subject and predicate and the disintentionally inflective. It also reinforces students' knowledge of the basics of syntax to make use of them in spoken and written Arabic.

### ARA31213 Arabic Rhetoric

This course traces the emergence of Arabic rhetoric in ancient poetry and the environments which contributed to the development of rhetoric as a field of study. Students will be introduced to the main forms of rhetoric: science/art of metaphors and good style, and science of rhetoric and their application in ancient and modern poetry or prose. This will help the student develop his/her appreciation and make him/her discover aspects of aesthetics in rhetorical images (metaphors/similes).

### ARA31214 History of Pre-Islamic Literature and Its Texts

This course begins by introducing pre-Islamic literature, through Jahili poetry, identifying artistic values in this poetry and dwelling on its idioms based on the most documented sources. The course will touch on the political, social and economic life of this age through selected poetry readings. The course also tackles some literary issues and phenomena such as plagiarism, making poetry a means of living and the utterly destitute (sa'alik) poetry.

### ARA31215 History of Early Islamic Literature and Its Texts

This is a study of the literary life at the outset of the Islamic era prior to the establishment of the Umayyad caliphate. The course will examine a set of literary texts which reflect the image of literature. This will show demarcation lines between Islamic and Jahili characteristics.

### ARA31216 History of Umayyad Literature and Its Texts

This is a study of the most important environments of the Arab poetry at the time: Hijaz, Bedouin, Greater Syria, Iraq, and Kharassan. The course aims at illustrating poetic specialty during the era and drawing a picture, a general one, through literary texts.

### ARA31217 Arabic Rhetoric II

This course is a continuation of topics covered in Arabic Rhetoric I. In this course, the focus is on the study of semantics coupled with an attempt to link ancient subjects, such as methods of composition, brevity, verbosity, putting forward and putting back, methods of abbreviation, with criticisms and modern rhetorical studies.



### ARA31228 Sciences of Hadith

Offered by the College of Shari'a, this course focuses on sources of al-Hadith, ways of transference, its quotation in and influence on Arabic language and literature.

### ARA31253 Special Topic in Pre-Islamic Literature

The instructor focuses on a specific issue pertinent to Pre-Islamic Age literature.

### ARA31254 Special Topic in Early Islamic Literature

Early Islamic era literature, with possible focus on a poet of the age, his life and work, studied from different perspectives.

### ARA31255 Special Topic in Umayyad Literature

This course shall be devoted to the study of the Umayyad Arabic poetry environment. It also looks at the Platonic Bedouin love poetry, or polemic poetry of Iraq, as representing two cases in point. The study is thorough and explores the subject from all its aspects.

### ARA31256 Rhetoric in Light of Modern Criticism

Arabic rhetoric is studied in the light of modern and old Arabic criticism theories, in an attempt to link the old with the new and see how Arabic rhetoric is keeping abreast of modern studies in terms of theory and application.

### ARA31275 Qur'anic Studies

The objective of this course is to link linguistic and literary study with the Holy Qur'an. The course studies the Holy Qur'an, including identifying Qur'anic terms. For this purpose, students are expected to study Qur'anic sciences: their divisions, reasons for their revelation, the Meccan and Medanite Suras, al-Muhkam, al-mutashabeh, and refutation of the argument of al-nasikh and al-mansukh plus various Holy Qur'an recitations. The course also explores aspects of man's relationship with the environment.

### ARA31259 Hebrew Language I

This course is designed to introduce students to the principles and foundations of Hebrew which should enable students to express themselves orally and in writing.

### ARA31312 Syntax II

Main topics covered in this syntax course are doer of action, transitive and intransitive verbs, objects, prepositions and exceptions. There will be grammatical applications to reinforce these topics.

### ARA31313 Abbassid Literature-Poetry

This is a course designed to study literary life and trends in general and then the new poetry trends in particular. There is also an analytical study of selected poetry texts by prominent Abbassid poets.

### **ARA31314 Arabic Phonetics**

Beginning by defining phonology, the course includes works of classical Arab scholars in the field, casts light on development of phonology by Western linguists, and moves on to study the articulatory system, the manner and rules of sound production. There is also a comprehensive study of silent sound and harkat (vowels) in Arabic, affixes and their types and some phonological phenomena and laws.

### **ARA31315 Andalusí and Maghrebi Literatures**

Literary life in Andalus is examined, including trends that had influenced Andalusí poetry. Andalusian poetry as used in eulogy, landscape description, satire, elegy etc. is part of this course. Literary prose in Andalus is illumined through different periods, with emphasis on the influence of Andalusian literary scene on its surrounding and vice versa.

### **ARA31316 History of Arabic Literary Criticism**

This course is a study of the history of Arabic literary criticism in its early ages; there will be case studies of Ben Salam, Ben Qutaiba, al-Jahith, al-Qadi al-Jirjani in terms of their contributions to literary criticism.

### **ARA31317 Abbassid Literature-Prose**

This course is a general study of literary and intellectual life during the Abbassid era. The emergence and development of prose writing, and its subject matter are examined, coupled with a literary analysis of texts of Abbassid-period writers.

### **ARA31318 Research**

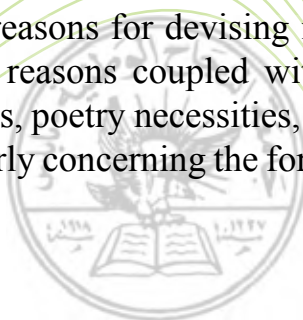
Students are introduced to methods of both language and literary research, and learn how to evaluate different sources and references. They will gain skills in collecting, arranging, and classifying primary materials, and making induction of results. Furthermore, students will be exposed to different research approaches, textual criticism (evaluation) of old texts and their publishing. Students will be taught how to read different handwritings, MSS, types of editions and their examination and binding, amendment of errors, and preparation of necessary indexes. Students are expected to write an original research based on topics covered in the course.

### **ARA31331 Exegesis and Exegetists' Methods**

This course is offered by the College of Shari'a.

### **ARA31351 Prosody and Rhyme**

Students are introduced to prosody, its content, and reasons for devising it. They will also learn the ten meters generated for different reasons coupled with roots, divisions of poetic verse and divisions of poetry schemes, poetry necessities, study of the modernization movement in Arabic poetry, particularly concerning the form of the modern Arab poem whether it be classical or free verse.



### ARA31352 Literary Life in Aleppo

Men of letters played a leading role in the intellectual life of Syria's Aleppo, for a considerable period of time. This course examines aspects of the impact that the literary scene had on the lives of residents of the city and surrounding area.

### ARA31353 Special Topic in Andalusí Literature

In this course, a number of Andalusian literary texts will be examined. Students will be asked to make analysis to find out areas of aesthetics in them. Students will be introduced to a large number of Andalusian publications and manuscripts. They will be required to write reviews of materials read.

### ARA31357 Arabic Dictionaries

This course begins with a historical study of invention of the dictionary by ancient peoples, including the Arabs. Then the course will move to study the first beginnings of an Arabic dictionary, early endeavors in this respect, major Arabic dictionary schools: phonetics schools pioneered by al-Khalil Ben Ahmad in his book *Al-'Ayn*, Al-Qafiyaa School by al-Jawhari in *al-Sahah Dictionary*; Al-Ibtathiyaa School or al-Haditha School by al-Zamakhshari in *Asass al-Balagha Dictionary*. The course will conclude with an introduction to the state of modern Arabic dictionary, its needs, and endeavors made by linguistic conclaves to amend it.

### ARA31358 General Linguistics

This course covers a number of topics: Meaning and purpose of linguistics; difference between linguistics and philology, and history of this science among the Arabs and Europeans in the past and in modern times. Branches of this science include phonology, semiotics, morphology, syntax, and semantics. In addition, the course will cover other issues: definitions of language by ancient philologists and modern linguists, theories on writing systems, and origins of language.

### ARA31260 Hebrew Language II

This course, a continuation of Hebrew I, aims at achieving a deeper understanding of the Hebrew language. Arabic and Hebrew will be compared and students will be trained in translation between the two languages.

### ARA31411 Literature in Egypt and Greater Syria

A comprehensive analytical study of selected poetry texts from the Fatimid, Ayyubi and Mamluki ages, with emphasis on the study of holy war literature, Sufism poetry, and sectarian literature. The course also includes the study of writing and its subjects, oration and its topics and features, plus the publishing movement in general.

### ARA31412 Syntax III

This course covers a number of topics including prepositions, addition, vocative, present tense in the accusative or subjunctive cases, appositives, and the indeclinable. A grasp of language rules will greatly increase students' reading and writing capabilities.

### ARA31413 Modern Arabic Literature I

Beginning with a glimpse of literary life in the Ottoman age, the class then examines intellectual developments rendered by the French Revolution and the factors behind the European Renaissance in the 19th century. There will be a study of aspects of imitation and creativity in al-Baroudi's poetry, influence of the European Renaissance on Ahmad Shawki, Mutran, and al-Rasafi. Developments in poetry at the hands of Apollo's and Divan's groups as well as exile poets, and some free verse poets, are included. Literary texts are used to demonstrate these influences and developments.

### ARA31414 Arabic Philology

Topics covered in this course include development of the Arabic language, its phonemes, structures, morphemes; study of ancient Arabic dialects and their features; historical relationship between Arabic and other languages, and Semitic languages in particular. There will also be a study of some linguistic phenomena such as synonyms, antonyms, homonyms.

### ARA31415 Modern Arabic Literature II

In this course, the emphasis will be on the impact of modern renaissance on Arabic prose in the 19th and 20th centuries. Celebrities to be studied include Tahtawi and Shidyaq. And there will be a study of essay writing through Rifa'i's *Wahiyeh al Qalam*. Emphasis is also placed on early short story writing endeavors from Zeinab to Najib Mahfouz, and later. Time will be devoted to drama, starting with al-Naqqash, al-Qabani and Sannu', followed by Tawfiq al Hakim and others, using applicable study models.

### ARA31451 Special Topic in Literature of Egypt and Greater Syria

This is a study of a specific literary phenomenon from the Ayyubi and Mamluki ages. Of these topics, the course will introduce Divan al-Insha' or Almawsu'at, Sufism poetry, prophetic eulogy poetry ... A case study of a celebrity might be chosen. Of these, the students may take Amara al- Yamani, Osama al-Haddad, Osama Ibn al-Munkiz, al-Qadi al-Fadil, al-Busairee, al-Qalqashandi, etc ...

### ARA31452 Modern Palestinian Literature

This course surveys the history of Palestinian literature from the Renaissance until the present, and will highlight major genres of Palestinian literature: poetry, fiction and drama. It will also introduce major Palestinian authors in Palestine and in the Diaspora.

### ARA31453 Special Topic in Modern Palestinian Literature

Specific themes, common in Palestinian literature, such as land, resistance literature, exile literature, poetry of the Nakba (disaster of 1948) are examined. An artistic feature, such as symbolism in Palestinian literature, structure of novel or language in narrative prose, may be included. A study of a Palestinian writer such as Ghassan Kanafani, Jabra I. Jabra, Emil Habibi, Mahmoud Darwish or Samih al-Qassim, may highlight this course.

### ARA31416 Special Topic in Modern Arabic Literature

An outstanding topic in modern Arab literature, such as East and West in the Arabic novel, image of the Jew in Arabic literature, Arab heritage symbols in contemporary Arabic poetry will be embraced. Also introduced will be poetry, novel or short story celebrity writers such as Najib Mahfouz, Amal Dankal, and Abdel Wahab al-Bayyati, Abdel-Rahman Munif or Yousef Idris. Students may find contemporary Arab Feminist literature, or the influence of European poetry on contemporary Arabic poetry of interest.

### ARA31456 Schools of Arabic Grammar

This course traces the history of Arabic syntax, the stages of its development, and will cover schools of grammar such as al-Basriyyah, al-Kuffiyyah, al-Baghdadiyyah and al-Andalusiyyah. It will examine Arabic syntax fundamentals, such as theory of vowels, analogy and doer, in addition to issues of disagreement between Basra and Kuffa including biographies of people behind these schools.

### ARA31457 Syntax IV

This advanced course covers both theoretical and practical topics as well as derivatives in Arabic syntax. These include Vocative chapter, extracted from a heritage syntax book; at-Ta'liq, Ilgha and al-I'mal chapter; syntactic methods such as conditional method, questioning method, emphasis method, active participle, their structure and function and grammarians' opinions about them. Students will be drilled on these topics through prose and poetry texts, both modern and old, as well as other texts from the Holy Qur'an.

### ARA31454 Palestinian Popular literature

This course begins with an introduction to popular literature in general and then moves to Palestinian popular literature, in terms of its genres, elements, characteristics, themes and extension across time and place. This kind of literature is a literary art closely related to the environment in which it came into being. The course also raises the question of why we study Palestinian popular literature in particular and its association with the people's sentiments. The course also sheds light on leading lights of this literature and models from their literature.

### ARA31460 Comparative Literature

In this course, students will be introduced to literary intellectual contributions of other peoples and other cultures throughout different periods. The course also examines relationship between peoples' literary contributions and different cultures through analysis by using comparative literary methods. In addition, the students will learn about the history of comparative literature. The relationship between different world literatures and national literatures will also be investigated. The course also covers other topics: fields of research in comparative literature and methods, worldliness of literature and its factors, literary patterns, human models, literary schools, comparative literature conferences and their roles.

## ARA31461 Methods of Teaching Arabic

As implied by the title, the course introduces methods of teaching Arabic language skills appropriate to the learner's stage of development.

### FACULTY MEMBERS

#### *Full Professors*

Ibrahim al-Khawaja

Ph.D. in Umayyad Literature,  
University of Cairo, Cairo, Egypt, 1977.

Ahmed Hamed

Ph.D. in Syntax and General Linguistics,  
University of Alexandria, Alexandria, Egypt, 1978.

Mohammed Noufal

Ph.D. in Abbassid Literature,  
Al-Azhar University, Cairo, Egypt, 1979.

Yahya Jabr

Ph.D. in Linguistics,  
University of Cairo, Cairo, Egypt, 1977.

Adel Abu-Amsha

Ph.D. in Modern Literature,  
Umm al-Qura University, Mecca, Saudi Arabia, 1981.

Mohammed Jawad al-Noori

Ph.D. in Linguistic Sciences,  
Ein Shams University, Ein Shams, Egypt, 1982.

Wael Abu-Saleh

Ph.D. in Andalusian Studies,  
University of Alexandria, Alexandria, Egypt, 1982.

Khalil Odeh

Ph.D. in Arabic Rhetoric,  
University of Cairo, Cairo, Egypt, 1987.

#### *Associate Professors*

Adel al-Ostah

Modern Literature and Criticism,  
University of Bamberg, Berlin, Germany, 1991.

Hamdi al-Jabali

Ph.D. in Language and Syntax,  
University of Jordan, Amman, Jordan, 1995.

Mohammed al-Raba'

Ph.D. in Syntax, University of Jordan,  
Amman, Jordan, 1995.

#### *Assistant Professors*

Ghanem Miz'il

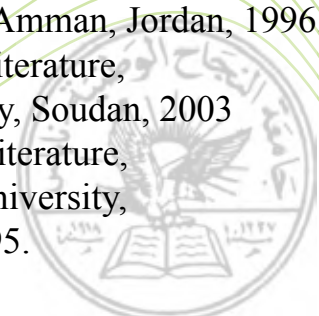
Ph.D. in Comparative Literature:  
Semitic Comparative Literature,  
University of Bamberg, Berlin, Germany, 1993.

Ihsan Al-Deek

Ph.D. in Pre-Islamic Literature,  
University of Jordan, Amman, Jordan, 1996.

Fathi Khader

Ph.D. in Pre-Islamic Literature,  
An-Neelayn University, Soudan, 2003  
M.A. in Pre-Islamic Literature,  
An-Najah National University,  
Nablus, Palestine, 1995.



# DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE

## Curriculum Plan

The Department of English Language and Literature offers a single specialization in English language and literature. Students wishing to obtain a B.A. in this single specialization must successfully complete 141 credit hours: of these, 23 are University requirements, 27, College, 90, Department (69 as compulsory and 21 as elective), and the one-credit-hour Qualifying Exam.

## Requirements for admission:

A. Requirements for admission to single specialization:

1. A minimum of 70% in each of E10103 and E10323; their average counts for 20% (of total specialization grade).\*
2. A minimum of 70% in each of E32111 and E32112; their average counts for 45%.
3. The English Proficiency Examination, given twice at the end of the second semester and of the summer session of the academic year, counts for 35%. \*\*

B. Applicants for admission to single specialization will be arranged in descending order according to their specialization grades. \*\*\*

C. A student can sit for the English Proficiency Exam only once.

D. A student takes E10103, E10323, E32111 and E32112 for the purpose of competing for the English Major only once; however, if a student achieves the English specialization grade determined for admission into the Department, without having fulfilled a Major condition of a course of the four aforementioned, then he/she may repeat, for one time only, the course concerned to meet the Major condition related to that course.

If a student fails to meet the Major condition for the second time, s/he is denied admission and has to seek another major within the College of Arts.

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\* A student who achieves a grade below 50% on the Placement Exam has to study E100, first.

\*\* In certain conditions (e.g., a reasonable number of students who are to sit for it), it might also be given at the end of the 1st semester.

\*\*\* Number of applicants admitted, starting from the highest Major average, is usually determined from year to year.

## 1. College compulsory requirements: 7 courses (21 credits)

Course #	Course title	Credit hours
31111	Introduction to Literary Appreciation	3
32111	College English I	3
33111	History of Modern Thought	3
34111	Geography of Palestine	3
35112	Arab Society	3
36112	Introduction to History of Ancient Civilization	3
37111	Introduction to Mass Media	3

## 2. College electives

Course #	Course title	Credit hours
31112	Arabic Library	3
31113	Principles of Syntax	3
32112	College English II	3
32113	Spanish I	3
32114	Spanish II	3
32115	German I	3
32116	German II	3
32117	Turkish I	3
33113	History of Islamic Civilization	3
34112	Introduction to Human Geography	3
34113	Introduction to Physical Geography	3
35111	Introduction to Sociology	3
35113	Refugees and Involuntary Emigration	3
36113	Introduction to Ancient History of Palestine and Jordan	3
37112	Mass Media in Arabic	3
38111	Writing Practice in French I	3
38112	Oral Communication in French	3
31112	Arabic Library	3

## 3. Compulsory courses (73 credit hrs)

Course #	Course Title	Credit Hrs.	Prerequisite
32200	Conversation and Aural Comprehension	3	32111
32202	Advanced Grammar	3	10323
32203	Writing and Research	3	32112
32234	Introduction to Linguistics	3	-
32236	Phonetics and Phonology	3	32234
32260	Introduction to Literature	3	-
32261	The Novel and the Short Story	3	32260
32262	Poetry	3	32260
32271	Western Civilization	3	32260
32303	Advanced Writing	3	32203
32340	Syntax and Syntactic Theory	3	32234
32343	Semantics	3	32234
32360	Drama	3	32260
32361	English Literature Through Late C18 : Survey-I	3	32261+32262



32362	English Literature From Late C18th Onward : Survey II	3	32361
32386	Contrastive Linguistics	3	32236+32340
32390	Translation I	3	32202+32203+D's. P.
32420	History of the English Language	3	32340
32459	Literary Criticism	3	32362
32460	American Literature: Survey	3	32361
32462	Shakespeare	3	32360
32490	Research Methodology	3	32203
72392	Teaching Aid Design	3	72363 or 32386
72403	Practicum	3	72363 or 32386
32499	Graduation Project	1	Prospective raduation Semester

\* D's.P.: Department's Permission.

#### 4. Electives(21 credit hours)

Student is to take 21 credit hours from this section and has to select at least three courses from each of the following two lists. Student's interest decides the remaining 03 hours (from the areas of Language, Linguistics or Literature).

#### A: Language and Linguistics

Course #	Course Title	Credit Hrs.	Prerequisite
32220	Oral Communication	3	32200
32223	The English Essay	3	32203
32263	Cultural Studies	3	32112
32323	Morphology	3	32236
32344	Schools of Linguistics	3	32234
32418	Teaching of English as a Foreign Language - I – TEFL - I	3	32386
32439	Computational Linguistics	3	32340
32440	Applied Linguistics	3	32340
32441	Sociolinguistics	3	32236
32442	Psycholinguistics	3	32340+32343
32443	Discourse Analysis	3	32340+32343
32450	Special Topic in Linguistics	3	32340+D's. P.
32491	Translation II	3	32390
72363	English Teaching Methods (for the H Basic stage )	3	32340
72368	Teaching Skills	3	32234

#### B: Literature

Course #	Course Title	Credit Hrs.	Prerequisite
32338	Autobiography	3	32261
32373	The Romantic Age	3	32262
32377	The Development of the Novel	3	32261
32378	C18th Literature Excluding the Novel	3	32261+32262
32379	The Victorian Age	3	32361
32470	Post-Colonial Literature	3	32362
32476	World Literature	3	32361
32477	C20th British Literature	3	32362

32478	C20th American Literature	3	32460
32480	Special Topic in Literature	3	32362+D's.P.
32483	Studies in an English Literary Movement	3	32362+D's.P.
32484	Comparative Literature	3	32362+D's.P.
32492	Language and Literature	3	32260+32340

\* D's. P.: Department's Permission

Note: This plan applies to English Majors from 1<sup>st</sup> Semester 2006/2007.

## Course Descriptions

### 1. College compulsory courses

#### ART31111 Introduction to Literary Appreciation

This course introduces students to the artistic, intellectual and psychological dimensions of the literary text; it improves their reading abilities, thus establishing an affective relationship between themselves and the text, on the one hand, and with text and its social environment and values, on the other.

#### ART32111 College English I

This course emphasizes the major comprehension skills: scanning, skimming, understanding meaning of difficult words from context, drawing inferences, differentiating between literal and non-literal meaning. The course also aims at developing the skill of summarizing a text. In the writing part, emphasis will be on note taking, vocabulary acquisition, completing application forms, writing a summary, and advertisements. The grammatical part focuses on verb tenses, parts of speech, conditionals, and formulation of questions.

#### ART33111 History of Arab Thought

The purpose of this course is to study the modern (European) intellectual trends and Arabs' intellectual trends in particular. The course begins with an examination of the factors behind European Renaissance from the 16th-19th centuries. The course looks closely at the factors behind intellectual renaissance in the Arab World, namely, it provides a study and an analysis of religious trends and movements, such as salafiyah (Islamic reform movement) and modernism, political trends such as the Islamic League, Ottoman League, the national, regional and pan-Arabism movements, social factors, underdevelopment and its underlying causes, social justice, freedom, equality, emancipation of women; and finally, it examines scientific factors.

#### ART34111 Geography of Palestine

This is a regional study of Historical Palestine before 1948, the impact of historical events on it, political upheavals that have been storming the country for a long time, particularly from economic, human, and geographical perspectives.

### **ART35112 Arab Society**

This course covers a number of topics such as: social institutions, social changes in the contemporary Arab World, Arab family, kinship system, ideological and class divisions. This course places some emphasis on the problems of growth and modernization.

### **ART36112 Introduction to History of Ancient Civilizations**

This course is a study of Ancient East in terms of states and kingdoms established there and in terms of relationships among them politically and culturally. The course will also identify most important cultural centers in the Ancient East and the extent of man's contribution, in the area, to human civilization in general.

### **ART37111 Introduction to Mass Media**

In general, this course is an introduction to the principles, concepts and basic theories in public communication. The course introduces various mass media systems, print and electronic, and also traces the historical development of basic public mass media: books, newspapers, periodicals, cinema, radio and television.

## **2.College Elective Courses**

### **ART31112 Arabic Library**

This course introduces Arabic writing movements from different dimensions. The course also introduces mainly Arabic heritage library, particularly prose and poetry library and its two streams: literary and linguistic. Students also receive training on how to deal directly with these primary sources.

### **ART31113 Principles of Syntax**

In this course, student will receive instruction in general linguistic rules which help the student formulate a correct Arabic sentence. These rules include definition of grammatical terms, Arabic sentence and its types, number and its rules, grammatical tools representing syntactic methods such as conditional tools, question words and negation words. Students also learn about the principles of constructing the nominative or indicative in Arabic grammar. Student will apply these theoretical rules. These include selected texts taken from heritage books or volumes of classical poetry. Students are expected to make analysis of these texts, note down general grammatical information, thus helping them avoid mistakes in the mechanics of writing.

### **ART32112 College English II**

This course begins with a review of all types of sentences in English, and then proceeds to paragraph writing. Students learn how to write a topic sentence, develop and support it with examples. Students also learn how to organize their writing to achieve coherence among sentences in a paragraph. In addition, students learn about

different modes of writing: argumentation, description, definition, comparison and contrast, cause and effect, narration and classification. The course also covers other writing styles such as C.V. and application form completion, in addition to cover letters. At the end of the course, students will again go over basic grammatical rules. If time allows, student may also learn about essay writing.

### **ART32113 Spanish I**

This is a course for beginners. The course primarily depends on the integration of the four language skills. It teaches students, in a simplified way, the basics of Spanish grammar. Students will be exposed to Spanish-oriented cultural texts in order to introduce students to Spanish society and civilization. This course should enable students to understand spoken Spanish and allow them to express themselves in writing

### **ART32114 Spanish II**

This course is a continuation of Spanish I 32113. In this course, students learn more basics of Spanish grammar and oral communication in Spanish. The course emphasizes advanced vocabulary and rules of grammar, correct pronunciation, the hows of writing common expressions used in spoken and written language. The course will also deepen students' knowledge of the Spanish society.

### **ART32115 German I (for beginners)**

This course teaches words and grammatical structures and rules mostly used in daily communication. The course covers a number of things: greetings, introducing people, naming household things, like food and drinks, ordering a meal, entertaining visitors, managing work, making arrangements for appointments, renting an apartment, buying things, ... etc.

### **ART32116 German II**

This course is a continuation of German I 32115. By the end of the course, students should have learned the basics of German grammar. Students will also learn how to communicate with native speakers of German. This course covers a number of topics: description of pain, providing advice, narrating a story/reporting an event, talking about urban life, traffic, marketing, German culture, and German-speaking countries.

### **ART32117 Turkish Language (1)**

The course takes an integrated skills approach to teaching oral and written communications. It introduces language grammars at a basic level for students who study Turkish for the first time. The course is also meant to introduce the Turkish society, culture and civilization to Palestinian learners.

### **ART33113 History of Islamic Civilization**

This course dwells on the following topics: concept of civilization and urbanism, difference between cultural and historical study, emergence of cultural studies, measures of civilization, potentials and elements of civilization, as well as social and historical potentials for the emergence of the Islamic civilization, the Holy Qur'an as

the basis of Islamic civilization, elements and characteristics of Islamic civilization, status of Islamic civilization among other civilizations and its impact on them.

### **ART34112 Introduction to Human Geography**

This course examines human geographic research methodologies, the most important schools of thought, and how man came into being on earth and how he spread out.

### **ART34113 Introduction to Physical Geography**

This course introduces a number of topics: solar system, celestial bodies, theories on origin of this planet, age, dimensions and structure of stones, seas, oceans and their origin, movement of sea and ocean waters, climate, soil, water, formation of earth surface phenomena.

### **ART35111 Introduction to Sociology**

This is an introduction to basic concepts in sociology, social behavior, and scholarly methods used in sociological analysis.

### **ART35113 Refugees and Involuntary Emigration**

The purpose of this course is to acquaint students with the refugee phenomenon in a global context. The course begins with the historical development of refugee movements, reasons for seeking refuge, the refugee experience including accompanying social and psychological effects, especially when it comes to the life of refugees in a camp environment. Also this course looks at the influences of international policies and humanitarian aid, the role of donors, and policies of countries hosting refugees.

The role of international law in ameliorating the plight of the refugee and the theoretical frameworks, which have endeavored to explain this phenomenon, are addressed. Inevitably and specifically, the subject comes close to home with the longstanding anguish of our own Palestinian refugees, and deals with factors contributing to their displacement and homelessness, both here and in adjacent countries. Some light is also shed on the transfer process through its stages, and the resulting suffering inflicted on Palestinian people. The course concludes with some emphasis on increasing political awareness among the refugees, their role in the P.L.O., the mandate of the international community to protect Palestinian refugees, and the international initiatives proposed to solve their plight.

### **ART36113 Introduction to Ancient History of Palestine and Jordan**

A study of historical ages of both Palestine and Jordan, course 36113 starts from the Old Stone Age up to the Iron Age. Further, the course highlights the relationships between Palestine and neighboring empires, especially those in Iraq and Egypt. The course also touches on cultural achievements of the region in past ages.

### **ART37112 Mass Media (in Arabic)**

An introduction to journalistic editing, this course reinforces students' command of the Arabic language and strengthens self-expression abilities through writing effectively and with clarity. The following areas are covered: Grammatical and morphological rules

with emphasis on the countable, uncountable, the plural, the numbers, the dual, and the indeclinable, etc.; correct spelling; correct punctuation rules; journalistic idioms. The theoretical part of the course will be supported with examples and models culled from local newspapers, magazines and journals, in Arabic. This will acquaint students with the language of mass media and common mistakes (goofs) made by people in the field.

### **ART38111 Writing Practice in French I**

This course, which introduces the French alphabet and method of writing words, masculine and feminine nouns, singular and plural, also includes sentence level, types of sentences, personal pronouns, verb conjugations, direct and indirect objects. Visual aids such as drawings and pictures are used to advantage. Editing short responses, accepting or turning down offers, giving thanks or apology, brief justifications of answers, are some learning exercises.

### **ART38112 Oral Communication in French**

This course teaches spoken French through the use of modern teaching methods typically employed in non-Francophone countries. At the end of this course, students are expected to speak and understand some French, especially when it comes to introducing themselves, getting to know others, and holding simple conversations or chats.

## **Course Description**

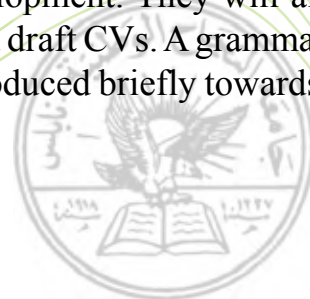
### **I. College of Arts Requirements:**

#### **€32111 College English I**

This course focuses on key comprehension skills, such as locating main ideas and supporting details, understanding vocabulary in context, making inferences, finding transitions, distinguishing literal and non-literal interpretations, and summarizing. The writing part of the course emphasizes organizing vocabulary lists, taking notes, writing summaries, filling in tables, and writing advertisements. The grammar part of the course focuses on tenses (present and perfect), markers, word forms, conditionals and question forms.

#### **€32112 College English II**

This course begins with a review of effective sentences, then focuses on the paragraph. Students will be taught to develop topic sentences into unified and coherent paragraphs using different methods of paragraph development. They will also learn how to fill out application forms, write cover letters, and draft CVs. A grammar review is an essential part of this course. The essay will be introduced briefly towards the end of the semester.



## II . English Major Requirements :

### A. Compulsory Courses

#### €32200 Conversation and Aural Comprehension

This course aims at improving the students' speaking and listening skills, increasing their vocabulary, and training them in the functions and notions of language. Students practice using formal and informal English in a variety of situations. The aims of the course are to be achieved through organizing group activities, discussions, role-playing, and listening to cassette tapes, among other things.

#### €32202 Advanced Grammar

This course employs an eclectic approach to the study of grammar. It introduces students to advanced and complex grammatical structures and systematically relates these structures to meanings, uses, and situations.

#### €32203 Writing and Research

This course begins with a review of the paragraph before it focuses on the expository essay. Students will read different kinds of expository essays (description, comparison/contrast, process, classification, definition, persuasion) and will learn how to write them. Emphasis will be put on writing effective thesis statements, introductions, and conclusions, and on developing generally unified and coherent essays. Students will also be taught how to edit their work. They will practice answering essay questions and writing about literature. The course will briefly introduce the research paper.

#### €32234 Introduction to Linguistics

This course is an introduction to the study of language, including branches of linguistics and the relationship of linguistics to other fields.

#### €32236 Phonetics and Phonology

The Phonetics part of the course trains the students in Linear Transcription System and in production and perception of speech sounds. It provides students with the description of sounds (place and manner of articulation) and their classification into consonants, vowels and diphthongs. The Phonology part of the course is concerned with the distribution and relations of sounds. It also provides the students with the various phonological processes and rules.

#### €32260 Introduction to Literature

This course introduces students to different theories of the meaning of literature. Through the study of representative literary texts, students learn the basic principles of literary interpretation and the elements of different literary forms such as the short story, novel, drama, and poetry.

#### €32261 The Novel and The Short Story

This course trains students in the analysis of fiction, particularly the structure of novels and short stories, by studying representative English and American specimens of these genres.

#### €32262 Poetry

Through the study of a wide-ranging selection of works by well-known British and American poets, this course provides a close analysis of the language and stylistic features of poetry. The poetry features studied include structure, diction, prosody and the various sound devices used by the poets in the creation of images. The course also

introduces various poetic forms: narrative poetry (epic, ballad, dramatic monologue, etc.), lyric poetry (sonnet, elegy, ode etc.), and modern free verse.

### €32271 Western Civilization

This course first introduces the Graeco-Roman mythological heritage and biblical legacy needed for students to understand omnipresent reference and allusion in English literature, especially from the Renaissance onwards. It then moves to an examination of the visionary and artistic impulse in the writings of such masters of Renaissance thought and culture as Erasmus, Machiavelli, Montaigne, Cervantes, Dante, Rabelais and perhaps Petrarch, (Edmund) Spenser, Shakespeare and Milton, amongst quite a few others.

### €32303 Advanced Writing

Through in and out of class writing, the students in this course will practice various modes of expressive, literary, and technical writing. They will also learn how to write letters, advertisements, abstracts, CV's, newspaper headlines, questionnaires, book reviews and reports, proposals, and articles.

### €32340 Syntax and Syntactic Theory

This course focuses on theory and practice in the analysis and description of modern English, emphasizing syntax.

### €32343 Semantics

This course introduces students to the basic concepts in Semantics such as Reference and Sense, Sense Relations, Word Meaning, Sentence Meaning and Utterance Meaning (Pragmatics), and Propositions. Students will also be introduced to the nature of Logic and Interpersonal Meaning.

### €32360 Drama

This course studies masterpieces of dramatic works from the Greek period through present times, for the purpose of understanding a dramatic structure and the social function of the dramatic art. Writers studied include Sophocles, Shakespeare, Shaw, Beckett, and Pinter, among others.

### €32361 English Literature Through Late Eighteenth Century: A Survey-I

This course surveys the developments and evolutions in English literature from the sixth century until the late eighteenth century. The course traces the major literary schools and genres, the most prominent literary figures and works, and the socio-political background of the major texts.

### €32362 English Literature from Late Eighteenth Century Onward: A Survey-II

This course surveys English literature from the Romantic Age to the twentieth century by looking at representative texts in various genres. The course also emphasizes the relationship between literature and its environment.

### €32386 (€32331) Contrastive Linguistics

This course focuses on theory and practice in the analysis of English and Arabic contrasts, errors made by learners, and implications for foreign language teaching.

### €32390 Translation I

This course aims at helping students acquire the basic skills of translation in both Arabic and English. It provides them with sufficient training in translating simple, compound, and complex sentences from English into Arabic and from Arabic into



English. A variety of texts in different disciplines will be used for translation. The course focuses on problematic areas in translation from English and Arabic, particularly the differences between Arabic and English in word order, position of adjectives, noun endings, etc. The course also looks into the influence of cultural difference on translation and provides a brief introduction to translation theories.

### €32420 History of the English Language

This course studies the historical development of English, emphasizing phonological, syntactic, semantic and lexical changes.

### €32459 Literary Criticism

This course maps literary criticism from Plato to the modern age with a focus on modern critical theory. Students will closely read texts that “represent” Classical, Neo-Classical, Romantic, Modern and post-modern theory. Students will also study various modern and post-modernist critical theories, such as Mythical and Archetypal approaches, Structuralism, Deconstruction, Psychoanalysis, Marxism, Feminism, and postcolonialism. Critical theories will also be applied to literary texts.

### €32460 American Literature: A Survey

This course surveys American literature, its forms, styles, techniques, subject matter and vision, from the colonial period through the twentieth century.

### €32462 Shakespeare

Shakespeare’s dramatic art, along with its techniques, styles and vision, is the focus of the course. Plays of different modes will be studied.

### €32490 Research Methodology

Emphasizing critical thinking, this course teaches students to write research papers on literature and linguistics. Students will practice narrowing a topic, designing questionnaires, conducting interviews, using the library, and documenting sources. Students are also introduced to aims, methods and tools of research.

### €32499 Graduation Project (On credit hour )(semester of expected graduation)

In this course, students write an original research paper which should show their linguistic and cognitive competence. The paper should also indicate that the students have acquired the basic skills needed to deal with research problems, collect and analyze research data, and then make conclusion about research problems. Students who are expected to graduate are to register in this course . They choose research topics in Language , Linguistics, Literature or Translation , and work closely with a supervisor on one of these topics according to scientific research methods and analysis.

### 72392 Design and Production of Teaching Aids for Students Majoring in English

This course “Design and Production of Teaching Aids for Students Majoring in English”

(72392) includes the following concerns : the concept of teaching aids, their attributes and components, and their sources and methods as well . It also covers educational panels, figures and copiers Their role in improving teaching and learning processes is also illustrated sufficiently. Along with the afore-said items, this course discusses these important issues:

- Organs of teaching aids,
- How to use teaching aids,

History of the use of teaching aids,  
Educational methods and curriculum,  
How do the computer and the internet affect teaching and learning ,  
Criteria for the selection of the means of education, and  
Obstacles that affect the selection and use of teaching aids.

### **72403 Practicum**

This compulsory course in Student Teaching seeks to provide students with sufficient background about the different approaches, issues, practices in teaching and learning English.

The benefits of teaching such a course are exposing students to real classroom practices via observing micro films or via visiting schools and watching teachers performing real classes.

Additionally, it helps students understand how to plan for lessons and units. Students are also given a sufficient idea about “teaching practices”.

### **B. Electives**

#### **1. Language and Linguistics**

#### **€32220 Oral Communication**

This course emphasizes higher level skills such as debating, giving presentations, inferencing, defending ideas, using telephone skills, etc. English for work and real-world situations is emphasized through exposing students to listening activities and through speaking.

#### **€32223 The English Essay**

A study of masterpieces by English essayists from Bacon on, for the purpose of analysis and imitation.

#### **€32263 Cultural Studies (prereq. 32260)**

The aim of this course is to enable students to deal with cultural outputs from broad perspectives related to their economic , social and political environment . The course helps students develop critical and analytical skills needed to comprehend academic and cultural English texts with an eye on exposing them to world experiences they have never experienced before . One of the primary concerns of the cultural theory is that its intellectual viewpoints cover different aspects of various materials that can be considered textual and hence explainable . The course material includes some literary works , movies , radios and TV programs, photos, editorials, political speeches, and architectural designs. The course, therefore, equips students with critical viewpoints and theoretical tools needed to comprehend and interact with this material . In the end, students are expected to write down their responses to the assigned material, raise questions about it and then discuss it in the classroom.

#### **€32323 Morphology (3 credit hrs.;prereq.32236)**

Is that branch of linguistics which deals with the inner structure of the listeme including idioms, compounds or single words . As a course offered by the English Department it emphasizes English morphology but also introduce students to the morphologies of various languages including Arabic , Turkish , Chinese , and so on.

#### **€32344 Schools of Linguistics**

The course introduces students to the linguistic theory in general. It critically surveys the different theories in linguistics such as the Traditional (including the Arabic linguistic tradition), Historical, Structural, Functional, Firthian, and Transformational-Generative theories.

### €32414 (€32314) TEFL I

This course provides English majors with a theoretical background to a methodology for English teaching and learning. It also examines acquisition vs. learning, the use of a balanced-activities-approach to the teaching of English as a foreign language, and deals with ways in which the communicative approaches or (innovative methods) can be taught to foreign students. It is also concerned with the basic principles and techniques used in the classroom, namely, management and planning, and attitudes of teachers to students and to teaching in general.

### €32439 Computational Linguistics

This course introduces students of the English language to general ideas about computers. Students will learn about the function of computers in the rapidly-expanding world of hi-tech information technologies. It will help them use computers to analyze and treat linguistic problems in such areas as translation, teaching, and data base and dictionary making.

### €32440 Applied Linguistics

This course aims at providing theoretical bases for certain pedagogical procedures, philosophies and techniques. In other words, the findings of theoretical linguistics are applied in matters like foreign language teaching, speech therapy and so on. Language as a means of communication is viewed with respect to the social setting in which that language is used, so sociolinguistics and language variation are major topics here. Moreover, pragmatics constitutes another major area in this course.

### €32441 Sociolinguistics

This course studies the role and function of language in society and of language variation, introducing notions such as standard and nonstandard varieties, idiolect and dialect, bilingualism and diglossia, pidginization and creolization, and language policy and planning.

### €32442 Psycholinguistics

This course studies the relationship between language and the mind, dealing with perception, processing, and learning of language, and language acquisition universals.

### €32443 Discourse Analysis

This course introduces the students to the concept of discourse adopted by modern linguists as an alternative to the traditional unit of analysis, the isolated sentence. Thus, the course deals with the contextual features surrounding the communicative act, namely, the speaker/writer, the listener/reader and the topic. The issues to be addressed are the theme/rheme assignment, the address terms, the familiar and formal levels of language use in addition to the distinct features of religious, political feminist

or sexist and leftist discourse. Samples of the spoken and written discourse are also presented for analysis to guide students to write in both modes.

### €32450 Special Topic in Linguistics

This course focuses on any issue in linguistics which the instructor sees significant.

### €32491 Translation II

This course emphasizes translation of business and publicity materials, including practice in simultaneous translation.

## 2. Literature

### €32338 Autobiography

This course addresses autobiography as a genre in both British and American Literatures. Autobiography as an independent genre, therefore, is to be distinguished from the general autobiographical impulse that virtually many works of literature integrate. Simulated autobiography, however, is a popular device in fiction and some novels on occasion can be autobiography in the guise of fiction. An ambitious syllabus of this course may trace autobiography to its roots; Saint Augustine is considered the first biographer in English Literature and Benjamin Franklin is the father of American autobiography. In 20<sup>th</sup> Century Literature, the art of autobiography gained momentum; there is an increased interest in the lives of celebrities and a genuine interest in the making of self-made men and women. It is always possible to compile a list of autobiographies that can be a chronological representation of the development of autobiography as a genre and of the different themes, devices and features of autobiography as an art. Students are encouraged to read as many autobiographies as possible and to examine the common features of this genre with a critical eye on its different aspects.

### €32373 The Romantic Age

The topic of this course is the counter-revolt in aesthetics and vision of the late eighteenth and nineteenth centuries. Emphasis falls on poetry. The student is to read and analyze representative poems by Blake, Wordsworth, Coleridge, Shelley, Keats and Byron. The student will also be exposed to Romantic thought in other genres.

### €32377 The Development of the Novel (3 Cr. hrs.; Prereq. €32261)

This course traces the historical development of English and American novels from the 18th century to the present. The novel as a genre is a substantial part of this course; novel types, techniques and elements are explored. In preparing a syllabus for this course, instructors may choose to include representative novels of each age and each type. Whereas a quick look at the novels of the C18th may suffice, 19th and 20th Century novels would be the concern of the course.

The novels of Defoe, Richardson, Fielding, Smollett, Sterne and Goldsmith stand at the source of the English novel, but the 19th Century saw the flowering of the English and American novel. Austen, Scott, Dickens, Thackeray, Hardy and Eliot created great fictional domains loaded with social types and melodramatic plots. In America, Cooper, Hawthorne, Melville, Howells, James are the pioneers and the makers of the great American

masterpieces in fiction. In the twentieth century, novelists both in Britain and America probed deeply in the human mind offering new techniques and trends in fiction. The stream of consciousness technique was the major contribution of Virginia Woolf, James Joyce and William Faulkner.

### €32378 Eighteenth-Century English Literature Excluding the Novel

This course covers a wide range of the poetry, prose and drama of the England of the 18th-century literature. Studies include verse and prose, essays, journals, biographies, pamphlets, letters and periodical articles. Insights into the philosophical and literary impulses of the times, and the political, religious and social changes, that ushered in the Age of Reason, are provided through close readings of works by Hume, Chesterfield, Goldsmith, Swift, Pope, (Dr.) Johnson, Boswell and Sheridan, amongst quite a few others.

### €32379 The Victorian Age

The course covers Romantic poetry in its decay, premodern and decadent poetry of the 1880s and '90s, Victorian thought and some representative fiction. Tennyson, Arnold, Carlyle, the Brownings, Rossetti, Swinburne, Dickens, (George) Eliot, Pater, Thackeray, Ruskin, Mill and Morris are, amongst others, the major writers to be dealt with in the course.

### €32470 Post-Colonial Literature

This course introduces students to the new and influential field of postcolonial studies, focusing on post-colonial writers from Africa, India, the Caribbean, and the Middle East who through their writings engaged with their countries' colonial heritage on many levels. It also highlights these writers' response to the ways English literature served and/or contested the British Empire's colonial project (in texts, by such authors as Defoe, (Charlotte) Bronte, Hardy, Kipling, Conrad and J. M. Coetzee), and to colonialism, in general. Readings include novels, short stories, poetry, and essays by such writers as Chinua Achebe, Jean Rhys, Derek Walcott, Jamaica Kincaid and Kamala Markandaya. In addition, students will read some of the most important theoreticians of the field such as Frantz Fanon, Edward Said and Ngugi wa Thiongo. Among the key issues and themes that will be examined in detail are representations of the Other, language, history, identity, hybridity, intertextuality, and place and displacement.

### €32476 World Literature

This is a "Great Books" course that introduces the student to multi-genre world texts for the purpose of analysis, evaluation, and comparison and contrast.

### €32477 Twentieth-Century British Literature

The course first introduces students to the socio-political-intellectual background out of which modern British literature emerged, to the aesthetics that govern its artistic output, and the evolutions in critical theory and techniques that have been shaping British literature since WWII. Students then study, and evaluate, multi-genre masterpieces by trend-setting authors.

### €32478 C20th American Literature

C20th American Literature is a readings course which aims at introducing some major 20th Century American writers in the major genres: poetry, fiction, drama, biography and autobiography. The following writers are common choices in almost all syllabi: Robinson, Frost, Pound, Eliot, Cummings, Stevens, Williams, Lowell,

Sexton, Plath, Hemingway, Faulkner, Steinbeck, Wright, Hughes, Ellison, Bellow, O'Neill, Tennessee Williams, Albee and Baraka. Further, C20th Literature, especially the contemporary part, is marked with a mosaic of multiculturalism and ethnicity. Instructors may choose to include some ethnic writers including the Afro-American group. In studying works by 20th century writers, students are encouraged to look for the general C20th motifs, movements, impulses and trends that are uniquely modern.

### €32480 Special Topic in Literature

This course is focused on any literary figure, movement, or issue deemed significant by the instructor.

### €32483 Studies in an English Literary Movement

This course aims at acquainting students with the sequence and nature of the literary movements across ages. The neoclassical movement of the 18th Century is a possible point of departure. The 19th century opens with the optimistic romantic movement, followed by the less optimistic realism of the second half, only to close with the pessimistic determinism of the naturalism of the last decade. The 20th Century opens with, and passes through, the two major wars leaving little hope for optimism; the pessimism of the last decade of the 19th Century is pushed to its limits leading writers to the domains of the alienation and nothingness of the existential movement and the consequent absurdism of the second half of the century. The literary movements of the 20th century, however, are so diversified to allow for the easy labeling of the previous centuries. Surrealism, modernism, post-modernism, socialism, imagism, symbolism and feminism are among the literary movements and concepts that twentieth century produced and promoted. Students, therefore, are expected to read works that are representative of some of these movements and to examine the common features and the manifestation of these features in the assigned works.

### €32484 Comparative Literature

This course introduces students to different theories of comparative literature and gives them a chance to compare aspects of English and Arabic literary traditions. Using both a cognitive/cultural approach and a historical/contextual approach, students will trace the similarities and differences between these literary traditions. They will also deal with the issue of influence or impact, examining how one tradition borrows from, or reacts, to another.

### €32492 Language and Literature

The main topic of this course is the use of linguistic tools, models, approaches (including discourse analysis) in the understanding and analysis of literature, and the application of such methodology to the analysis and evaluation of selected literary texts.



## **FACULTY MEMBERS**

### ***Full Professors***

Rami al-Hamdallah Ph.D. in Applied Linguistics,  
University of Lancaster, U.K., 1988.

### ***Associate Professors***

Abdallah Salhab Ph.D. in General Linguistics,  
The University of Nebraska at Lincoln, Neb.,  
U.S.A., 1986.

### ***Assistant Professors***

Odeh Odeh Ph.D. in British Literature,  
University of Southern Illinois at Carbondale,  
U.S.A., 1981.

Nabil Alawi Ph.D. in 19th Century American Literature,  
University of Tennessee at Knoxville, U.S.A., 1990.

Ruqqayya Herzallah Ph.D. in Theoretical Linguistics,  
University of Cornell, U.S.A., 1990.

### ***Lecturers***

Fathallah Halaweh M.A. in British Literature,  
New York State University at Binghamton,  
U.S.A., 1980.

### ***Instructors***

Mary Fattash M.A. in English Literature,  
Aligarh Muslim University, India, 1980.

Muna Thaher M.A. in TESOL,  
Arizona State University, Tempe, U.S.A., 1987.

Sameer Mahmoud M.A. in British and American Literatures,  
Michigan State University, Lansing, U.S.A., 1988.

Wafa' Abu Shmeis M.A. in TEFL, University of Southern Illinois  
at Carbondale, Carbondale, U.S.A., 1985.

Ekremah Shehab M.A. in Translation,  
Yarmouk University, Irbid, Jordan, 1997.

Abdel Jabbar al-Khalilee M.A. in Translation & Linguistics,  
University of Bath, U.K., 1985.

Faridah al-Asmar Fatayer M.A. in Teaching English as a Second Language,  
Queens College of the City University of  
New York, U.S.A., 1983.

Abdel Karim Daraghmeh M.A. in English Literature and Criticism,  
Yarmouk University, Irbid, Jordan, 1996. (on leave)

Reema Bustami M.A. in English Teaching Methods,  
An-Najah National University, Nablus,  
Palestine, 1999.

Abd Al-Rahman Qa'dan M.A. in English Language and Literature,  
Northampton University, UK, 2002

Eyman Hammad M.A. in English Literature,  
Jordan University, Jordan, 1994

# DEPARTMENT OF HISTORY

## I. Requirements for a B.A. degree in History

Students wishing to obtain a B.A. in this specialization must successfully complete 131 credit hours: 23 university courses, 27 college, 75 department (45 as compulsory and 30 as elective), in addition to "free" requirements.

### 1. College compulsory requirements: 7 courses (21 credits)

Course #	Course title	Credit hours
31111	Introduction to Literary Appreciation	3
32111	College English I	3
33111	History of Modern Thought	3
34111	Geography of Palestine	3
35112	Arab Society	3
36112	Introduction to History of Ancient Civilization	3
37111	Introduction to Mass Media	3

### 2. College electives

Course #	Course title	Credit hours
31112	Arabic Library	3
31113	Principles of Syntax	3
32112	College English II	3
32113	Spanish I	3
32114	Spanish II	3
32115	German I	3
32116	German II	3
32117	Turkish I	3
33113	History of Islamic Civilization	3
34112	Introduction to Human Geography	3
34113	Introduction to Physical Geography	3
35111	Introduction to Sociology	3
35113	Refugees and Involuntary Emigration	3
36113	Introduction to Ancient History of Palestine and Jordan	3
37112	Mass Media in Arabic	3
38111	Writing Practice in French I	3
38112	Oral Communication in French	3
31112	Arabic Library	3





### **3. Compulsory courses (45 credit hours)**

Students wishing to obtain a B.A. in this specialization must successfully complete 131 credit hours: 23 university courses, 27 college, 75 department (45 as compulsory and 30 as elective), in addition to "free" requirements.

Course #	Course title	Credit hrs.
33211	History of Ancient East	3
33212	Pre-Islamic History of the Arabian Peninsula	3
33213	History of Early Islam (Prophet's and Guided Caliphs' Era)	3
33214	History of Umayyad Caliphate	3
33215	History of Abbassid Caliphate	3
33311	History of Maghreb and Andalus	3
33312	Methodology in Historical Research	3
33313	History of Europe in Medieval Ages	3
33314	History of Ayyubids and Mamlukes	3
33315	History of Ottoman Caliphate	3
33411	History of Modern World	3
33412	Modern Arab History	3
33413	Modern History of Palestine	3
33414	Contemporary History of the World	3
33415	Contemporary History of Arabs	3

### **4. Elective courses (30 credit hours)**

Course #	Course Title	Credit hrs.
33221	History of Greeks and Romans	3
33222	Pre-Islamic Religions in Arabian Peninsula	3
33223	History of Byzantium State	3
33224	Islamic Conquest Movement	3
33225	History of Fatimid State	3
33226	Seljuk History	3
33331	Study in Sources	3
33332	Islamic Political Thought	3
33333	Islamic Sects	3
33334	Special Topic in History of Andalus / Civilization	3
33335	Special Topic in History of Jerusalem	3
33336	Special Topic in History of Islamic Civilization	3
33341	Franks' Invasion	3
33342	History of European Renaissance Age	3
33344	History of the United States of America	3
33344	Jews in Modern Ages	3
33461	Modern and Contemporary History of Iran	3
33462	Arab Country During Ottoman Era	3
33463	Egypt During Mohammed Ali's Family Era	3
33464	Political Parties in the Arab World	3
33465	Contemporary Issues	3
73227	Methods of Teaching History (from College of Education)	3

## Course Descriptions

### 1. College compulsory courses

#### ART31111 Introduction to Literary Appreciation

This course introduces students to the artistic, intellectual and psychological dimensions of the literary text; it improves their reading abilities, thus establishing an affective relationship between themselves and the text, on the one hand, and with text and its social environment and values, on the other.

#### ART32111 College English I

This course emphasizes the major comprehension skills: scanning, skimming, understanding meaning of difficult words from context, drawing inferences, differentiating between literal and non-literal meaning. The course also aims at developing the skill of summarizing a text. In the writing part, emphasis will be on note taking, vocabulary acquisition, completing application forms, writing a summary, and advertisements. The grammatical part focuses on verb tenses, parts of speech, conditionals, and formulation of questions.

### **ART33111 History of Arab Thought**

The purpose of this course is to study the modern (European) intellectual trends and Arabs' intellectual trends in particular. The course begins with an examination of the factors behind European Renaissance from the 16th-19th centuries. The course looks closely at the factors behind intellectual renaissance in the Arab World, namely, it provides a study and an analysis of religious trends and movements, such as salafiyah (Islamic reform movement) and modernism, political trends such as the Islamic League, Ottoman League, the national, regional and pan-Arabism movements, social factors, underdevelopment and its underlying causes, social justice, freedom, equality, emancipation of women; and finally, it examines scientific factors.

### **ART34111 Geography of Palestine**

This is a regional study of Historical Palestine before 1948, the impact of historical events on it, political upheavals that have been storming the country for a long time, particularly from economic, human, and geographical perspectives.

### **ART35112 Arab Society**

This course covers a number of topics such as: social institutions, social changes in the contemporary Arab World, Arab family, kinship system, ideological and class divisions. This course places some emphasis on the problems of growth and modernization.

### **ART36112 Introduction to History of Ancient Civilizations**

This course is a study of Ancient East in terms of states and kingdoms established there and in terms of relationships among them politically and culturally. The course will also identify most important cultural centers in the Ancient East and the extent of man's contribution, in the area, to human civilization in general.

### **ART37111 Introduction to Mass Media**

In general, this course is an introduction to the principles, concepts and basic theories in public communication. The course introduces various mass media systems, print and electronic, and also traces the historical development of basic public mass media: books, newspapers, periodicals, cinema, radio and television.

## **2.College Elective Courses**

### **ART31112 Arabic Library**

This course introduces Arabic writing movements from different dimensions. The course also introduces mainly Arabic heritage library, particularly prose and poetry library and its two streams: literary and linguistic. Students also receive training on how to deal directly with these primary sources.

### **ART31113 Principles of Syntax**

In this course, student will receive instruction in general linguistic rules which help the student formulate a correct Arabic sentence. These rules include definition of grammatical terms, Arabic sentence and its types, number and its rules, grammatical tools representing syntactic methods such as conditional tools, question words and

negation words. Students also learn about the principles of constructing the nominative or indicative in Arabic grammar. Student will apply these theoretical rules. These include selected texts taken from heritage books or volumes of classical poetry. Students are expected to make analysis of these texts, note down general grammatical information, thus helping them avoid mistakes in the mechanics of writing.

### **ART32112 College English II**

This course begins with a review of all types of sentences in English, and then proceeds to paragraph writing. Students learn how to write a topic sentence, develop and support it with examples. Students also learn how to organize their writing to achieve coherence among sentences in a paragraph. In addition, students learn about different modes of writing: argumentation, description, definition, comparison and contrast, cause and effect, narration and classification. The course also covers other writing styles such as C.V. and application form completion, in addition to cover letters. At the end of the course, students will again go over basic grammatical rules. If time allows, student may also learn about essay writing.

### **ART32113 Spanish I**

This is a course for beginners. The course primarily depends on the integration of the four language skills. It teaches students, in a simplified way, the basics of Spanish grammar. Students will be exposed to Spanish-oriented cultural texts in order to introduce students to Spanish society and civilization. This course should enable students to understand spoken Spanish and allow them to express themselves in writing

### **ART32114 Spanish II**

This course is a continuation of Spanish I 32113. In this course, students learn more basics of Spanish grammar and oral communication in Spanish. The course emphasizes advanced vocabulary and rules of grammar, correct pronunciation, the hows of writing common expressions used in spoken and written language. The course will also deepen students' knowledge of the Spanish society.

### **ART32115 German I (for beginners)**

This course teaches words and grammatical structures and rules mostly used in daily communication. The course covers a number of things: greetings, introducing people, naming household things, like food and drinks, ordering a meal, entertaining visitors, managing work, making arrangements for appointments, renting an apartment, buying things, ... etc.

### **ART32116 German II**

This course is a continuation of German I 32115. By the end of the course, students should have learned the basics of German grammar. Students will also learn how to communicate with native speakers of German. This course covers a number of topics: description of pain, providing advice, narrating a story/reporting an event, talking about urban life, traffic, marketing, German culture, and German-speaking countries.

### **ART32117 Turkish Language (1)**

The course takes an integrated skills approach to teaching oral and written communications. It introduces language grammars at a basic level for students who study Turkish for the first time. The course is also meant to introduce the Turkish society, culture and civilization to Palestinian learners.

### **ART33113 History of Islamic Civilization**

This course dwells on the following topics: concept of civilization and urbanism, difference between cultural and historical study, emergence of cultural studies, measures of civilization, potentials and elements of civilization, as well as social and historical potentials for the emergence of the Islamic civilization, the Holy Qur'an as the basis of Islamic civilization, elements and characteristics of Islamic civilization, status of Islamic civilization among other civilizations and its impact on them.

### **ART34112 Introduction to Human Geography**

This course examines human geographic research methodologies, the most important schools of thought, and how man came into being on earth and how he spread out.

### **ART34113 Introduction to Physical Geography**

This course introduces a number of topics: solar system, celestial bodies, theories on origin of this planet, age, dimensions and structure of stones, seas, oceans and their origin, movement of sea and ocean waters, climate, soil, water, formation of earth surface phenomena.

### **ART35111 Introduction to Sociology**

This is an introduction to basic concepts in sociology, social behavior, and scholarly methods used in sociological analysis.

### **ART35113 Refugees and Involuntary Emigration**

The purpose of this course is to acquaint students with the refugee phenomenon in a global context. The course begins with the historical development of refugee movements, reasons for seeking refuge, the refugee experience including accompanying social and psychological effects, especially when it comes to the life of refugees in a camp environment. Also this course looks at the influences of international policies and humanitarian aid, the role of donors, and policies of countries hosting refugees.

The role of international law in ameliorating the plight of the refugee and the theoretical frameworks, which have endeavored to explain this phenomenon, are addressed. Inevitably and specifically, the subject comes close to home with the longstanding anguish of our own Palestinian refugees, and deals with factors contributing to their displacement and homelessness, both here and in adjacent countries. Some light is also shed on the transfer process through its stages, and the resulting suffering inflicted on Palestinian people. The course concludes with some emphasis on increasing political awareness among the refugees, their role in the P.L.O., the mandate of the international community to protect Palestinian refugees, and the international initiatives proposed to solve their plight.

### **ART36113 Introduction to Ancient History of Palestine and Jordan**

A study of historical ages of both Palestine and Jordan, course 36113 starts from the Old Stone Age up to the Iron Age. Further, the course highlights the relationships between Palestine and neighboring empires, especially those in Iraq and Egypt. The course also touches on cultural achievements of the region in past ages.

### **ART37112 Mass Media (in Arabic)**

An introduction to journalistic editing, this course reinforces students' command of the Arabic language and strengthens self-expression abilities through writing effectively and with clarity. The following areas are covered: Grammatical and morphological rules with emphasis on the countable, uncountable, the plural, the numbers, the dual, and the indeclinable, etc.; correct spelling; correct punctuation rules; journalistic idioms. The theoretical part of the course will be supported with examples and models culled from local newspapers, magazines and journals, in Arabic. This will acquaint students with the language of mass media and common mistakes (goofs) made by people in the field.

### **ART38111 Writing Practice in French I**

This course, which introduces the French alphabet and method of writing words, masculine and feminine nouns, singular and plural, also includes sentence level, types of sentences, personal pronouns, verb conjugations, direct and indirect objects. Visual aids such as drawings and pictures are used to advantage. Editing short responses, accepting or turning down offers, giving thanks or apology, brief justifications of answers, are some learning exercises.

### **ART38112 Oral Communication in French**

This course teaches spoken French through the use of modern teaching methods typically employed in non-Francophone countries. At the end of this course, students are expected to speak and understand some French, especially when it comes to introducing themselves, getting to know others, and holding simple conversations or chats.

### **HIS33211 History of Ancient East**

This course aims at studying the development of human life in the Ancient Near East region since the Old Stone Age up to late historical eras. The Ancient Near East will be studied from political, cultural and intellectual aspects: Instruments, writing systems, architecture, arts, religions. This course will focus on the history of Ancient East countries, namely, Iraq, Egypt and Syria. The course also examines the effects of these civilizations on Man's history.

### **HIS33212 Pre-Islamic History of Arabian Peninsula**

This course highlights the study of the sources related to Jahili and Arabian Peninsula history before Islam, Arab classes, geography of Arab lands, Yemen's old states, and the remaining states in the Arabian Peninsula before Islam: Qinda, Palmyra, Nabateans, Ghassasans, and Manathiras, and the tribal society in Hijaz from all aspects.

### HIS33213 History of Early Islam (the Prophet's and Guided Caliphs' Era)

This course examines the call for Islam, its spread in Mecca and Medina, organization of the Muslims' state during the Prophet's lifetime, the Prophet's policy in spreading the Islamic call inside and outside the Hijjaz, apostasy and self-prophecy claim movements, the issue of the Prophet's succession, conquests during the Guided Caliphs' times, organizations of state governing administration, financially, religiously and militarily, as well as disagreements which had emerged and their consequences.

### HIS33214 History of Umayyad Caliphate

This course highlights a number of topics: establishment of the Umayyad dynasty, development of caliphate system during the Umayyad period, the Umayyads' policy in fostering their authority, the Umayyads' position towards the Islamic sects, namely, al-Khawarij and the Shiites; the Mawali movements, Islamic conquests during the Umayyad caliphs' times, government and administrative systems, and characteristics of civilization during the rule of the Umayyad period.

### HIS33215 History of Abbassid Caliphate

This course investigates the organization of da'wa (call) for House of the Prophet, establishment of the Abbassid caliphate. In addition, the course is a brief study of caliphs in the first Abbassid age, Abbassid caliphs' home policy toward the Alawis, Mawalis, Shu'biyyah, Baramika, the Arabs, ... etc. The course also looks at Abbassids' foreign policy towards the Byzantine and Holy Roman empires, the Maghreb and Andalus, ... etc. It will also shed light on the emergence of semi-independent Muslim states, age of Turks' dominance, systems of government, and aspects of civilization during the Abbassid caliphs.

### HIS33221 History of the Greeks and Romans

Topics covered in this course are the following: significance of Greek history, Greek heritage in the Islamic Arab civilization, and the Greek legacy to modern European civilization, origin of the Greeks and their migrations, Spartan states' importance in Athens' history, Greek-Persian wars, emergence of the city of Rome, Rome during the Monarchy period, Romans' systems during Republican period, Booniyah wars, and the empire rule.

### HIS33222 Pre-Islamic Religions in Arabian Peninsula

This course is a study of the relationships between religions of the Arabian Peninsula, with religions in other surrounding regions such as South Asia, Greater Syria, Egypt and Iraq. It also dwells on idolators' religions (such as worship of idols, celestial stars) magi-an, idolators' ritual rites. The course also deals with monotheistic religions, Christianity and Judaism and their relationship with Byzantium, and Sasaan's desires to control the lands of the Arabs, al-Hannfiyy al-Ibrahimiyyah, pilgrimage system and emergence of Islam, sources and references on religions before Islam.

### **HIS33223 History of Byzantium State**

Topics covered in this course include sources of history on the Byzantium state, preliminary study of the establishment of the Byzantium state, its internal policy, Jesuit's legislations, disorders, chaos, religious activity, feudalism problem, foreign relations with Seljuks, Bulgarians, Franks, and the Ottomans, collapse of the empire, rule of government and aspects of civilization.

### **HIS33224 Islamic Conquest Movement**

This course investigates the objectives that the Islamic movement came up with and sought to achieve political and religious unification of the Arabian Peninsula, and the introduction of Islam abroad. The course also raises the concept of the holy war movement in Islamic thought, reasons behind conquests, their organization, their modes of action and their results. The course also considers orientalist's interpretation of these conquests. The course also offers some sources and references on Islamic conquest movements.

### **HIS33225 History of Fatimid State**

This is a preliminary study of the organization of the Ismailite call, establishment of the caliphate in the Maghreb region, the movement of the Fatimid caliphate to Egypt, political, religious movements, foreign and home policies, age of visiers' power/influence, collapse of Fatimid caliphate, systems of government and aspects of civilization during the Fatimid state.

### **HIS33226 Seljuk History**

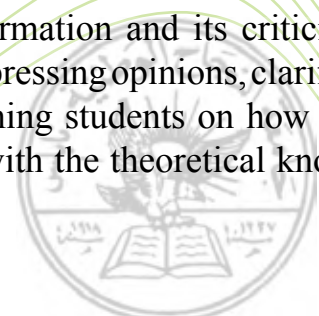
This is a study of the state of the Muslim World before the emergence of the Seljuks, establishment of Seljuk dynasty, Seljuks' control of Iran, Iraq and Greater Syria, Seljuks' internal disputes, division of their dynasty, systems of government and aspects of civilization during the Seljuki age.

### **HIS33311 History of Maghreb and Andalus**

This course tackles the state of affairs in the Maghreb before the Islamic conquest, stages of Islamic conquest of the Maghreb, life in the Maghreb during the Umayyads' and Abbassids' periods, independent states in the Maghreb, conditions in Spain before Islamic conquest, eras of Islamic state in Andalus, Spanish Christian states, systems of government, and aspects of civilization in the Maghreb and Andalus.

### **HIS33312 Methodology in Historical Research**

This course aims at studying the meaning of history, and conditions that make a historian researcher. The course also investigates the criteria used for choosing a scientific topic, the hows of collecting historical information and its criticism, the manner of proving historical facts, their arrangement, expressing opinions, clarification, editing and presentation. The course also aims at training students on how to write research papers and to discuss them in full harmony with the theoretical knowledge they have taken in the course.





### **HIS33313 History of Europe in the Medieval Ages**

This course is a study of the history of the Roman empire, the Barbaric invasions and the establishment of German mini-states, spread of Christianity in Europe, emergence of the church/monastery movement, the Normans and their role in the course of historical events.

### **HIS33314 History of Ayyubids and Mamlukes**

This course aims at identifying the sources and references on the history of the Ayyubids and the Mamlukes, the conditions of life in the Muslim East before the establishment of the Ayyubid state in Iraq, Greater Syria and Egypt. It also dwells on internal policy, Moguls' and Franks' dangers, the Ayyubids' foreign relations with some Muslim countries, economic life (agriculture, industry and trade) feudalism in all its forms, systems of government, and aspects of civilization.

### **HIS33315 History of Ottoman Caliphate**

This course aims at identifying the manner of the establishment of the Ottoman caliphate, and the key institutions: Sultanate, the Sublime Porte, Daftar Khana (public records office), a-Daftar Daryah, inkishariyya (janizaries), Islam ulema (scholars), judiciary system. The course also examines Ottoman-Safawi relations, Ottoman-Mamluke relations, and Ottoman-European relations before the signing of the Kojac treaty.

### **HIS33331 Study in Sources**

This is a study of historical Arab sources of different periods. The course highlights the sources of history of the Arabs before Islam. It also explains the beginning of history writings and the impact of Islam in their emergence. The course, moreover, investigates historical sources belonging to senior historians from the 3rd-9th centuries of Hijri. The course also aims at training students on how to read selected texts, extracted from these sources. Students will learn how to analyze, and interpret them from historical, intellectual and methodological perspectives. They will also be introduced to historians' and narrators' methods and their purposes in writing history and the factors surrounding their writing.

### **HIS33332 Islamic Political Thought**

This course introduces sources and references on political Islamic thought. The course is also a preliminary study of all aspects of thought among Arabs before Islam. It is also a brief study of thoughts of peoples neighboring the Arabs such as the Persians. Detailed study of some aspects of political, economic, social, military and religious Islamic thought will also be considered. The course will hold a comparison between Islamic thought and some contemporary peoples' thoughts at the time. At the end, the course will highlight characteristics of Islamic thought and ways of dealing with religion.

### **HIS33333 Islamic Sects (Parties)**

This course aims at studying social, economic and intellectual and political developments that had accompanied the establishment of the state of Islam. The course also focuses on the division of the Umma (nation) among itself in the events of the First Fitna (internal fighting) between 30-40 Hijra. The course also sheds light on the crystallization of the notion of state (Ahla al-Jama'a) the emergence of sects or political or religious oppositions of al-Khwarj, Shiites, Qadariyyah, al-Mu'tazilah, etc... In this respect, the course will show the opposition parties' opinions towards economic, social and political issues and the state's position towards these opinions. The students will be introduced to sources and references on Islamic sects.

### **HIS33334 Special Topic in History of Andalus or Civilization**

This course introduces sources, and references pertinent to subject of the study. This is a detailed in-depth study of a specific topic related to history of Andalus or its culture. Topics may include Andalusian society, economic, social, intellectual life, the Spanish inquisition war, history of the Spanish kingdom, one aspect of the Andalusian civilization, foreign relations, internal policy. It might be also a detailed and analytical study of a specific period of time from all aspects.

### **HIS33335 Special Topic in History of Jerusalem**

This is a study of history of Jerusalem during various historical eras: Bronze Age (3000-1000 B.C.), and from 1000-63 B.C., Jerusalem under rule of Rome and Byzantium (63B.C. 637 A.D.), during the first Islamic period from the 7th-11th centuries, under the rule of the Franks from 1099-1187 A.D., Jerusalem under the rule of the Ayyubids, the Mamlukes from 1187-1516; under the Turkish Ottomans' rule from 1516-1831 and during the 19th century from 1831-1917. The course will also survey the state of affairs in Jerusalem from 1917 to the present.

### **HIS33336 Special Topic in History of Islamic Civilization**

This course highlights one specific aspect in the history of Islamic civilization. There will be an in-depth study, for example, of intellectual, scientific, social or political aspects of the civilization.

### **HIS33341 The Franks' Invasion**

This course begins with an introduction to sources and references pertinent to the Franks. The course provides a brief, preliminary study of the relations between Muslims and Western Europe, since the emergence of Islam. Other issues covered in this course include conditions of life in Muslim East, and in European countries prior to the Franks' invasion, Franks' expeditions, their courses, motivations, nature, objectives, moves and events, Franks' emirates in the Arab countries, Muslims' awakening and their role in liberation of their lands and the expulsion of the Franks. Lastly, the course concludes by discussing the results and cultural influences on Europe.

### IS 33342 History of the European Renaissance Age

This course introduces sources and references on European Renaissance, the meaning of the term, the causes of Renaissance, its characteristics, and its economic, religious and political aspects.

### HIS33343 History of the United States of America

This course aims at introducing sources and references pertinent to history of America. It will provide a comprehensive overview of North America, Caribbean countries, South (Latin) America, discovery of the New World, European colonialism, America's War of Independence, and the independence of South America's countries.

### HIS33344 Jews in Modern Ages

This course aims at introducing sources and references pertinent to the Jews. It also gives a brief preliminary study of ancient Jewish history and modern history of the Jews. It examines history of the Jews in Europe since the Renaissance Age in all aspects: political, economic, social, and scientific. The course also studies history and activity of Jews in America, circumstances and factors that brought about Zionist ideology. Students will study in detail the Zionist movement and activities in terms of Western countries' cooperation with the Jews in establishing a "national homeland" for them in Palestine. Included is the Arab and Islamic countries' position towards this.

### HIS33361 Modern and Contemporary History of Iran (1500-1980)

Topics covered in this course are the following: establishment of the Safawi state, nature of expansionist and religious struggle between the Safawis and the Ottomans, superpower countries' interests in the strategic location of Iran during the 19th century. These countries were mainly France, Russia and England; Iran during the First and the Second World wars, Iran during the Bahlawi dynasty and the roots of the Iraqi-Iranian border dispute.

### HIS33411 History of the Modern World

This course is a study of western cultural landmarks starting from the European Renaissance age up to the outbreak of the First World War, the French and American revolutions, the emergence of the Industrial Revolution in Europe and European national movements.

### HIS33412 History of Modern Arabs

This course covers the Ottomans' conquest of Arab countries, a quick general glimpse of these countries until the late 18th century. The course is also an intensive study of the 19th century and its major characteristics at the international, Ottoman, and Arab levels and the European domination of the Arab countries until the early events of the First World War.

### HIS33413 History of Modern Palestine

This course is a study of Palestinian history from the beginning of the First World War, and the conditions of Palestinian society during the First World War. The course

traces political events that resulted in the emergence of Palestine as a geopolitical entity, the British political drive and its alliance with Zionist plots in Palestine. The course covers both political and non-political events which affected modern Palestinian history until the end of the Second World War.

### **HIS33414 Contemporary World History**

This course is a study of 20th century events including the events of the Second World War, the emergence of Western and Eastern blocs, the non-aligned bloc, international crises and a follow-up of current events at the international level.

### **HIS33415 Contemporary Arab History**

This course covers the history of the Arab World from the early 20th century to the Second World War, taking into consideration political, social, economic and intellectual dimensions. The course emphasizes Second World War events, their effect on the Arab World, liberation movements in the Arab World and the impact of international events and blocs on Arab solidarity.

### **HIS33462 Arab Country in the Ottoman Era**

This is an in-depth and detailed study of an Arab country such as Syria, Palestine, Lebanon, Egypt or the Arabian Peninsula. The study tackles characteristics of Ottoman administration and its development, the Ottoman's military, security, judiciary and financial apparatuses.

### **HIS33463 Egypt During Mohammed Ali's Family Era**

This course is a study of conditions and factors which had led to Mohammed Ali's takeover of power in Egypt, Mohammed Ali's internal policy, his reformation and revival of state, his relations with the Mamlukes as well as the Azhar ulema (religious scholars), and the Egyptian people. The course also dwells on his foreign policy (expansion), his relations with the Ottoman empire and with the European countries; Mohammed Ali's successors in Egypt and their internal and external policies, foreign influence in Egypt, British occupation of Egypt in 1882; Egyptian people's struggle, the Palace's policy and the political parties and the events leading to the 1952 Revolution of the Free Officers.

### **HIS33459 Contemporary Issues**

This course examines one or more than one contemporary issue such as the intifada, the first and second Gulf wars, Arab-Israel peace agreements. The course discusses their historical roots, and political, social and economic effects.

### **HIS33464 Political Parties in the Arab World**

This course is a study of conditions in the Arab World at the end of the Ottoman empire, the emergence of political parties, factors and reasons behind them, effect of European thought, principles, objectives, ways and methods, practices and achievements. The course is also a comparative study of political, religious and military parties, impact of these parties on Arab peoples in all aspects, Arab countries' attitudes and political regimes' positions towards them

## **FACULTY MEMBERS**

### ***Professors:***

Jamal Judeh

Ph.D. in Islamic Economic and Social History,  
University of Tubingen, Germany, 1983.

Nitham Abbassi

Ph.D. in Arab History and Modern and  
Contemporary World History,  
Frieberg University, Germany, 1981.

### ***Assistant Professors:***

Adnan Milhem

Ph.D. in Islamic History: Islamic Historical  
Methodology, University of Jordan,  
Amman, Jordan, 1996.

Ameen Abu-Baker

Ph.D. in ,Modern Arab History,  
University of Jordan, Amman, Jordan, 1996.

### ***Lecturers:***

Musa Abu Dayeh

M.A. in Modern Arab History,  
University of Jordan, Amman, Jordan 1979.

Mahmod Kabneh

M.A in Islamic Historical ,  
An\_Najah Universit, 1996.

# DEPARTMENT OF GEOGRAPHY

## Admission requirements:

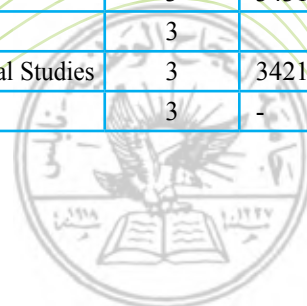
1. To be admitted into the Geography major, a student must complete Human Geography 34112 and Physical Geography 34113 with a minimum standing of 70% in each.
2. If the number of students qualified to major in Geography is above the limit, then only those with the highest averages will be admitted.

## 1. Undergraduate requirements for a B.A. degree in Geography

The Department of Geography offers a single specialization in Geography, and students wishing to obtain a B.A. degree in Geography must complete 131 credit hours successfully. These requirements include university, college and department compulsory and elective courses in addition to “free” courses carrying six credits.

### 1A. Compulsory courses (69 credit hours)

Course #	Course title	Credit hrs	Prerequisite
34209	Principles of Surveying	3	-
34210	Principles of Maps and Cartographic Representation	3	-
34213	Principles of Climate	3	-
34214	Principles of Geology	3	-
34215	Principles of Geomorphology	3	34213, 34214
34217	Principles of Statistics	3	-
34218	Economic Geography	3	
34219		3	
34229	Computers Uses in Geography	3	
34230	Introduction to Aerial Photo Analysis	3	34211
34231	Introduction to GIS	3	-
34312	Principles of Demography	3	-
34313	Agricultural Geography	3	34213
34314	Water Resources Geography	3	34214, 34213
34315	Urban Geography	3	-
34411	Geography of Industry	3	-
34412	Transport Geography	3	-
34413	Regional Planning	3	-
34414	Geography of Arid Land	3	34213, 34215
34415	Research and Thesis Seminar	3	-
34421	Population Geography	3	34312
34402	Applied Geography	3	
72392	Design and Production of Educational Aids for Teaching Social Studies	3	34210
72401	Practical Education for Social Sciences	3	-



## 1B. Elective courses (18 Credits)

Course #	Course title	Credit hrs	Prerequisite
34216	Geographical Texts in English	3	-
34221	Climate and Plant Geography	3	34213
34222	Ancient World Geography	3	-
34223	Environment Preservation	3	-
34225	Geography of the Arab World	3	-
34234	Computer Aided Design	3	34210, 34229
34235	Maps and GIS1	3	
34309	Advanced Surveying	3	34209
34310	Cartographic Representation (Practical)	3(4.5)	34210
34317	Principles of Rock Formation	3	34214
34318	Geography of Development	3	34218
34320	Applied Geomorphology	3(4.5)	34215
34321	Geography of the Muslim World	3	-
34322	Geomorphological Studies	3	34215
34323	Geography of New World	3	-
34324	Biogeography	3	34221
34325	Soil Geography	3	34215
34327	Tourism Geography	3	-
34330	GIS2	3	34330
34331	Location Theory	3	
34422	Study and Analysis of Maps	3	34311
34423	Geopolitics	3	-
34425	Remote Sensing	3	-
34425	Methods of Demographic Analysis	3	-
34326	Geographical Field Studies	3	-
72368	Teaching Skills	3	-
72364	Methods of Social Sciences Teaching for Preparatory Schools	3	34111

### Course descriptions

#### GEO34209 Principles of Surveying

This course aims at providing students with skills to do field measurements of terrestrial features such as buildings, land parcels, and roads. It also aims at enabling students to prepare large scale maps and plans using different surveying instruments. The course includes both theoretical and practical materials.

#### GEO34210 Principles of Maps and Cartographic Representation

Topics covered in the course include principles of map drawing, cartographic symbols used in maps, instruments used in map drawing, technical and mathematical methods used to make projections, methods of land survey, creation of projections, spaces on maps, nature, familiarity with equipment used in various surveying operations in addition to ways of elevating a natural area on a map or a physical plan.

### **GEO34213 Principles of Climate**

This course begins with a definition of climatology, and relationship between climatology and meteorology, atmosphere in terms of structure and its effect on controlling earth environment, study of climate elements (sun rays, heat, winds, air pressure, moisture, precipitation, rain, clouds, mist) and general foundation on which international climate classifications are based.

### **GEO34214 Principles of Geology**

This course covers formation and structure of earth, topography or elevation (relief) generating movements, external factors influencing the external surface of earth.

### **GEO34215 Principles of Geomorphology**

This course covers topics such as forms of earth surface in terms of their description, distribution, development, interpretation of their origin. The course also discusses the earth geological structure, and the geomorphological process. In addition, the course introduces pillars and basic concept of geomorphology, and highlights role of geomorphological processes and factors which are attributed to structural factors: volcanic and geomorphological changes resulting from external processes such as land-sliding, coastal, and karstic factors.

### **GEO34216 Geographical Texts in English**

This course is a study of geographical subjects in English. These subjects are human, physical and economic geography. Topics covered are not taught in the four-year curriculum plan of the department. The course aims at helping students acquire English technical terms used in geography.

### **GEO34217 Principles of Statistics**

This course introduces a number of topics: measurements of central speed, and dispersion, natural distribution, coefficient correlation, regression coefficient, sampling theory and statistical significance.

### **GEO34218 Economic Geography**

This course aims at deepening students knowledge with the principles of economic geography, its rules and sections, and its research approaches, in order to understand physical and human environments which in turn decide centers of economic activities in the world.

### **GEO34219 Fundamentals of Global Navigation Satellite System (GNSS)**

This course will cover fundamentals of the Global Navigation Satellite System (GNSS). It provides an overview of the GNSS system, its operation, concepts of satellite navigation, signal structure, major sources of error, positioning techniques, and GNSS applications on land at sea and in the air. This course will also include field work which will consist of GPS data collection and analysis of different types of receivers.



## GEO34222 Ancient World Geography

This course is a study of regional geography in Asia and Europe.

1. Europe: geographical location, structure and elevations, climate regions, population, economic activity (agriculture in all its forms) mining and industry. Two countries are taught as cases in point.

2. Asia: geographical location, structure and elevation, climate regions, natural plants, deserts, population, agricultural crafts, mining industry and industrial regions, Mediterranean Sea Basin, including a comprehensive description of Mediterranean region.

## GEO34223 Environment Preservation

This courses investigates the relationship between man and his old and present environment and the mutual influence of both. The course also surveys old and modern schools concerning this mutual relationship and the subsequent problems resulting from this interaction especially in the age of technology which has resulted in very dangerous problems and has created an imbalance in the environment. These problems can be seen in pollution in all its types, production, food distribution, draining of resources, & desertification. These problems will be studied in terms of their causes and effects and possible solutions. There is also an emphasis on the importance of proper scientific planning to maintain environmental balance for the sake of man's life on this planet.

## GEO34221 Climate and Plant Geography

This is a quantitative applied study of climate elements, most important systems used in different scientific and practical situations such as heat, dryness and moisture coefficients, water balance, sun ray balances, identifying movement of winds and its quantitative representation, studies on weather forecasts and conditions and their representation on weather boards.

## GEO34225 Geography of the Arab World

This course is a comprehensive regional geographical study of the Arab World. This will be followed by detailed studies of some Arab countries.

## GEO34230 Introduction to Aerial Photo Analysis

This course introduces the history of aerial photography, their types and geometric characteristics, their importance in land use/ land cover mapping, and quantitative and qualitative analysis of aerial photographs using stereoscopes.

## GEO34231 Introduction to GIS

This Course introduces a number of topics: Basics of Geographical Information systems (GIS), its importance for geographers in spatial analysis and mapping and the well known GIS software.

## Computer Aided Design 34232

After students studied the principles of computer uses in Geography, this course focuses on software of geometric drawing that are useful to geographers. Concentrations are also made on production of large scale maps and plans.

## 34309 Advanced Surveying

This course builds on the subjects taught in Principles of Surveying and introduces other subjects, which include the computation of areas and volumes, route surveying, horizontal control surveys, and adjustment computation

## GEO34310 Cartographic Representation (Practical)

This course introduces methods of cartographic representation, and techniques used in making distribution maps namely the transformation of different figures and statistics to specialized maps. Students are introduced to technical methods used in building this type of maps, technical problems that face cartographers when using these methods, ways of overcoming them by using some mathematical and statistical methods.

## GEO34312 Principles of Demography

This is a study of different population theories and policies, sources of demographic and urban data, mortality, migration and its rates, and factors influencing them.

## GEO34313 Agricultural Geography

This course focuses on the analysis of significance and status of agricultural geography, physical circumstances influencing agriculture as an independent science, its relationship with human environment, social and economic factors and their impact on development of agriculture, agricultural systems in the world, the most important foundations and methods followed in field studies.

## GEO34314 Water Resources Geography

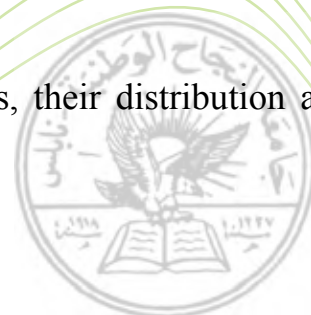
Topics covered in this course include water cycle, its basic elements, particularly rainfall, evaporation, precipitation, water infiltration in soil, underground water, rivers and lakes, seas and oceans, water amount availability and scarcity, changes in time and place, utilization, development and preservation of these resources.

## GEO34315 Urban Geography

This course is a study of urban and rural housing patterns and characteristics, city planning, patterns of land use, and major city problems.

## GEO34317 Principles of Rock Formation

This course studies earth surface, rocks, their types, their distribution and their identification.



## **GEO34318 Geography of Development**

This course aims to introduce the main principles of Development Geography and its various aspects: political, economic, social, demographic, health, and technical. It analyses the spatial dimensions of the concept of sustainable Development on the different geographic levels: It assess the effects of physical and human phenomena on the process of development in the different countries of the world while giving special emphasis to studying the geographic context of development in Palestine, The course analyzes regional and international disparities in the dominant developmental patterns around the world and the historical reasons that led to their appearance: It discusses the different development strategies that have been followed and implemented by different countries and the effectiveness of such strategies in the realization of sustainable development. The course also presents a methodological analysis of the topic of International Aid, its different kinds, and the role it played, and plays, in motivating or retarding the process of development in the different countries and regions of the world, and it gives examples to explain that.

## **GEO34320 Applied Geomorphology**

This course includes the use of geomorphological instruments and equipments to carry out the needed analysis. It also includes analysis of rocks and soils, such as sample classification, carbon percentages, water and rock PH, and the physical and mechanical characteristics of rocks and soils.

## **GEO34321 Geography of the Muslim World**

This is a regional but brief study of the Muslim World. It sheds light on the importance of its location and its strategic dimension for its natural unity. Emphasis will be given to physical circumstances, geological structure, climate, biosphere, human conditions, type of economic activity, and their reflections on social conditions. The course also covers the possibility and potentials of unity on the basis of belief and location circumstances. Two political cases studies will be considered : one from the Arab World and another from outside the Arab World.

## **GEO34322 Geomorphological Studies**

This course investigates geomorphological phenomena and capitalizes on students' knowledge taken in Geography 34215 which tackled geomorphological processes in terms of analysis, description and classification. The course also dwells on mechanical engraving processes because of geomorphological phenomena in arid, dry areas represented in desert forms. It also examines draining network, river floors and coastal forms in both mild and hot weather areas. This is in addition to ice forms in cold areas, karstic erosion/weathering as a result of chemical dissolution and its variations according to climates and different rocks. The course, finally, highlights the significance of geomorphological study and the possibility of its contribution to the preparation of engineering projects, economic geology and military purposes.

## **GEO34323 Geography of New World**

Topics covered in this course include history of discovering North America, its structure and elevation, climate and climate regions, natural plants, soil divisions, population and its distribution, economic activity, agriculture and patterns of agricultural use, mining and areas of its concentration, industry and trade. There will be a detailed study of Canada: human and physical aspects. Study of South America will cover location, structure, elevations, climate, climate regions, natural plants, forests, grass, provinces and extension of the continents, population and its different structures, economic activity, agriculture, pasture, rainfall agriculture, irrigated agriculture, mining and industry. Brazil and Chile, two case studies, will be studied in detail in terms of human and physical aspects: population and economic activity.

## **GEO34324 Biogeography**

This course aims at emphasizing the need to protect and maintain environmental elements from factors of destruction and deterioration. This course will examine spatial distribution of flora and fauna life on the surface of the earth, factors that have led to diversity and variation in spatial patterns, geographical approach, nature of biogeography, bases of animal and plant classification, the most important classifications, factors controlling the distribution of plant cover, major plant and animal groupings. Finally, the course will look at natural plants and wild animals, and aquatic animals such as fish.

## **GEO34325 Soil Geography**

This course covers a number of topics: Soil and its components, factors of its formation, its major classifications, and distribution in the world, effect of all this on picture of distribution of natural plant cover and agricultural produce in particular.

## **GEO34326 Geographical Field Studies**

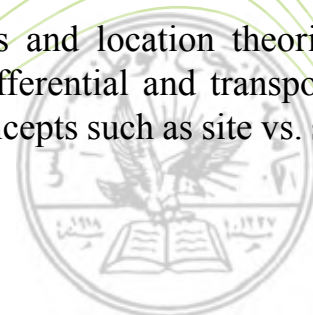
This course aims at introducing geographical phenomena, their monitoring and field observation through field studies and trips.

## **GEO34330 GIS2**

This course is complimentary to Introduction to GIS course. It focuses on studying advanced methods of spatial and attribute data analysis. It also includes applications and projects in different topics such as mapping, urban planning, environment, population, and land use, using the GIS software.

## **GEO34331 Location Theory**

This course is meant to introduce different factors and location theories, i.e., von Thunen; weight loss and transport cost; labor differential and transport costs, Weber Theory, Fetter theory, In addition to location concepts such as site vs. situation ....etc.



## GEO34402 Applied Geography

This course aims at improving students capabilities of understanding spatial distribution, properties, and changes of geographical features existing in different environments. It also aims at providing students with the necessary skills, such as data collection methods, data processing, data analysis and displaying results, and preparing maps and reports. This course is based on field work, computer geographic software, and labs.

## GEO34411 Geography of Industry

This courses will examine industry in terms of geographical, economic, historical and political perspectives, regional distribution of industry, industrial system and its development, patterns of industrial distribution, industrial production at the regional and international levels, factors influencing it, theory of industrial location and strategic goals for development planning.

## GEO34412 Transport Geography

This course examines a number of topics: transportation and travel, development of transportation system and its influence by human and physical factors, types of ground, sea and air transportation, means of transportation and their development up to the present. It also investigates the extent of their reaction to natural environment they are used in and their effect on national and world economies.

## GEO34413 Regional Planning

This course highlights the relationship between planning and geography, factors influencing planning, study of types of planning: Agricultural, industrial ... etc. It also introduces patterns of planning in countries that have different social systems and methods of classifying regions within each area of study.

## GEO34414 Geography of Arid Land

Students, in this course, will be introduced to location of arid region, their climate, morphological and vital circumstances, resources of natural wealth, water resources and their influence on human systems: economic and social spheres. The course also examines problems of the environment, such as desertification, salinity, soil erosion and pollution, and the most important solutions possible to solve environment problems and future aspirations to develop and create a sustainable environment.

## GEO34415 Research and Thesis Seminar

This course aims at training students on how to write research papers and theses in geography, and applications of methods in geography research. Students are expected to conduct different research projects on geographical topics.

## GEO34421 Population Geography

Topics covered in this course include geographical distribution of population, factors influencing this distribution, different demographic structures, general mobility of population, people's relationship with the environment and natural resources.

## **GEO34422 Study and Analysis of Maps**

The purpose of this course is to train students on how to draw topographical-geological points on maps and analyze these points as an integral part of the map components. They will also receive training on analysis of some other maps.

## **GEO34423 Geopolitics**

This course covers a large number of topics: man and his internal and external relationships on a specific area of land, international problems, relations among countries, and their potentials and political borders, stages of countries' development, international relations, colonial expansion, old colonial activity by some colonial powers such as the British, the French, the Italians, the Germans, the Americans, and the Dutch ... etc. The course illustrates some methods of modern colonialism, contemporary international border disputes which have caused wars among many countries.

## **GEO34424 Remote Sensing**

This course covers the basic concepts of remote sensing, the spectral characteristics of different features of the environment, remote sensing satellites orbiting the earth, and satellite image processing techniques.

## **GEO34421 Methods of Demographic Analysis**

Students, in this course, learn methods used in measuring and evaluating demographic data, demographic data analysis pertinent to birth, mortality, migration, life tables, and population projections.



## FACULTY MEMBERS

### *Professors*

Mohammed Abu Safat      Ph. D. in Geomorphology,  
University of Anlagen, Germany, 1987.

### *Associate Professors:*

Mansour Abu Ali      Ph. D. in Economic Geography,  
Ein Shams University, Cairo, Egypt, 1982.

Hussein Ahmed      Ph. D. in Demography,  
University of Durham, UK, 1989.

Aziz Dweik      Ph. D. in Regional Geography,  
University of Pennsylvania, USA, 1988.

### *Assistant Professors:*

Ahmed Ra'fat Ghodieh      Ph. D. in Remote Sensing and GIS,  
University of Durham, UK, 2000.  
(Head of the Department)

Adeeb Al-Khatib      Ph. D. in Urban Studies,  
University of New York, USA, 1985.

Wa'el Inab      Ph. D. in Population Geography,  
University of Durham, UK, 1989.

Taha Salameh Adarbeh      Ph. D. in Maps, Charles University,  
Prague, The Czech Republic, 1983.

Maher Abu Saleh      Ph.D. in Population Geography,  
Al Banat College, Ein Shams, Egypt, 2003

### *Lecturer:*

Saed Abu Hijlah      M.A. in Political Geography  
( North Iwa University, USA, 1995)

# DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

## Admission requirements

Students wishing to major in Sociology and Social Work must successfully complete Arab Society 35112 and Introduction to Sociology 35111. A minimum of 70% in each of the two courses must be obtained.

## 1. Requirements for a B.A. Degree in Sociology and Social Work

The Department of Sociology and Social Work offers a single specialization in sociology and social work. Students wishing to obtain a B.A. degree in this single specialization must successfully complete 137 credit hours. These include university, college and department compulsory and elective courses and “free” courses.

This plan applies to students in Sociology and Social Work as of 1999/2000.

### 1A. Compulsory courses (60 hrs)

Course #	Course title	Credit hours	Prerequisite
35210	Descriptive Statistics	3	35151, 35101
35211	Principles of Philosophy and Logic	3	-
35212	Demography	3	-
35213	Social Work	3	-
35215	Palestinian Society	3	-
35216	Individual Work	3	-
35311	Social Research Methods I	3	-
35312	Classical Social Theory	3	-
71314	social Psychology	3	-
35314	Social Problems	3	-
35316	Political Sociology	3	-
35317	Class System	3	-
35318	Group Work	3	-
35319	Local Community Service	3	-
35411	Social Research Methods II	3	-
35412	Modern Social Theory	3	35311
35413	Rehabilitation	3	35312
35414	Social Change	3	-
35416	Anthropology	3	-
35470	Field work	3	35216





## 1B. Elective courses (21 hrs)

Course #	Course title	Credit hours	Prerequisite
35254	Family Sociology	3	-
35255	Israeli Society	3	-
35276	Educational Sociology	3	-
35287	Women and Society	3	-
35351	School Social Work	3	-
35354	Group Special Needs	3	-
35361	Social of Religion	3	-
35365	Economic Sociology	3	-
35352	Youth and Adolescent Welfare	3	-
35374	Medical Sociology	3	-
35374	Social Texts in English	3	-
35419	Management of Social Institutions	3	-
35451	Criminology	3	-
35455	Industrial Sociology	3	-
35461	Social Work for the Disabled	3	-
35464	Society Organization & Development	3	-
35465	Urban and Rural Communities	3	-

### Course descriptions

#### SOC35210 Descriptive Statistics

This course tackles the hows of expressing or translating social phenomena statistically with emphasis on preliminary statistical processes, media descriptive statistics and analytical methods applied in solving social studies.

#### SOC35211 Principles of Philosophy and Logic

Topics covered in this course include the concept of philosophy and its development throughout history. The course includes the study of famous philosophers. The course also highlights the importance of studying logic as an introduction to the study of philosophy.

#### SOC35212 Demography

This course covers a number of topics: demographic changes in the world, major trends in reproduction, mortality, migration and population growth in recent years. The course also investigates demographic conditions in the Third World.

#### SOC35213 Social Work

This course begins with definition of the concept of work in capitalist and oriental societies. Then it moves to introduce methods and techniques of social work at the individual, group and community levels. Students will also conduct field visits.

## **SOC35215 Palestinian Society**

This course tackles the historical development of the Palestinian society under political changes and the influence of these changes on the structural fabric of the society. The course also investigates economic, demographic and cultural aspects. It also dwells on both the Palestinian personality and identity. At the end, the course investigates contemporary issues of the Palestinian society and its future in the light of the political settlement.

## **SOC35216 Individual Work**

The purpose of this course is to provide students with skills necessary for a social worker. The course introduces individual philosophy, principles, the hows of building a professional relationship and the hows of using instruments to study a social case.

These instruments include interview, observation, home visits and cooperation with experts.

## **SOC35254 Family Sociology**

This is an analytical study of both family and kinship, basic foundations of the Arab family, tracing family and marriage systems throughout the ages, and analysis of duties and rights upon the shoulders of family members.

## **SOC35255 Israeli Society**

This course dwells on the Jewish migration to Palestine and Jews' colonization of the country before 1948, the social organizations and institutions in Israel: family, class system, population structures, problems of change and development.

## **SOC35276 Educational Sociology**

This course is a study of the social context of education in terms of the reflection of culture on educational institutions concerned: home, schools, mass media. This is in addition to non-targeted educational institutions: genetics, environment and culture.

## **SOC35287 Women and Society**

This course covers topics related to women: status of women in society, their influence on the family and society throughout the ages. The course also highlights the women's political, social and economic role in the society. It provides an analysis of the Arab women's future, and the future of the Palestinian woman in particular.

## **SOC35311 Social Research Methods I**

This course introduces types of methods used in social research in terms of their nature, fields, goals. The course also includes practical training with an emphasis on the nature of this methodology.

## **SOC35312 Classical Social Theory**

Topics covered in this course include concept of social theory, most important opinions of social thinking pioneers such as Ibn Khaldoun, Comte, Durkheim, Spinner, Marx, Parsons, Max Weber. The course illustrates the social manner of social classical theories which contributed to the crytallization and development of sociology.

### **SOC35314 Social Problems**

This course introduces the concept of social problems, their nature, development, dangers and their relationship with the study of social problems through choice of basic problems facing Palestinian society: poverty, divorce, leisure time, deviation of juveniles, brain drain, and unemployment.

### **SOC35316 Political Sociology**

This course investigates the social and political authority relations coupled with an emphasis on social foundation of the institutions, movements and political phenomena.

### **SOC35317 Class System**

This course examines social classes in terms of emergence, development, class structure of the capitalist and socialist societies and Third World societies. Emphasis is given to the study of the characteristics of social structures in Arab countries.

### **SOC35318 Group Work**

This course teaches students specific skills needed for work with groups to help group members to achieve common goals. The course also includes a training program since social work majors need some professional experience.

### **SOC35319 Local Community Service**

The course introduces different models for society organization. The course focuses mainly on the role played by societies or local communities or groups to identify their needs, social services necessary for their local communities. Students will be also given case studies of problems in local community and the various means that may be used to solve these problems through community organization.

### **SOC35354 Group Special Needs**

This course tackles a number of issues: meaning of mental health, adaptation, abnormal behavior, normal behavior, personality, consciousness and subconsciousness. The course tackles the problems of depression, anxiety, conflict, primary defense forms, mental disorders, and mental health problems in daily life.

### **SOC35351 School Social Work**

This course aims at introducing students to educational processes in school and problems of their adaptation to them. The course also highlights the educational conditions appropriate for sound upbringing and the hows of dealing with students' problems in their schools whether among them or with their teachers or with the school system. The course defines the school counselor's duties and tasks and the importance of this counseling for the young students and the society.

### **SOC35361 Social of Religion**

This course is a study of religion as a social phenomenon and the historical development of religion, man's awareness, religious institutions and rites, the function of religion in social organizations with special emphasis given to social and ideological Islam in the Arab World.

## **SOC35365 Economic Sociology**

Students, in this course, learn about economic facts as social phenomena. Students will be taught how to analyse environment economies and the role they have played in economic development, in addition to their effect on social welfare programs.

## **SOC35352 Youth and Adolescent Welfare**

The purpose of this course is to enable students to learn about social and psychological aspects that influence the personality of man in his childhood & adolescence. The course also provides the student with counseling and therapy skills to follow, and prevention and therapeutic services provided to teenagers and youth.

## **SOC35374 Medical Sociology**

This course is a sociological study of both healthy people and patients' behavior, as well as a study of social structure of systems leading to health care system.

## **SOC35374 Social Texts in English**

This course aims at exposing students to social texts in English. The course emphasizes social terms used in the expression of social phenomenon to enable students to read and research English language texts dwelling on social subjects.

## **SOC35411 Social Research Methods II**

This course aims at teaching the hows of putting to work research methods in social scholarship in terms of research design, its application, as well as its writing and revision.

## **SOC35412 Modern Social Theory**

Topics covered in this course include theory in its intellectual development from the classical to the structural trend as well as functional and social interaction theories and the circumstances leading to change with reference to trends, modern struggle and behavioral reciprocity.

## **SOC35413 Rehabilitation**

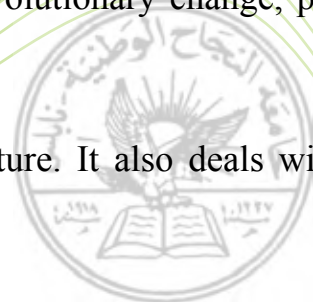
This course provides students with basic knowledge about disability, its types & its effects. It also provides the students with basic skills to help the disabled to live with their disability and allow them to be rehabilitated in line with their circumstances to become productive people in their communities and to be self-sufficient.

## **SOC35414 Social Change**

As the title shows, emphasis will be given to both traditional and contemporary theories related to change and social development, evolutionary change, planning, social change, social development.

## **SOC35416 Anthropology**

This course investigates origin of man and his culture. It also deals with basic concepts in this social science subject.



# DEPARTMENT OF ARCHAEOLOGY

## 1. Undergraduate Requirements for B.A. degree in Archaeology

The Department of Archaeology offers a single specialization in archaeology. Students wishing to obtain a B.A. degree in this specialization must complete, successfully, 134 credit hours. These include university, college and department compulsory, elective and “free” courses.

### 1. College compulsory requirements: 7 courses (21 credits)

Course #	Course title	Credit hours
31111	Introduction to Literary Appreciation	3
32111	College English I	3
33111	History of Modern Thought	3
34111	Geography of Palestine	3
35112	Arab Society	3
36112	Introduction to History of Ancient Civilization	3
37111	Introduction to Mass Media	3

### 2. College electives

Course #	Course title	Credit hours
31112	Arabic Library	3
31113	Principles of Syntax	3
32112	College English II	3
32113	Spanish I	3
32114	Spanish II	3
32115	German I	3
32116	German II	3
32117	Turkish I	3
33113	History of Islamic Civilization	3
34112	Introduction to Human Geography	3
34113	Introduction to Physical Geography	3
35111	Introduction to Sociology	3
35113	Refugees and Involuntary Emigration	3
36113	Introduction to Ancient History of Palestine and Jordan	3
37112	Mass Media in Arabic	3
38111	Writing Practice in French I	3
38112	Oral Communication in French	3
31112	Arabic Library	3

### 3. Compulsory courses (48 credits)

Course #	Course title	Credit hours	Prerequisite
36201	Introduction to Archaeology	3	-
36202	Antiquities of Ancient East	3	-
36203	Old Pottery	3	-
36204	Greek and Roman Antiquities	3	-
36301	Byzantium Antiquities	3	-
36302	Islamic Architecture I	3	-
36303	Islamic Architecture II	3	-
36304	Islamic Arts	3	-
36305	Research Methodology	3	-
36306	History and Antiquities of the Arabian Peninsula	3	-
36401	Islamic Urban Planning	3	-
36402	Museum Art	3	-
36403	Islamic Coins	3	-
36404	Maintenance and Renovation of Archaeological Sites	3	-
36405	Practical Training in Antiquities	3	-
36406	Byzantine and Islamic Antiquities in Jordan and Palestine	3	-

### 4. Elective Courses (30 credits)

Course #	Course title	Credit hours	Prerequisite
36251	Greater Syria's Ancient History & Antiquities	3	-
36252	Architecture in the Ancient Near East	3	-
36253	Nabateans	3	-
36254	Special Topic in Arabian Peninsula Antiquities	3	-
36351	Archaeological Texts in English	3	-
36352	Ancient Language	3	-
36353	Ancient Decorations and Inscriptions	3	-
36354	Special Topic in Greater Syria's Ancient Antiquities	3	-
36451	Jerusalem Antiquities	3	-
36452	Drawing, Surveying and Photography	3	-
36453	Islamic Photography	3	-
36454	Special Topic in Palestine Antiquities	3	-
36455	Origin and Development of Arabic Calligraphy	3	-
36456	Technology in Old Ages	3	-
36457	Antiquities and Tourism	3	-



## Course Descriptions

### 1. College compulsory courses

#### ART31111 Introduction to Literary Appreciation

This course introduces students to the artistic, intellectual and psychological dimensions of the literary text; it improves their reading abilities, thus establishing an affective relationship between themselves and the text, on the one hand, and with text and its social environment and values, on the other.

#### ART32111 College English I

This course emphasizes the major comprehension skills: scanning, skimming, understanding meaning of difficult words from context, drawing inferences, differentiating between literal and non-literal meaning. The course also aims at developing the skill of summarizing a text. In the writing part, emphasis will be on note taking, vocabulary acquisition, completing application forms, writing a summary, and advertisements. The grammatical part focuses on verb tenses, parts of speech, conditionals, and formulation of questions.

#### ART33111 History of Arab Thought

The purpose of this course is to study the modern (European) intellectual trends and Arabs' intellectual trends in particular. The course begins with an examination of the factors behind European Renaissance from the 16th-19th centuries. The course looks closely at the factors behind intellectual renaissance in the Arab World, namely, it provides a study and an analysis of religious trends and movements, such as salafiyah (Islamic reform movement) and modernism, political trends such as the Islamic League, Ottoman League, the national, regional and pan-Arabism movements, social factors, underdevelopment and its underlying causes, social justice, freedom, equality, emancipation of women; and finally, it examines scientific factors.

#### ART34111 Geography of Palestine

This is a regional study of Historical Palestine before 1948, the impact of historical events on it, political upheavals that have been storming the country for a long time, particularly from economic, human, and geographical perspectives.

#### ART35112 Arab Society

This course covers a number of topics such as: social institutions, social changes in the contemporary Arab World, Arab family, kinship system, ideological and class divisions. This course places some emphasis on the problems of growth and modernization.

#### ART36112 Introduction to History of Ancient Civilizations

This course is a study of Ancient East in terms of states and kingdoms established there and in terms of relationships among them politically and culturally. The course will also identify most important cultural centers in the Ancient East and the extent of man's contribution, in the area, to human civilization in general.

## ART37111 Introduction to Mass Media

In general, this course is an introduction to the principles, concepts and basic theories in public communication. The course introduces various mass media systems, print and electronic, and also traces the historical development of basic public mass media: books, newspapers, periodicals, cinema, radio and television.

## 2. College Elective Courses

### ART31112 Arabic Library

This course introduces Arabic writing movements from different dimensions. The course also introduces mainly Arabic heritage library, particularly prose and poetry library and its two streams: literary and linguistic. Students also receive training on how to deal directly with these primary sources.

### ART31113 Principles of Syntax

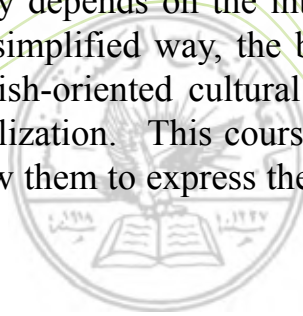
In this course, student will receive instruction in general linguistic rules which help the student formulate a correct Arabic sentence. These rules include definition of grammatical terms, Arabic sentence and its types, number and its rules, grammatical tools representing syntactic methods such as conditional tools, question words and negation words. Students also learn about the principles of constructing the nominative or indicative in Arabic grammar. Student will apply these theoretical rules. These include selected texts taken from heritage books or volumes of classical poetry. Students are expected to make analysis of these texts, note down general grammatical information, thus helping them avoid mistakes in the mechanics of writing.

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## ARC36201 Introduction to Archaeology

This course introduces archaeology as a science, the origin of civilizations, history of research on Palestine archaeological treasures, role of Western archaeological institutions and schools in crystallization of theoretical and applied methodologies, relationship between archaeology and other sciences. The course also explains the importance of pottery in archaeological studies, types of archaeological sites, ways of discovering archaeological sites, ways of dating ruins, and methods of excavations, the hows of interpreting archaeological evidence, and excavation authority. The course also includes field studies of archeological sites.

## ARC36202 Antiquities of Ancient East

This course covers a number of topics: introduction to the Ancient East, its location, nature, importance, world civilization, effect of agriculture and use of metals on economic, social, and political development, artistic and architectural ruins, effect of religion and the environment on physical ruins and flint industries.

## ARC36203 Old Pottery

This course introduces the student to different historical ages including the Iron Age. Students will learn about Arabesque properties, quality classification of pottery pieces, and will be provided with a list of abbreviations of important archeological journals devoted to Palestine antiquities in old ages.

## ARC36204 Greek and Roman Antiquities

This course is a brief preliminary historical and geographical study of the lands ruled by the Romans and their influence on Greek arts. The course is also a study of Greek antiquities through their internal and external centers, planning of Greek cities, examples of these cities, Greek architecture in all its types, and other Greek arts: pottery, photography, inscription, and coins. In addition, the course dwells on the importance of Greek arts in general compared with other arts. There is also a reference to the Hellenistic period and its cultural landmarks in the East. In the second part of the course, students will be given a brief preliminary study of the country ruled by the Romans, their antiquities through their external and internal centers, planning of Roman cities and Roman architecture in all its types, Roman arts such as pottery, photography, inscription, coins, glasses. This is also a study of important Roman and Greek antiquities in Palestine.

### **ARC36251 Greater Syria's Ancient History and Archeology**

This course focuses on the area stretching from South Tortuous to Damascus, and from Euphrates River to the Mediterranean coast. The study will be in terms of history of archaeological activity in Syria and Lebanon. In Syria the study will cover up to the Old Bronze Age, archeological digs, written sources, the transitional period between the Old Bronze Age and Middle Bronze Age. Also the course will focus on Syria during the Old and Middle Bronze Age and the Late Bronze Age and finally during the Iron Age.

### **ARC36252 Architecture in the Ancient Near East**

This course is a survey of the engineering work of temples, shrines, palaces, and houses in Iraq, Egypt, and Greater Syria in terms of architectural elements, architecture fashion, local origin and external influences.

### **ARC36253 The Nabateans**

The course begins with a historical glimpse at the Nabateans, an archeological survey of the important Nabateans' sites. The course then moves to the study of field work architecture, engraving of rock surfaces by the Nabteans according to historical sequence, victory arch, holy yards, Al-Banat Palace temple, major amphitheatres in Petra, rock surfaces painted with multi-color paint, Nabteans and their coins, in addition to their writings, inscriptions, and pottery in all its types.

### **ARC36254 Special Topic in Arabian Peninsula Antiquities**

This course provides an introduction to the Arabian Peninsula, sources of its history, Saudi Arabian antiquities, and the Southern Civilization of the Arabian Peninsula.

### **ARC36301 Byzantium Antiquities**

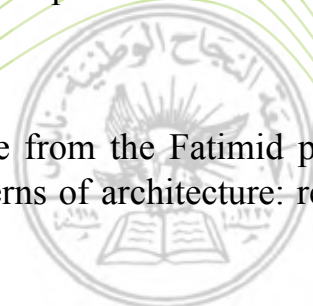
Topics covered in this course are the following: an introduction about the Byzantium state, emergence of Christianity, Byzantium architecture (churches), Byzantium inscription, mosaics arts, Byzantium coins, icon and photo destruction movement, a comparism between Byzantium and Islamic arts at two levels: architechtural and ornamental.

### **ARC36302 Islamic Architecture I**

This course covers a number of topics: introduction to architecture in the Arabian Peninsula before Islam, the relationship between Islamic architecture and Byzantium and Sasanian architectures, effect of religion and the climate and raw materials on architecture of Prophet's Mosque, nucleus of religious facilities in early Islam, and Umayyad and Abbassid architectures. The course will also provide models of Islamic architecture by using slides.

### **ARC36303 Islamic Architecture II**

This course tackles Islamic architecture in Palestine from the Fatimid period to the Ottoman period. The study includes different patterns of architecture: religious, urban, military and social. Slides will be used.



### **ARC36304 Islamic Arts**

This course will provide an introduction to the origin of Islamic art, relationship between this art and other arts, fashion of Islamic art, factors behind maturity of art, applied and ornamental arts, pottery and porcelain works, ancient fabrics, and metal works, ivory and modern works, glass works, art of writing, and impact of Islamic art on European arts. Illustrations by using slides will be given.

### **ARC36305 Research Methodology**

Students, in this course, learn general principles pertinent to research methods and goals. They also learn about the nature of archaeological studies in terms of their goals, and historical relationship in terms of methods represented primarily in surveying and the hows of choosing a topic for research on surveying and excavations. Students will be introduced to preliminary report goals and elements, final report goals and elements, site, area, and term. Students will also learn critical foundations of archeological studies.

### **ARC36306 History and Antiquities of the Arabian Peninsula**

This course highlights the Arabian Peninsula's antiquity landmarks, their history from the beginning of the Stone ages, Stone-Copper Age, Bronze ages, Iron Age to Classical Age. The course includes also a comparative study of Arabian Peninsula's antiquities and the antiquities in neighboring areas.

### **ARC36351 Archeological Texts in English**

This course involves the translation of archeological texts in English in order to enrich students' archeological and technical terms. The course aims at allowing students to benefit from foreign references.

### **ARC36352 Ancient Language**

Instructor chooses a family of inscriptions or ancient writings. These writings will be analyzed in terms of linguistic structure and historical value.

### **ARC36353 Ancient Ornamental Inscriptions**

Topics covered in this course include an introduction to Semitic languages, inscriptions, archeological writings in the Arab countries, origin of Arabic writing and its development, Islam's attitude towards calligraphy, materials used for writing it, types of inscriptions, and archeological writings, Kufic calligraphy and its types, Neskhi calligraphy, calligraphy and calligraphers' schools, study of archeological writing models in terms of form and content.

### **ARC36354 Special Topic in Greater Syria's Ancient Antiquities**

Instructor chooses a specific period in the history of ancient Greater Syria or a specific subject. He then investigates that period or subject in detail.

### **ARC36401 Islamic Urban Planning**

This course covers several topics: introduction to origin of cities, impact of environment, climate and site on choice of city location, study of Islamic city landmarks and relationships among cities in addition to a comparison between Islamic and Byzantine cities.

### **ARC36402 Museum Art**

Topics to be introduced in this course include origin and development of museums, museum purposes and goals, history of some Arab and international museums, a case study of one museum, choice of museum site, museum buildings, their design, show cupboards, show lists, organization of displayed items, cupboards of non-displayed items, cards, lighting, museum safety, museum administrative body, maintenance and renovation, security, role of archeological digs in supporting museum possessions.

### **ARC36403 Islamic Coins**

This course introduces coins in terms of their importance, sources of their study, bartering system, study of Byzantine and Sasanian coins before Islam, coins in Early Islam, Islamic money denominations: dinars, dirham, fils. The course also dwells on Arabization movement during the term of Abdel-Malik Ben Marwan, Islamic minting industry, and Islamic minting types.

### **ARC36404 Maintenance and Renovation of Archaeological Sites**

Students, in this course, learn about the importance of renovation and maintenance of antiquities, maintenance of antiquity pieces made from copper, iron, silver, glass and pottery. This study includes how these pieces get damaged and the best techniques to preserve and mend them. The course also covers maintenance of archeological sites and buildings in terms of human and natural factors affecting them and the best means to preserve them as well as some necessary maintenance works in the field such as removal of archeological finds and facilities and taking samples. The students are also introduced to regional and local antiquity laws.

### **ARC36405 Practical Training in Antiquities**

Students learn about the different techniques of archeological digging, recording, drawing, photographing, and surveying. They learn theory and practice. They get involved in archeological excavations under direct supervision. At the end of digging, the student is expected to submit a detailed report on the site. The course also includes field visits to museums, and different archeological buildings.

### **ARC36406 Byzantium and Islamic Antiquities in Palestine and Jordan**

This course is devoted to the study of both Byzantine and Islamic arts and architectures; architecture in Early Islam; Umayyad and Abbassid architectures and examples of historical buildings from both periods.



### ARC36451 Jerusalem Antiquities

This course tackles the physical ruins of the Canaanites and Yabusians as well as Byzantine and Islamic ruins. The course involves field visits to Jerusalem. Slides will be used to illustrate these antiquities in the city.

### ARC36452 Drawing, Surveying and Photography

This course is devoted to the study of principles of drawing in digs in terms of horizontal and vertical projects as well as archeological pieces, principles of surveying in general, field training, and study of photography theory, chemical materials used in film processing and printing.

### ARC36453 Islamic Photography

This course covers the following topics: Islam's attitude towards photography, types of Islamic photography, wall pictures, manuscripts, copies, mosaics, photography schools, technical production. Slides will be used to provide illustration.

### ARC36454 Special Topic in Palestine Antiquities

Instructor chooses a special topic of antiquity in Palestine and then he tackles it in detail.

### ARC36455 Origin and Development of Arabic Calligraphy

This course is a study of the basics, origin and development of Arabic calligraphy coupled with a practical presentation of different types of Arabic calligraphy in Arab East, Maghreb and Andalus.

### ARC36456 Technology in Old Ages

This course examines the development of different industries in old ages in a chronological order. These industries include the manufacturing of flint (granite), its uses, and pottery industry. The course also investigates how man succeeded in producing copper, bronze, glass particularly concerning its installation.

### ARC36457 Antiquities and Tourism

This course introduces Palestine archeological sites, how to study and rehabilitate them to be utilized in local and external tourism. The course also focuses on touristic facilities that have to be available in these locations to promote tourism in general and contribute to national income. The course will provide the student with an idea about how to deal with tourist groups in terms of reception, bookings, travel, hotels and restaurant management. It also aims at highlighting the importance of encouraging local and foreign investors in the field of tourism by providing them with facilities, incentives, promotion and touristic marketing of historical and archeological sites in Palestine as tourism and antiquities are becoming the biggest businesses in many countries. The course also sheds light on different types of tourism: religious, archeological, academic, therapeutic, historical...

# DEPARTMENT OF JOURNALISM AND MASS MEDIA

## 1. Undergraduate requirements for a B.A. in Journalism

The Department of Journalism offers a single specialization in Journalism. Students wishing to obtain a B.A. in this field must complete (143) credits successfully. These include university, college and department compulsory & elective courses.

### 1. College compulsory requirements: 7 courses (21 credits)

Course #	Course title	Credit hours
31111	Introduction to Literary Appreciation	3
32111	College English I	3
33111	History of Modern Thought	3
34111	Geography of Palestine	3
35112	Arab Society	3
36112	Introduction to History of Ancient Civilization	3
37111	Introduction to Mass Media	3

### 2. College electives

Course #	Course title	Credit hours
31112	Arabic Library	3
31113	Principles of Syntax	3
32112	College English II	3
32113	Spanish I	3
32114	Spanish II	3
32115	German I	3
32116	German II	3
32117	Turkish I	3
33113	History of Islamic Civilization	3
34112	Introduction to Human Geography	3
34113	Introduction to Physical Geography	3
35111	Introduction to Sociology	3
35113	Refugees and Involuntary Emigration	3
36113	Introduction to Ancient History of Palestine and Jordan	3
37112	Mass Media in Arabic	3
38111	Writing Practice in French I	3
38112	Oral Communication in French	3
31112	Arabic Library	3





### 3. Compulsory courses (78) Credit Hours

Course #	Course title	Credit hours	Hours per week		Prerequisite
			Theory	Practice	
37000	Practical Application	0	-	-	-
37113	Applied Linguistics for Media	3	3	-	37112
37201	Media Ethics	3	3	-	-
37203	Media Theories	3	3	-	-
37204	Public Opinion	3	3	-	-
37205	Palestinian Media	3	3	-	-
37206	News Skills in English I	3	3	-	10104 or 10323
37306	Media Research	3	3	-	-
37307	News Skills in English II	3	3	-	37206
37308	Principles of Public Relations	3	3	-	-
37311	Photojournalism I	3	1.5	1.5	-
37312	Journalistic Editing I: News	3	1.5	1.5	37111
37313	Radio and TV News Editing	3	1.5	1.5	37312
37314	Computer Usage for Media Purposes		1.5	1.5	37312
37358	The Art of Persuasion	3	3	-	37308
37413	Journalistic Editing II: Investigative Reporting	3	1.5	1.5	55211 or 37312
37414	International Mass Media	3	3	-	-
37415	Photojournalism II	3	1.5	1.5	37311
37416	Layout and Design I :Newspapers	3	1.5	1.5	55211 or 37111
37417	Layout and Design II: Magazines	3	1.5	1.5	55316 or 37416
37418	Press Practicum	3	1.5	1.5	37413
37444	Graduation Project	3	-	3	-
37458	Modern Radio	3	3	-	55211 or 37312
37459	Modern Television	3	3	-	37312
37463	Radio Practicum		1.5	1.5	37458
37464	Television Practicum	3	1.5	1.5	37459
37465	The Art of Radio and TV Presentation	3	1.5	1.5	37459 or 37458

### 4. Elective Courses (12) Credit Hours

Course #	Course title	Credit hours	Hours per week		Prerequisite
			Theory	Practice	
31259	Hebrew I	3	3	-	-
31260	Hebrew II	3	3	-	31259
37250	Media Propaganda	3	3	-	-
37251	Management of Media Institutions	3	3	-	-
37252	Development Media	3	3	-	-
37253	Arab Mass Media	3	3	-	-
37254	Population Communication		3	-	-
37354	Israeli Mass Media	3	3	-	-
37355	Islamic Mass Media	3			-
37356	Mass Media and Society	3	3	-	-
37357	Journalistic Advertisement	3	3	-	-
37460	Cinematic Film	3	3	-	-
37462	News Skills in Hebrew	3	3	-	31259

## **Course Descriptions**

### **1. College compulsory courses**

#### **ART31111 Introduction to Literary Appreciation**

This course introduces students to the artistic, intellectual and psychological dimensions of the literary text; it improves their reading abilities, thus establishing an affective relationship between themselves and the text, on the one hand, and with text and its social environment and values, on the other.

#### **ART32111 College English I**

This course emphasizes the major comprehension skills: scanning, skimming, understanding meaning of difficult words from context, drawing inferences, differentiating between literal and non-literal meaning. The course also aims at developing the skill of summarizing a text. In the writing part, emphasis will be on note taking, vocabulary acquisition, completing application forms, writing a summary, and advertisements. The grammatical part focuses on verb tenses, parts of speech, conditionals, and formulation of questions.

#### **ART33111 History of Arab Thought**

The purpose of this course is to study the modern (European) intellectual trends and Arabs' intellectual trends in particular. The course begins with an examination of the factors behind European Renaissance from the 16th-19th centuries. The course looks closely at the factors behind intellectual renaissance in the Arab World, namely, it provides a study and an analysis of religious trends and movements, such as salafiyah (Islamic reform movement) and modernism, political trends such as the Islamic League, Ottoman League, the national, regional and pan-Arabism movements, social factors, underdevelopment and its underlying causes, social justice, freedom, equality, emancipation of women; and finally, it examines scientific factors.

#### **ART34111 Geography of Palestine**

This is a regional study of Historical Palestine before 1948, the impact of historical events on it, political upheavals that have been storming the country for a long time, particularly from economic, human, and geographical perspectives.

#### **ART35112 Arab Society**

This course covers a number of topics such as: social institutions, social changes in the contemporary Arab World, Arab family, kinship system, ideological and class divisions. This course places some emphasis on the problems of growth and modernization.

#### **ART36112 Introduction to History of Ancient Civilizations**

This course is a study of Ancient East in terms of states and kingdoms established there and in terms of relationships among them politically and culturally. The course will also identify most important cultural centers in the Ancient East and the extent of man's contribution, in the area, to human civilization in general.

## ART37111 Introduction to Mass Media

In general, this course is an introduction to the principles, concepts and basic theories in public communication. The course introduces various mass media systems, print and electronic, and also traces the historical development of basic public mass media: books, newspapers, periodicals, cinema, radio and television.

## 2.College Elective Courses

### ART31112 Arabic Library

This course introduces Arabic writing movements from different dimensions. The course also introduces mainly Arabic heritage library, particularly prose and poetry library and its two streams: literary and linguistic. Students also receive training on how to deal directly with these primary sources.

### ART31113 Principles of Syntax

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### **37000: Practical Training**

This is a practical training course. Students usually sign up for this course after completing (100) credit hours in their major. Training has to be done at any media/communication agencies and should be consistent with the student's major and interest which happens to be conditional for graduation. Students are obligated to provide their department with forms related to their training assignments and attesting to their compliance with this condition during their training period. A grade of pass or fail shall be posted in the student's academic record for this training assignment and it shall not be counted in the student's GPA (grade point average).

### **37113: Applied Linguistics for Media**

This course represents an advanced step for the teaching of students of mass communication Arabic grammar and the rules of sentence structure and organization, and the language of the mass media and communication. In addition, this course affords students the opportunity to hone on their writing, critical thinking and analytical abilities in writing and pointing out different media genres in different mass media channels of communication whether in journalism, radio, and TV. Furthermore, students will be asked to provide samples of their writing as a form of practice.

### **37201: Media Ethics**

This course provides insight into journalists' ethical and professional concerns and principles while they are collecting news stories, transmitting, editing and preparing for publication. The course focuses primarily on the importance of respecting truth, public opinion, accuracy, objectivity, and abstaining from deliberate distortion and fabrication.

### **37203: Media Theories**

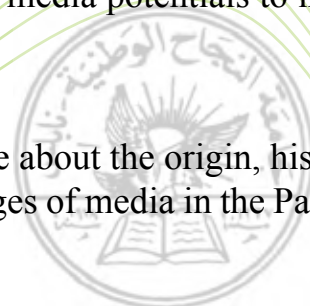
This course provides an introduction to media theories and media studies. This includes an in-depth study of different theories and schools, important in the study of public mass media, in terms of their influence on readers or viewers and the role of newspapers, magazines, radio and TV in contemporary society.

### **37204: Public Opinion**

This is a study of public opinion, its elements, types, media potentials to influence the public opinion and direct it.

### **37205: Palestinian Media**

This course provides a general comprehensive picture about the origin, history and development of Palestinian printed and non-printed stages of media in the Palestinian history locally and in the Diaspora.



### 37206: News Skills in English I

This course highlights the importance of languages in journalistic work. The more languages the journalists know, the more they will be capable of communication and the more sources of data they will have. Undoubtedly, English has a special importance in the world and in Palestine. The course aims at strengthening the students' journalistic terms as well as their ability to read, write, understand, speak and translate.

### 37306: Media Research

This course focuses on methods of scientific research and then on contemporary scientific methods in order to acquaint students with public opinions and mass media and consequently this course consists of three major components:

First, the foundations of scientific research and its methods;

Second, introducing students to the scientific tools and the surveying techniques employed in measuring and assessing public opinions;

Third, introducing students to analyze the implicit meaning quantitatively and qualitatively.

### 37308: Principles of Public Relations

This course introduces the concept of public relations, and how it works in different institutions. The course examines the personal and professional qualities public relations people must possess, and the methods they should have when dealing with local and foreign institutions and the public in general. The course also explains the relationship between public relations professionals and newspapers, magazines, radio and television.

### 37311: Photojournalism I

This course introduces the art of photojournalism, and its difference from conventional photography. The course also shows the importance of pictorial material for the print media and television and its role in crystallization of public opinion. The course also includes a survey of the most important news values in it. The student will also learn about camera components, and how it is used. Practical experience in film processing and printing in photojournalistic lab will be provided.

### 37312: Journalistic Editing I: News

Students in this course will learn the basic principles of journalistic editing, writing styles, organization of written material, journalistic arts, the first basis for newspaper "building" and composition. The news story is the most important art in journalistic editing; it's the bread and butter of the newspaper information, and it gives the newspaper its news value. Students will also learn the art of editing news stories theoretically and practically. They will get training on editing equipment.

### 37313: Radio and TV Editing

This course is designed to provide students with the opportunity to use the proper and appropriate language used in audio media with good articulation and pronunciation

of vocabulary words and with good use of paralinguistic devices. In addition students will learn about the production of news broadcasting, drama, and entertainment and how to write and produce the script for each media genre. In TV production students should learn the effect of the visual images presented in this medium of communication and should learn how to deal and handle the other helping elements accompanying these visual images. This course covers the study of all TV programs particularly news and entertainment shows, and explains how to write TV, scenarios, particularly for drama.

### **37314: Computer Usage for Media Purposes**

This course is designed to introduce students to the nature, function, and application of computer, particularly in journalism. By ant large, this course deals with the process of putting journalistic information on the internet and training students gradually to learn how to use this medium of communication to prepare an online journalistic site for production and design and as a resource to deal with media text. And finally, students should realize the merits and advantages of using and tapping on various websites lo find a wealth of information.

### **37358: The Art of Persuasion**

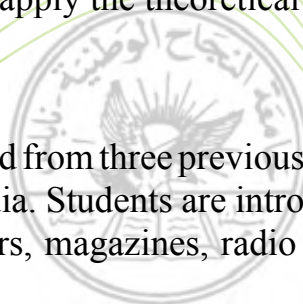
This course aims at introducing students to the methods and techniques used in advertisement and the process of persuasion and its stages through which the target audiences or population would be inclined to believe and accept the communicated message conveyed to them. In addition, this course is designed to review and survey some of the advertisement movements throughout history and the ways and means which these movements have adopted to accomplish their goals and objectives. Furthermore, this course deals with the nature, characteristics, and means used by advertisement movements. It looks at the philosophies and rationales adopted by advertisement movements in their attempts to persuade and induce different target audiences to accept the message conveyed to them through various media channels in order to achieve their goals.

### **37413: Journalistic Editing II: Investigative Reporting**

This is a continuation of Journalism I. It introduces the student to foundations and principles of preparing journalistic investigation through its stages: setting up goals, data collection, planning, implementation, photographing, investigative writing, its production and publication. This is in addition to introducing the student to the fundamentals of editing other journalistic arts which complement the newspaper building or the production of successful magazine especially the writing of essays, columns, and advertising. The students are expected to apply the theoretical material by receiving training on editing equipment.

### **37414: International Mass Media**

This course capitalizes on students' knowledge acquired from three previous courses, namely, Palestinian Media, Arab Media and Israeli Media. Students are introduced to history and development of all mass media: newspapers, magazines, radio stations,





TV programs, international news agencies. The course will provide an analysis concerning the status of Palestinian and Arab mass media compared with Israeli-Zionist media. The course also addresses important international media concepts such as “world propaganda” international inclination and the “new media order.”

### **37415: Photojournalism II**

This course is a continuation of Journalism I. It covers practical and aesthetic aspects of documentary photographing, and photojournalism. Students will receive instruction on how to read pictures in books, newspapers, magazines as well as slides. The students also learn different schools’ and photographers’ methods. Students are asked to apply the theory and put it into practice for discussion in class.

### **37416: Layout and Design I: Newspapers**

This course explains the stages of newspaper production and publication. It illustrates the broader meaning of production and the development of using the newspaper; the course gives the student the opportunity to receive practical training in the design and production of newspaper.

### **37417 Layout and Design II: Magazine**

This course provides an idea about the foundations of magazine technical design, the difference between newspaper and magazine production. The course focuses on the design of magazine covers, its elements, body and typographic elements. Students receive also training on the hows of designing and producing a magazine.

### **37418: Press Practicum**

This course allows the student to review and check information he/she has received about news transmitting, editing and investigation as well as journalistic forms. Students also get more instruction on photography principles and newspaper production. Students will do a number of practical assignments in these fields. Students’ work will be compiled in newspaper format.

### **37444: Graduation Project**

This course focuses on students’ graduation project in journalism. It is also considered a practical course which students have to take in their last academic semester. Students’ graduation project can include projects and topics on public relation creating an online website, preparing or shooting a film, preparing a printout, or radio broadcasting program, or communication/media research .

### **37458: Modern Radio**

In the first place, the course will focus on the language of the radio, the spoken word, and the difference between the radio and other popular mass media such as newspaper and television. The course also considers sound influences and music and its uses. Then the course moves to explain the art of programming and radio programs, and news bulletins, editing, radio dialogues, sports programs and music. The course also dwells on drama programs and radio performances.

### **37459: Modern Television**

This course capitalizes on the editing of press reports, radio news. Students will be introduced to principles and bases of editing television news, the hows of preparing a news bulletin, TV news, magazines, television investigative reporting, interviews and speeches. The course also highlights the importance of TV pictures, their degree of influence on viewers, role of television in societal development.

### **37463: Radio Practicum**

This course aims at training students to edit broadcasting scripts and production regardless of its genre type in addition to enabling students to produce news broadcasting and be able to prepare, produce, and edit news programs, personal interviews, debate & discussion programs, and entertainment programs.

### **37464: TV Practicum**

This course is designed to teach and train students to prepare, edit, and present different types of media scripts for a variety of media channels. It aims also at training students to prepare and edit the script for TV production and the use of camera for specific purposes, and trains the producer to produce the news broadcasting, constructing news program which includes photographing and presenting the news, and providing an entertaining show.

### **37465: The Art of Radio and TV Presentation**

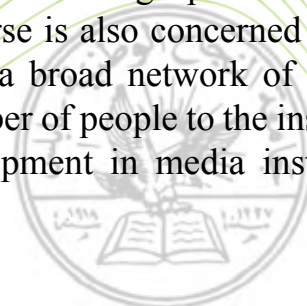
This course deals with the scientific principles of the art of presentation/public-speaking pertaining to radio and TV broadcasting. It is designed also to tap and hone on students' rhetorical and linguistic skills in terms of correct pronunciation and articulation of sounds and other important embellishing linguistic or rhetorical devices. In addition, this course trains students to deliver speeches on live microphone before a camera and perform other activities such as presenting news, conducting interviews, and reporting and covering certain news events at different locations and sites.

### **37250: Media Propaganda**

This course provides a comprehensive idea about the concept of media propaganda and its uses, its influence on local, regional and international public opinion. The course sheds light on other nations' experiences in this field.

### **37251: Management of Media Institutions**

This course aims at teaching students how to manage or run press institutions in terms of work centralization, strategic planning and the setting up of a timetable for accomplishment of journalistic materials. The course is also concerned with the management of physical resources, establishment of a broad network of relations with sources of news in order to attract the largest number of people to the institution. The course also focuses on human resources development in media institutions, formulation of their policies and general procedures.



### 37252: Development Media

This course aims at presenting models and theories to illustrate the role of communication in the development process. It also reviews research and theories pertinent to development media. The course investigates how the media can be used for the sake of the development process and the influence of communication in developing societies. The course examines also the origin and development of development media and the contribution of international institutions, like UNESCO, to the emergence of such media.

### 37253: Arab Mass Media

This course builds and capitalizes on student's knowledge acquired in the study of Palestinian Media. The course examines the origin and development of newspapers, magazines, radio and TV stations and programs in the Arab World. The course particularly highlights important current issues such as Arab World media systems, censorships, freedom of public opinion, freedom of expression, publication, broadcast and dissemination of news.

### 37254: Population Communication

This course focuses on the importance of students' understanding of the situation of the Palestinian population since it is considered one of the principal foundations on which the process of development, and the laying out of strategies, and planning for the future of Palestine depends upon. This course is also designed to point out the influence and effect of the mass media communication channels be that visible or audible or printed can exert on viewers perception by inducing some change in the minds and behavior of viewers and the consequence of such undertaking on different aspects of the concept of population.

This course attempts to underscore the influence of communication channels in terms of introducing students to the necessity to become knowledgeable about population needs, the profiling of public opinion and its diverse perspectives in various mass media be that visible, audible, or printed. This course highlights a set of trends and concepts pertaining to population, development, and population planning.

### 37354: Israeli Mass Media

This course aims at introducing the Israeli mass media in terms of history and development. The course mainly examines Israeli public and private newspapers, magazines, radio and TV stations in Arabic and Hebrew. The course also highlights the nature of Israeli media system, its internal and external propaganda organs. The course is taught against the background of the continuous confrontation between the Palestinian and Arab mass media and the Israeli media in times of war and peace.

### 37355: Islamic Mass Media

This course tackles the theoretical foundation of Islamic ideology towards the media, their function and role in the society. The course surveys the historical experience Muslims have passed through in their endeavor to develop their mass media for the last fourteen centuries. The course also addresses the features of Islamic media system and holds a comparison between these media and other mass media.

### **37356: Mass Media and Society**

This course aims at investigating the media influences on society and the media policies that try to strengthen the relationship with the society. The course also raises contemporary media issues. The course is taught in the context of the social, political, cultural, economic power of the media as a daily life necessity in the minds of contemporary societies. The course is also taught against the background of mass media role in strengthening social ties, links between the ruler and his subjects as well as in giving people the room for freedom of expression and reinforcing international relations. The course is also taught against the background of the negative role of the media if not used properly, especially if it divides the society, poisons minds and corrupts people through their material and pictures.

### **37357: Journalistic Advertisement**

This course explains the concept of advertising and traces stages of its development throughout history, importance of using it in public mass media to direct public opinion. The course also introduces the students to types of ads, the hows of editing them and their design for different media purposes.

### **37460: Cinematic Film**

This course explores the basic principles of cinema camera movement, snapshots, composition inside the picture and scenes, lighting and color. The course also covers the basic principles of film production and publication.

### **37462: News Skills in Hebrew**

The purpose of this course is to strengthen the student's knowledge of Hebrew mass media, to allow him to read, write, understand, speak and translate materials from Hebrew media. This gives students an effective means of learning about Israeli media, their sources of news and how they get information from original sources.

### **37307: News Skills in English II**

This course is a continuation of News Skills in English I . The student is expected to invest his knowledge in the previous course in exploring more specialized journalistic writings in the fields of politics, economics, society, technology, sports, etc.



# DEPARTMENT OF FRENCH

## *I. Undergraduate requirements for a B.A. in French*

The Department of French offers a single specialization in French Language and Literature. Students wishing to obtain a B.A. in French must complete successfully 143 credit hours. These include university, college and department compulsory and elective courses, in addition to the six-credit hour “free” courses.

### *The admission requirements*

- Following are the admission requirements to the French Department that have been revised by the department’s Council:
  - Students who have the scholastic DELF A2 or over can enroll in the four courses mentioned in number 3.
  - Those who have good proficiency in French language but don’t have the scholastic DELF A2 should sit for a placement test in French before the beginning of the First semester.
  - Students who score less than 80% must enroll in French 38100 for beginners and French 38102 for advanced. These two courses are non-credit hours and therefore are not counted in the Grade Point Average (GPA).
  - Students scoring 80% and over can immediately enroll in the courses mentioned in point number3.
  - Students who don’t have any knowledge of French must enroll in French 38100 and French 38102.
  - Students must succeed in the following “ initiation courses” which are non-credit courses:
    1. French 38100 for beginners.
    2. French 38102 for advanced students.
  - Students must successfully complete the following courses and must obtain an average of 70% or higher:
    - French A1,38111
    - French B1, 38112
    - Grammar 1, 38114
    - Oral and written expression 1, 38116
- Department Courses (93 credit hours)

If the number of applicants is higher than the number allowed for enrollment, students who score the highest grades will be admitted.

## 1. College compulsory requirements: 7 courses (21 credits)

Course #	Course title	Credit hours
31111	Introduction to Literary Appreciation	3
32111	College English I	3
33111	History of Modern Thought	3
34111	Geography of Palestine	3
35112	Arab Society	3
36112	Introduction to History of Ancient Civilization	3
37111	Introduction to Mass Media	3

## 2. College electives

Course #	Course title	Credit hours
31112	Arabic Library	3
31113	Principles of Syntax	3
32112	College English II	3
32113	Spanish I	3
32114	Spanish II	3
32115	German I	3
32116	German II	3
32117	Turkish I	3
33113	History of Islamic Civilization	3
34112	Introduction to Human Geography	3
34113	Introduction to Physical Geography	3
35111	Introduction to Sociology	3
35113	Refugees and Involuntary Emigration	3
36113	Introduction to Ancient History of Palestine and Jordan	3
37112	Mass Media in Arabic	3
38111	Writing Practice in French I	3
38112	Oral Communication in French	3
31112	Arabic Library	3



### 3. Compulsory courses (81 credit hours)

Student studies all of the following courses:

Course n :	Course	Prereq	CH
38111	French -A1		3
38112	French -B1		3
38114	Grammar 1		2
38116	Writing & speaking skills 1		2
38220	Writing and phonetics		2
38224	French -A2	38111	3
38226	French -B2	38112	3
38228	Grammar 2	38114	2
38230	Writing & speaking skills 2	38116	2
38252	French -A3	38224	3
38254	French -B3	38226	3
38256	Grammar 3	38228	2
38258	Speaking skills 3	38230	2
38260	Writing skills 3	38230	2
38310	French -A4	38252	3
38312	French -B4	38254	3
38314	Speaking skills 4	38258	2
38316	Writing skills 4	38260	2
38318	Grammar 4	38256	2
38320	Computer science		2
38350	French -A5	38310	3
38352	French -B5	38312	3
38354	Speaking skills 5	38314	2
38356	Writing skills 5	38316	2
38360	Oriented reading 1		2
38366	French as a Foreign language 1		3
38410	Translation 1		2
38412	History of France in 20th century		3
38414	Oriented reading 2	38360	2
38416	Introduction to phonetics		2
38418	French as a Foreign language 2	38366	3
38450	Panorama of French literature1		2
38454	Introduction to linguistics	38416	2
38456	Contrastive linguistics	38416	2
38458	Practice in classes teaching	38366	2
38460	Language evaluation	38366	2
38462	Translation 2	38410	2

#### 4. Elective courses (12 credit hours)

Student studies 4 to 6 courses of the following:

Course n :	Course	Prereq	CH
38215	Geography of France		2
38255	French speaking countries		2
38235	Drama		2
38327	Textual grammar, Philology	38318	3
38351	General history of France	38412	3
38361	Studying a French literature movement		2
38415	Analyzing French civilization 1		2
38417	Introduction to arts history		3
38419	French political life		3
38421	Oriented reading 3	38414	2
38451	Panorama of French literature 2	38450	3
38453	Analyzing French civilization 2	38415	3
38455	Teaching French in Palestine		2
38329	Introduction to Italian language		2
48463	Practice of Media		2
38459	Linguistic Changes of French in Canada		3





## Course descriptions

### FRE 38111 French I

This course, which introduces the French alphabet and method of writing words, masculine and feminine nouns, singular and plural, also includes sentence level, types

of sentences, personal pronouns, verb conjugations, direct and indirect objects. Visual aids such as drawings and pictures are used to advantage. Editing short responses,

accepting or turning down offers, giving thanks or apology, brief justifications of answers, are some learning exercises.

### FRE 38112 French II

This course teaches spoken French through the use of modern teaching methods typically employed in non-Francophone countries. At the end of this course, students

are expected to speak and understand some French, especially when it comes to introducing themselves, getting to know others, and holding simple conversations or chats.

### FRE38114 Grammar I

This course aims at completing the process of learning French started in French 38112. Focus is on grammar and this will be within the intensive teaching program.

### FRE38116 Writing & Speaking Skills I

This course aims at inspiring students to express themselves, use vocabulary and grammar learned in previous courses, through an intensive program for this purpose.

### FRE38215 Geography of France

This course will tackle topics dealt with in the Geography of France, its regions and departments, and their specificities.

### FRE38220 Writing and Phonetics

This course covers several elements: alphabets (upper and lower case), typed and handwritten, punctuation symbols, writing and reading rules, stress and accent, French alphabet learning by using typewriters.

### FRE38224 French A2

Students, in this course, are expected to identify elements of basic discourse holding certain points of view. Discourse includes essay writing, description of a social or cultural event.

## **FRE38226 French B2**

In this course, students will learn common phrases and sentences used in discussion and dialogues. Drawings will be used to allow students to describe and comment on them.

## **FRE38228 Grammar II**

This course drills students on lessons about French language basic concepts and topics. To this end, *Entrenez-Vous Grammaire* set will be used for beginners.

## **FRE38230 Writing & Speaking Skills II**

To achieve goals of DELF, students, in this course, will train to express themselves in writing and speaking. In speaking, students will train to express themselves in different ways: dialogue, comment on life-like situations. In writing, students will train on writing friendly letters and on expressing feelings and ideas.

## **FRE38235 Drama**

This course will run as a workshop. Students will train to develop their French through the acting of plays. This course also seeks to develop their writing skills and improve their spoken French.

## **FRE38252 French A3**

In this course, students will learn how to write a well-organized text, free from technical mistakes. In addition, the course will help students in their rhetoric and in deduction/induction of information, writing of simple ads on tourist bulletin boards and simple letters.

## **FRE38254 French B3**

Students will be introduced to types of texts, how to scan, skim and ask questions, in addition to expressing points of view. They will also learn how to rephrase ideas according to their own understanding of these texts. Also students will learn how to read selected texts aloud.

## **FRE38255 French Speaking Countries**

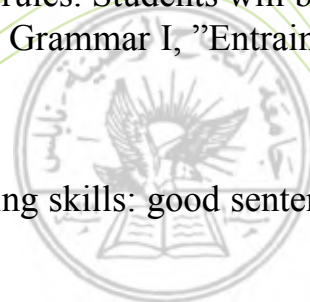
As the course indicates, students will be introduced to Francophone countries: African, European, Asian, in addition to Canada. It will focus on confrontation between native language and the French language, and the impact of the latter on the former.

## **FRE38256 Grammar III**

This course covers French intermediate grammatical rules. Students will be drilled to ascertain their understanding of these rules. Like in Grammar I, "*Entrenez-Vous Grammaire*" will be used.

## **FRE38260 Writing Skills III**

This course aims at improving student's French writing skills: good sentences and short paragraphs.



### **FRE38258 Speaking Skills III**

Through an integrated program, students in this course, will practice using concepts learned in Grammar III, French A3 and B3. By the end of the course, students will have good control of their spoken French. To this end, instructors will use Connexion II.

### **FRE38310 French A4**

Students, in this course, will learn how to rewrite some texts in the form of reports about others. They are also expected to complete comments on certain drawings in addition to interpretation and comments on tables and graphs. Further, students will learn how to summarize an academic text taking into consideration acquired analytical ability & language skills.

### **FRE38312 French B4**

In this course, students will learn how to defend and introduce their points of view through interviews and debates. In addition, they will be allowed to hear recordings, to be discussed later, in an attempt to identify logic in these recordings.

### **FRE38316 Writing Skills IV**

In this course, students learn more grammatical expressions, rules, and concepts, through the use of Connexion III. Students are expected to write on different topics, taking into consideration educational objectives of Connexion III.

### **FRE38314 Speaking Skills IV**

In this course, students learn more grammatical expressions, rules, and concepts, through the use of Tout va bien III. Students are expected to write on different topics, taking into consideration educational objectives of Tout va bien III.

### **FRE38318 Grammar IV**

In this course, students will learn French advanced grammatical rules, coupled with drills on their application. To this end, the "Entrenez-Vous Grammaire" set will be used.

### **FRE38320 Computer Science**

This course aims at introducing students to the world of computer science in French. CD ROMs will be used in this course.

### **FRE38327 Textual Grammar, Philology**

This course focuses on analysis of different text structures to allow best understanding of these structures. These include paragraphs, connectives, key words. Preparation for DELF will be part of this course. This course marks the end of the French learning period, which lasts over five academic semesters. Students take and finish

Connexion I, II, and III. After the successful completion of this stage, students become qualified to major in French, learn how to teach it as a foreign language, or work as translators.

### **FRE38350 French A5**

This course completes the material covered in Connexion III specially the writing comprehension skill.

### **FRE38351 General History of France**

This is a study of the general history of France. Since it's a study of France's history before the 20th century, it may be taught in Arabic.

### **FRE38352 French B5**

This course marks the end of the learning stage of French, after which the student is directed to French specialization.

### **FRE38356 Writing Skills V**

By the end of this course, students should have completed an intensive study of written exams to prepare for written exams in French: DELF.

### **FRE38354 Speaking Skills V**

This course marks the end of the learning process of French, in preparation for passing oral examinations related to French teaching: DELF.

### **FRE38360 Guided Reading I**

This course requires the study of a complete literary work which students are expected to read and prepare at home. They will also be asked to write a report on characters, themes and other elements in the text. Some parts will be discussed and analyzed. Summaries and reports are two basic requirements in this course.

### **FRE38361 Studying a French Literary Movement**

This course is a study of a literary movement in France such as Romanticism, Naturalism and Surrealism.

### **FRE38366 Teaching French as a Foreign Language I**

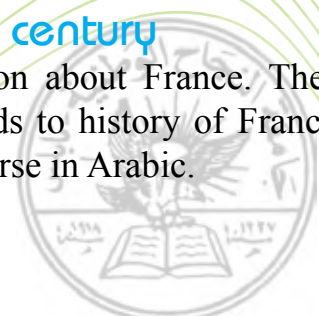
This course introduces principles and methods of teaching French as a foreign language

### **FRE38410 Translation I**

In this course, students will practice translation from French into Arabic and the other way round. Texts of different nature will be translated. Interpretation from both languages will be practiced if time allows.

### **FRE38412 History of France in the 20th century**

In this course, students will get general information about France. The course begins with contemporary French history and proceeds to history of France in the 20th century. Students may also take an equivalent course in Arabic.



### **FRE38414 Guided Reading II**

This course involves the study and analysis of a complete literary work. Text will be discussed in class. Students are expected to submit written reports and make summaries. The course includes several topics and texts at an advanced level.

### **FRE38415 Analysis of French Civilization I**

The aim of this course is to prepare French majors for DELF. The course involves the study of different aspects of French life, French traditions and civilization.

### **FRE38416 Introduction to Phonetics**

This course is a study of French phonemes, places of their articulation, transcription of symbols in words and sentences.

### **FRE38417 Introduction to Arts History**

To allow French majors to get a good knowledge of France and Europe, this course introduces the most important trends in art, both traditional and modern. Slides and museum catalogs are some of the tools used in the teaching of course materials. It is preferable to teach this course in French. However, if no qualified instructor is available, it may be taught in Arabic. French basic concepts will be provided.

### **FRE38418 Teaching French as a Foreign Language II**

This course introduces methods, principles, and problems of teaching French as a foreign language.

### **FRE38419 French Political Life**

Students will be introduced to political life in France, history of political life, political parties and leaderships.

### **FRE38421 Guided Reading III**

In this course, students will be asked to read literary works at home, write reports about them and their characters. These reports will then be discussed in class. Summaries of plots will also be required. Level of these works will be more advanced.

### **FRE38450 Panorama of French Literature I**

This course looks at French literature in general, and then studies some literary movements through modern literary texts. The course will draw a distinction between old and modern French literature.

### **FRE38451 Panorama of French Literature II**

This course is a continuation of French 38450. There will be a more comprehensive look at French literature and a study of different literary movements as well as some novels and short stories representing literary trends and French literary movements prevalent in the past and in modern times.

### **FRE38453 Analyzing French Civilization II**

This course aims at preparing students for DELF. The course covers the study of all aspects of cultural life in France.

### **FRE38454 Introduction to linguistics**

This course involves the study of linguistics theories and terminology used by linguists.

### **FRE38455 Teaching French in Palestine**

This course covers the hows of writing proposals, (language, educational, cultural) related to French speaking in Palestine, and the status of French in Palestine.

### **FRE38456 Contrastive Linguistics**

This course is a comparative study of French and Arabic language systems in terms of their structures and mechanism at work in both systems.

### **FRE38458 Practice in Class Teaching**

This course focuses on supervision and appraisal of teaching through observation of classes, to bridge gaps in the French teaching process.

### **FRE38460 Language Evaluation**

This course covers several topics: different forms of evaluating the school environment: internal and external; evaluation criteria of writing and speaking (when, where, how), the hows of learner's involvement in their own evaluation and others' evaluation of him, analysis of available criteria and tools as well as development of suitable methods.

### **FRE38462 Translation II**

This course aims at polishing students' translation skills: French-Arabic and vice versa. To this end, a program is prepared ahead of time and for advanced stages. This program may also be prepared by students specialized in the field or by those who wish to major in it. Students build on what they must have taken in Translation



## **FACULTY MEMBERS**

### *Assistant Prof.*

Bilal Wasfi Sulieman Shafe'

Ph.D. in Computer Science and Linguistics  
University of Franche-Comté, 1997

### *Instructors*

Mohammad-Ali A. Fatayer

M.A. in Applied Linguistics  
University of Franche-Comté, 1981

Wasim Khaled Abdel Quader Bishawi

M.A. in Using Information and  
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Teaching French  
University of Grenoble, 2007

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M.A. in Didactics of French as a Foreign  
Language  
University of Lille, 2006

Sandie Pottier

M.A. in Language Science  
University Paris 5, 2005

# LANGUAGE CENTER

## THE AN-NAJAH UNIVERSITY LANGUAGE CENTER

The Language Center at an-Najah National University, Nablus, was established in the year 2007, to meet the academic needs of the undergraduate students, as well as to serve the community in general by offering courses in various foreign languages to interested learners.

Under the auspices of the Language Center, different English Communication Skills courses are designed, planned, coordinated and offered to over 6,000 students per semester.

The Center administers a computerized English Placement Test to all freshman students upon their enrolment to measure their proficiency in the English language. To those who fail the test, it offers a mandatory Remedial English course (E32100) to bring their proficiency up to the level required for the two obligatory University English courses.

The first of these is English Language I (E10103);

The other is University English II, offered under different course numbers to students according to their respective faculties:-

- ⇒ E10322 for students of the scientific faculties
- ⇒ E10323 for the students of the humanities
- ⇒ E10325 for the students of Economics and Law

In addition, with a view to the future English language requirements of graduating seniors, the Center introduced the following technical courses:

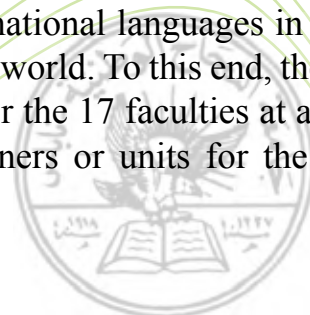
English for the Workplace (E32101) for the students of the faculties of Engineering and Economics

Writing Technical Reports for the students of the faculty of Information Technology

English for Nursing for the students of the Nursing College

As part of its service to the students and the general community, the Language Center also offers basic courses in Arabic for Non-natives, Spanish, German and Turkish, taught by native speakers to speakers of other languages.

The Language Center is continually seeking to widen its scope by looking for ways in which the graduates of an-Najah National University can enhance their communicative competence in English and other international languages in order to function effectively in an increasingly complex modern world. To this end, the Center hopes to expand its activities to include ESP courses for the 17 faculties at an-Najah National University and to establish international corners or units for the various foreign languages and cultures.





# FACULTY OF

# SHARI'A



## ESTABLISHMENT AND DEVELOPMENT

When An-Najah University was established in 1977, it had a department of Islamic education. It was actually a support department offering university service courses as well as other courses to specific departments. Of these, the department offered Islamic Education and Islamic System, as university requirements, and Methodology of Hadith Criticism (Mustalah alHadith), and Exegesis's Methodologies, to Arabic majors.

In 1980, the University established a full-fledged department called "Department of Islamic Studies". The department offered a single specialization in Islamic studies. It was one of the departments of the Faculty of Arts.

The department continued to develop and in 1985, it offered a master graduate program in "Fiqh and Tashri" (Science of Islamic Laws and Islamic Legislation)

The department had taken upon its shoulders to spread Islamic knowledge, particularly 'aqida, shari'a, and Islamic morals as a way of life. The department educated a considerable number of An-Najah graduates.

In 1991, the department became a "Shari'a Faculty" with two undergraduate academic programs, and one graduate program: B.A. in "Fiqh and Tashri", and B.A. in "Usul e-Deen", (fundamentals of Religion), in addition to M.A. in "Fiqh and Tashri", which follows later with M.A. in "Usul e-Deen".

In 2006 a third undergraduate academic program was established called Share'a and Islamic Banking Dept.

## UNDERGRADUATE PROGRAMS

Faculty of Shari'a has curriculum plans leading to a B.A. degree in three specializations: "Fiqh and Tashri'", "Usul e-Deen", and "Shari'a and Islamic Banking".

The Faculty is marked 4, then following number of the department. The first department, "Fiqh and Tashri'", is marked 1. The second department, "Usul e-Deen", is marked 2. The third department, "Shari'a and Islamic Banking", is marked 3.

### *The Faculty Compulsory Courses*

In addition to the twenty credit hours of the "University Compulsory Courses" with the numbers: 10100, 10101, 10102, 10103, 10105, 10108, 10117, 10323,

And in addition to the six credit hours from the "University Elective Courses", from other Faculties, Soon after joining the Faculty, Students, in the first semesters, regardless their departments, study general compulsory courses offered by the Faculty.

They are of 40 credit hours called: The "Faculty Compulsory Courses", which are as follows:

Course #	Course Title	Credit Hours	Prerequisite Number
41111	Fiqh of Ibadat 1 "Prayer & Fasting"	3	
41112	Introduction to Fiqh	3	
41114	Usul al-Fiqh 1 (Fundamentals of Fiqh 1)	3	
42111	Sciences of the Holy Qur'an	3	
42112	Sciences of al- Hadith	3	
42113	Aqida 1 "Islamic Creed 1"	3	
42248	Applied Syntax 1 "Nahw 1"	3	10102
42115	Recitation and Tajwid of the Holy Quran	3	
41221	Fiqh of Ibadat 2 «Pilgrimage & Alms»	3	
43111	Introduction to Islamic Banking	3	
41343	Fiqh of Personal Status	3	
43311	Principles of Islamic Economic System	3	
42131	Fundamentals of Takhrij al-Hadith 1	2	42112
42249	Using Computer In "Shari'a" Sciences	2	



# DEPARTMENT OF FIQH AND TASHRI'

## Admission Requirements

Students wishing to join the Department of Fiqh and Tashri' must complete the following courses, with a minimum of 70% to be obtained in each of these three courses:

1. Fiqh of Ibadat 1                      Nom. 41111
2. Introduction to Fiqh                Nom. 41112
3. Usul al-Fiqh 1                        Nom. 41114

## Requirements for a B.A. degree

To obtain a B.A. degree from the Department of Fiqh and Tashri', students must successfully complete 141 credit hours. These include the University Compulsory and Elective Courses, the Faculty Compulsory Courses, and the Department compulsory and elective courses. The University Courses and the Faculty Courses are as mentioned before. But the Department Compulsory Courses, and the Department Elective Courses, are as listed below.

## Fiqh and Tashri' Dept. Compulsory Courses (63 credit hours)

Course #	Course title	Credit hours	Pre-requisite
41228	Sources of Right, Commitment, and Contract Theory	3	41112
41229	Rights in Rem	3	41112
41332	Contracts 1: Sale and Rent	3	41228
41333	Contracts 2: Donations and Notarization	3	41228
41435	Fiqh of Companies and Commercial Contracts	3	41228
42212	Hadith 1	3	42112
42211	Exegesis 1 «Tafsir 1»	3	42111
41423	Inheritance	3	
41224	Usul al-Fiqh 2      Fundamentals of Fiqh 2	3	41114
41424	Usul al-Fiqh 3      Fundamentals of Fiqh 3	3	41114
42349	Applied Syntax 2 "Nahw 2"	3	10102
41444	Ijtehad and the Goals of Islamic Legislation	3	41224
41336	Criminal Law in Islam	3	
41257	International Relations in Islam	3	
41233	Research Methodology	2	
41433	Research Seminar in Contemporary Fiqh Issues	1	31233
41338	Fiqh of Suit and Evidence "In al- Qada'"	3	
41426	General Rules of al-Fiqh. "al-Qawa'ed al-Fiqheyah"	3	
41425	Comparative Fiqh	3	
72404	Practical Teaching For Islamic Culture	3	
72392	Designing & Producing Educational Means	3	
42239	Recitation and Memorization of the Holy Qur'an1	3	42115
42339	Recitation and Memorization of the Holy Qur'an2	3	42115
42439	Recitation and Memorization of the Holy Qur'an3	3	42115
	Recitation and Memorization of the Holy Qur'an 1,2,3	3	42115

## ***Fiqh and Tashri' Dept. Elective Courses***

(12 credit hours of the following)

<b>Course #</b>	<b>Course title</b>	<b>Credit Hours</b>
41364	Fiqh of Legislative Verses and Hadiths	3
41258	Fiqh Issues in Prohibition & Permission	3
42413	Comparative Religion	3
42411	I'jaz al-Qur'an „Inimitability“	3
42315	Prophet's Biography „Syrah“	3
41259	Principles of Politics and Government System in Islam	3
41453	Wills and Wakf (endowment)	3
43455	Special Topics in Fiqh of Transaction	3
53121	Microeconomics	3
52121	Accounting Principles I	3
41337	Human Rights and Environment in Islam	3
72368	Teaching Skills	3
72405	Methods of Teaching Islamic Culture	3
41236	Criminal Theory in Islam	3
42369	The Art of Delivering Speech and Preaching	3
41355	Methods of Teaching Religion	3
41438	Law of Procedure and its Basics “at court”	3
56121	Finance Principles	3



## DEPARTMENT OF USUL E-DEEN

### Admission requirements:

Students wishing to join the Department of Usul e-Deen must complete successfully the following courses: Qur'anic Sciences 42111, Hadith Sciences 42112 and Islamic Aqida "1" 42113. A minimum of 70% must be obtained in each of the three courses.

### Requirements for B.A. in Usul e-Deen

To obtain a B.A. degree from the Department of Usul e-Deen, students must successfully complete 141 credit hours. These include university, college, and department compulsory, elective courses and "free" courses carrying six credits.

### Usul e-Deen Dept. Compulsory Courses (63 credit hours)

Course #	Course title	Credit hours	Pre-requisite
42211	Exegesis 1 "Tafsir 1"	3	42111
42212	Hadith 1	3	42112
42213	Exegesis 2 "Tafsir 2"	3	42111
42214	Hadith 2	3	42112
42215	Aqida 2 "Islamic Creed 2"	3	42113
42333	Fundamentals of Takhrij al-Hadith 2	3	42131
42316	Qur'anic Qasas (Narratives)	3	
42349	Applied Syntax 2 "Nahw 2"	3	42248
42361	Objective Exegesis "Tafsir"	3	42111
42334	Objective Hadith Studies	3	42212
42315	Prophet's Biography "Syrah"	3	
42411	I'jaz al-Qur'an "Inimitability"	3	
42413	Comparative Religions	3	
42462	Exegesis's' Methodologies	3	
42463	Hadith Methodology Studies	3	
41224	Usul al-Fiqh 2, Fundamentals of Fiqh 2	3	41114
41423	Inheritance	3	
41233	Research Methodology	2	
42449	Research Seminar	1	41233
72392	Designing & Producing Educational Means For H. Sciences	3	
72404	Practical Teaching For Islamic Culture	3	
42239	Recitation and Memorization of the Holy Qur'an 1	3	42115
42339	Recitation and Memorization of the Holy Qur'an 2	3	42115
42439	Recitation and Memorization of the Holy Qur'an 3	3	42115
	Recitation and Memorization of the Holy Qur'an 1,2,3	3	42115

## Usul e-Deen Dept. Elective Courses

(12 credit hours of the following)

Course #	Course title	Credit hours
42262	Prophetic Guidance	3
42414	Islamic Sects	3
42265	Islamic Studies in Mankind and Society	3
42266	Fiqh of al-Kitab "Qur'an" and Sunah	3
42365	Contemporary Islamic World	3
42366	Contemporary Ideological Trends and Schools	3
42367	Studies in the Islamic History	3
42314	Methods of Da'wa	3
42369	Art of Delivering Speech and Preaching	3
42368	Islamic Journalism	3
42232	Sunnah and its Rule in Islamic Legislation	3
41359	Islamic Texts in English	3
41337	Human Rights and Environment in Islam	3
72405	Methods of Teaching Islamic Culture	3
72368	Teaching Skills	3
41341	Fiqh of Transactions	3
42317	Palestine in Qur'an and Sunnah	3
52121	Accounting Principles 1	3
56121	Finance Principles 1	3
41355	Methods of Teaching Religion	3
41259	Principles of Politics and Government System in Islam	3



# DEPARTMENT OF SHARI'A AND ISLAMIC BANKING

## Admission requirements:

Students wishing to join the Department of Shari'a and Islamic Banking must complete successfully the courses with the following numbers: 43311, 52121, 56121. A minimum of 70% must be obtained in each of these three courses.

## Requirements for a B.A. Degree

To obtain a B.A. degree from the Department of Shari'a and Islamic Banking, students must successfully complete 141 credit hours. These include the University compulsory and elective courses, the Faculty compulsory courses, and the Department compulsory and elective courses. The University Courses and the Faculty Courses are as mentioned before. But the Department Compulsory Courses, and the Department Elective Courses, are as listed below.

## Shari'a and Islamic Banking Dept. Compulsory Courses (63 credit hours)

Course #	Course title	Credit Hours	Pre-requisite
53121	Microeconomics	3	
53122	Macroeconomics	3	53121
52121	Accounting Principles 1	3	
51121	Management Principles 1	3	
53123	Statistics Principles 1	3	
56121	Finance Principles	3	
41228	Sources of Right, Commitment, and Contract Theory	3	41112
56313	Financial Management of Shareholding Companies	3	56121
41224	Usul al-Fiqh 2, Fundamentals of Fiqh 2	3	41114
56418	Management of Banking Credits	3	56121
56460	Islamic Banks	3	41228
43313	Utilization and Finance in Islam	3	56121
41435	Fiqh of Companies and Commercial Contracts	3	41228
43314	Fiqh of Contemporary Financial Transaction 1	3	41228
43414	Fiqh of Contemporary Financial Transaction 2	3	41228
41332	Contracts 1: Sale and Rent	3	41228
41333	Contracts 2: Donations and Notarization	3	56121
53312	Money and Banking Systems	3	
56229	Accounting Islamic Financial Institutions	3	52121
43412	Graduation Project	2	
43411	Practical Training	1	
42239	Recitation and Memorization of the Holy Qur'an 1	3	42115
42339	Recitation and Memorization of the Holy Qur'an 2	3	42115
42439	Recitation and Memorization of the Holy Qur'an 3	3	42115
	Recitation and Memorization of the Holy Qur'an 1,2,3	3	42115



## ***Shari'a and Islamic Banking Dept. Elective Courses***

(12 credit hours of the following)

Course #	Course title	Credit hours	Prerequisite
43425	Religious and Financial Observation	3	52121
56218	Financial Institutions and Trade Centers	3	56121
53415	Economic Feasibility and Project Evaluation	3	53122
43351	General Finance in Islam	3	
41423	Inheritance	3	
52122	Accounting Principles 2	3	52121
56316	International Banks Operations	3	56121
43415	Islamic Economic Theory	3	43311
41444	Ijtehad and the Goals of Islamic Legislation	3	41224
43252	Economics of Zakat "Alms", and its Contemporary Applications	3	
56410	Financial Analysis in Islamic Banking	3	
51259	Sales Management		
41359	Islamic Texts in English	3	
41355	Methods of Teaching Religion	3	
42369	The Art of Delivering Speech and Preaching	3	
41337	Human Rights and Environment in Islam	3	



## STAFF OF SHARPA FACULTY (COLLEGE)

Marwan Al-Qaddoumi  
(Associate Professors)

Ph.D. in Islamic Legal Policy,  
Al-Imam Mohammed University,  
Saudi Arabia, 1985.

Hassan Khader  
(Assistant Professors)

Ph. D. in Fundamentals of Fiqh,  
Al-Qur'an al-Karim University,  
Sudan, 1998.

Mohammed Ali Seleibi  
(Assistant Professors)

Ph.D. in Islamic Legal Policy,  
Al-Imam Mohammed University,  
Saudi Arabia, 1988.

Ma'moun al-Rifa'i  
(Assistant Professors)

Ph. D. in Comparative Fiqh,  
Al-Qur'an Al-Karim University,  
Sudan, 1997.

Jamal Zeid Al-Kilani  
(Assistant Professors)

Ph.D. in Comparative Fiqh,  
Al-Qur'an Al-Karim University,  
Sudan, 1994.

Naser e-Deen al-Sha'er  
(Assistant Professors)

Ph. D. in Comparative Fiqh & Religions,  
University of Manchester,  
UK, 1995.

Ali Al-Sartawi  
(Assistant Professors)

Ph. D. in Fundamentals of Fiqh,  
University of Jordan,  
Amman, 1997.

Jamal Hashash  
(Assistant Professors)

Ph.D. in Comparative Fiqh,  
Al-Qur'an Al-Karim University,  
Sudan, 1999.

Ala' Maqboul (Dr.)  
(Instructor)

M.A. in Comparative Fiqh,  
Umm-Durman University,  
Sudan, 1996.

Khader Sawandek  
(Associate Professor)

Ph. D. in 'Aqida,  
AL-Imam Mohammed University,  
Saudi Arabia, 1984.

Mohammed al-Shuraideh  
(fall Professor)

Ph. D. in 'Aqida,  
Umm al-Qura University,  
Saudi Arabia, 1983.

Sayel Amarah  
(Assistant Professor)

Ph. D. Usol Fiqh  
National University of Malaysia 2004

Hussain al-Naqib  
(Assistant Professor)

Ph. D. in Hadith Sciences,  
Umm al-Qura University,  
Saudi Arabia, 1991.

Muhsen al-Khalidi  
(Assistant Professor)

Ph. D. in Exegesis,  
Umm Durman University,  
Sudan, 1995.

Khaled 'Ulwan  
(Assistant Professor)

Ph. D. in Hadith Sciences,  
Umm Durman University,  
Sudan, 1997.

Ghassan Badran  
(Instructor)

M. A. in Exegesis,  
University of Jordan, Amman,  
Jordan, 1988.

Ra'iq Su'aidee  
(Instructor)

M. A. in Exegesis,  
University of Jordan, Amman,  
Jordan, 1993.

Odeh Abdullah  
(Assistant Professor)

Ph.D in Exegesis  
International Islamic Univ.  
Malaysia, 2003

Ayman Dabagh  
(Assistant Professor)

Ph.D.  
University of Jordan, Amman  
Jordan, 2003



## **Courses Description**

### **10101: Islamic Culture**

This course aims to establish the concept of Islamic culture and its position among the other international cultures, its position in the Muslim life, its sources, its bases and its characteristics. It includes also the fields of Islamic culture in faith, worship, relations, morals, knowledge, the clash between cultures in addition to Globalization, Human Rights, Woman Rights, Democracy and other contemporary issues.

### **41112: Introduction to Fiqh**

This course begins with an introduction of the aims of Islamic shari'a overall fundamentals; it covers a number of topics such as: definition of fiqh, fiqh sub-issues, civil rights and their relationship with fiqh, and standardization of Islamic fiqh. The course also introduces pillars of Islamic fiqh, basic principles in shari'a, public and private rights, roles fiqh has played, contract and property theory in Islamic shari'a. This course is an introduction to every aspect of Fiqh and its fundamentals and rules.

### **41111: Fiqh of Ibadat 1 "Prayer & Fasting"**

This course covers two topics: prayer and fasting, talking about purity, ablution, washing of body, menstruation, prayers, their rules & wisdom, times and call for prayers, prayer conditions, pillars, and manners, travelers' prayer, Friday prayer, feast prayers, patient's prayers, prayer for rain, prayer for fear, prayer for funeral, and martyr's rules. That is in addition to fiqh of fasting in terms of definition, legality, conditions, pillars, types, make up, its void, and religious expiation.

### **41221: Fiqh of Ibadat 2 "Pilgrimage & Alms"**

Topics covered in this course include Zakat in terms of definition and rule, evidence of its legitimacy, criteria for its obligation, its resources and ways of its distribution. This course covers also Al-Hajj "Pilgrimage" in detail.

### **41114: Usul al-Fiqh 1**

This course first introduces the science of fiqh fundamentals, its subjects, importance, and its development through out history. It also talks about al-Hokom in detail.

### **41224: Usul al-Fiqh 2**

This course covers legal judgment, linguistically and technically, common judgment and capacity judgment and the differences between them; role of mind in knowing judgment and scholars' opinions concerning it. The course covers its types and divisions, the capacity judgment, according to al-jumhour, and al-Ahnaf, in terms of its types and sub-types, divisions, ijihad -individual interpretation (derivation of laws from the legitimate sources), imitations and copying.

### **41424: Usul Fiqh 3 Fundamentals of Fiqh 3**

This course covers areas and divisions of pronunciation, rhetoric in terms of definition, divisions and scholars' opinions about its permission; conflicts and outweighing in terms of their meanings and the scholar's methodology in removing contradictions from texts.

### **41257: International Relations in Islam**

This course covers several issues: concept of international relations, difference between international relations and international law, their sources in Islam, international relations during times of peace, Muslims' subjects (Christians and Jews), safety, Muslim country, and enemy country, international relations during war times, jihad, captives, arbitration, effects of war, treaties in Islam, their types, and their conditions, ways and stages of concluding them, termination and breaching treaties.

### **41259: Principles of Politics & Government System in Islamic**

Topics covered in this course include caliph, consultancy, foundations of ruling system, election or fealty, divisions of cabinet in Islam, deposing the caliph, conditions caliph should meet, caliph's responsibilities and term of rule.

### **41343: Fiqh of Personal Status**

This course covers marriage contract, in terms of legality, wisdom and definition; engagement, introductions to marriage contracts, legal conditions for their completion, conditions associated with contract, guardianship, power of attorney, marriage rights, children's and parents' rights, effects of marriage contract, dowry, alimony, fair treatment of wife/wives, loyalty and decision making at home, legal housing.

This course covers also talaq (divorce), al-khula (divorce initiated by wife after paying compensation), rules of khula, custody, and its rules, kinship maintenance or alimony.

### **41423: Inheritance**

This course deals with inheritance, rights pertaining to it, reasons for and conditions of inheritance, dividers of inheritance, reduction of heirs' shares, distribution of remaining shares, blood relationship inheritance, abolishment, inheritance by estimation, obligatory will, transitional inheritance.

### **41425: Comparative Fiqh**

This course begins with a brief explanation of the reasons for Fiqh scholars' disagreements. Then the course moves to ijtiḥād (derivation of laws from legislative sources) in terms of definition, conditions for ijtiḥād scholars; instructors will choose one issue in Islamic fiqh: Ibadat, mu'amalat, felony, marriage..etc.

### **41453: Wills and Wakf (Endowment)**

As the title indicates, this course covers wills, rationale behind them, ruling, definition, pillars, conditions, void, retraction, acceptance, turning them down, their legatee (heir) and executor's types of wills. In the second part of the course, students will be introduced to wakf (endowment) in terms of definition, types, conditions, its void, substitutions and wakf and its reasons.

### 41338: Fiqh of Suit and Evidence in al-Qada'

This course introduces the definition of judiciary fiqh, judiciary and its evidence, conditions required in judiciary, good people's avoiding of it, judiciary during Prophet's and Caliphs' eras, place and time specialization for judiciary, women and judiciary position, ways of fielding evidence in Islam, agreement and disagreement upon them and committing judges to follow a certain school. The course also introduces lawsuits, fundamentals of defense proceedings in Islamic shari'a code of rules, Islamic judiciary system, formal judiciary system, differences between them, and judiciary system in modern times.

### 41336: Criminal Law in Islam

This course provides definition of penalties, their kinds, estimated and unestimated, differences among them, penalty, execution authority, types of punishments: apostasy, drinking, adultery, robbery, slander or false accusation of unchastity, stealing and prostitution. This course also talks about al-qisas (punishment) both retributive and compensatory for homicide and injury to human, penalty against infant injury, indemnity for bodily injury (diya), evidence to prove crime, al-ta'azir (discretionary) punishments depending on offences.

### 41355: Methods of Teaching Religion

In this course, students are taught how to teach Islamic subjects: The Holy Qur'an, exegesis of the Holy Qur'an, Prophetic hadiths, beliefs, Prophetic biography, morals, life-styles according to fiqh.

### 42111: Sciences of the Holy Qur'an

This course covers a number of topics: definition of Holy Qur'an, differences between Medanite and Meccan discourses, inspiration of and revelation of Holy Qur'an in stages, occasions of its revelation, compilation of Holy Qur'an and its writing, revelation of the Holy Qur'an in seven alphabets, the seven readings, repeal, Qur'an as a miracle, exegesis and interpretation, levels of exegesis's.

### 42112: Sciences of al-Hadith

Topics covered in this course include definition of sunna, its importance, and its proof, its explanation of the Holy Qur'an, definitions of Hadith sciences, transference, its quotation and attribution, origin of Hadith science, Hadith endurance and performance, ways of endurance, narration of hadith by paraphrasing, reliability and unreliability, levels of reliability, and unreliability, which governed people's narrations, news of repentant from lasciviousness, hadith chain of narration, infamous Hadith, true, good and weak hadiths, their divisions, the Prophet's companions and post companions.

### 42113: Aqida 1 "Islamic Creed 1"

This course begins with the meaning of Islamic 'aqida, its traits, effects of its presence or absence on the individual or group. Then it proceeds to show the Holy Qur'an's way of building it among the first generation. The course also highlights verses referring to existence of Alla, barriers or obstacles standing in the way of belief or conviction, human beings' position towards it, meaning of oneness and its types and requirements and reversals. It also discusses the six pillars of Faith.

### 42215: Aqida 2 "Islamic Creed 2"

This course is an expansion for the six pillars of Faith in addition to the violation that cause man to loose faith leading him to atheism.

### 42211: Exegesis 1 "Tafsir 1"

Students will study first chapter of Al-Baqra sura in terms of its credit, the reason for the medianite Qur'an's tackling of Islamic legislative issues. The course also focuses on some legislative prescriptions such as magic, a-naskh (revocation), Jewish Muslim ties, and other issues dealt with in the verses. Students are expected to write papers related to exegesis of verses in the chapter in question.

### 42213: Exegesis 2 "Tafsir 2"

This course studies Al-An'am Sura in terms of wisdom behind the Meccan Holy Qur'an's focus on 'aqida, and lack of reference to legislative details. The course also studies other issues raised in the sura, with particular emphasis on 'aqida, absolute inimitability of Qur'anic verses. Students are expected to write term papers pertinent to exegesis of the sura.

### 42361: Objective Exegesis "Tafsir"

This course first introduces what objective exegesis is and moves to show disagreement among scholars concerning objective exegesis, the difference between such interpretation and analytical interpretation. Objective interpretation models will be provided: Al-Ikhlās, (sincerity), salat, jihad, sustenance; istikhbar and istid'af verses are cases in point. Instructor chooses subjects different from those taught in previous similar courses.

### 42462: Mufaserin "Exegesis's" Methodologies

This course aims at introducing exegesis, its conditions, and divisions, reasons for disagreement among scholars' methodologies in their interpretation of the Holy Qur'an. The course will attempt to find out the most suitable approach to interpretation. Selected models will be studied.

### 42316: Qur'anic Qasas "Narratives"

This course introduces the notion of the story in the Holy Qur'an and its purposes. The course is also a study of models of Qur'anic stories, namely Joseph's and Moses' stories. There will also be a study of the Judaic versions of some stories.

### 42411: I'jaz al-Qur'an "Inimitability"

This course begins with a definition of I'jaz (absolute inimitability) of the Holy Qur'an and the significance of its study. Then the course moves to show the difference between prophet's miracle and those of fellow prophets. The course also dwells on the Holy Qur'an stages of challenges, history of investigation into the absolute inimitability of the Qur'an and its development and refutation of the arguments suggesting its coincidence.

### 42212: Hadith 1

In this course students will study 30 hadiths selected from Subol Al-Islam. These hadiths will be taken from the following chapters: Beginning of Al-Wahy (verbatim revelation of verses); Al-Ilm (knowledge); Al-Tahara (Purity); Al-Jihad (Holy war); Al-Imara (Leadership); Al-Libas (dressing code); Al-Zeena (ornamentation and beautification); al-Ru'ya (vision), a-Salam (peace); a-Sawm (fasting); Zakat (obligatory sharing of wealth with the poor : 2.5%); al-Hajj (fifth pillar of Islam-pilgrimage to Mecca); Salat (act of worshipping Allah).

### 42214: Hadith 2

This course is a study of the 40 nawawiyah hadiths in terms of chain of authorities, and annotations. Students are expected to memorize these 40 hadiths.

### 42463: Mohadethin Methodologies

This course is a study of models made by modernists. These include authors of the six books, al-Imam Malik, some Hadith school methodologies such as al-Kufa and al-Basra schools and modernists' approaches in certain subjects.

### 42262: Prophetic Guidance

This course examines selected hadiths, pertinent to Islamic morals, taken from the prophet's guidance. The course will include the study of a number of hadiths that soften the hearts and bring them closer to Allah Subhana and decrease one's clinging to mundane affairs of this life and teach Muslims good morals.

### 42365: Contemporary Islamic World

Topics covered in this course include Muslims between today and yesterday, Arabs in pre-Islamic period, conquests, Ummayyad caliphate, Abbassid caliphate, colonialism, and cultural invasion, reasons for deviation of contemporary Muslim action, state of Muslims in their own countries and in the world. The course will focus on how to re-educate the Muslim nation anew, how to educate the da'iyah (caller for Allah), and the group. The course will also highlight role of Islamic movement in the world, future of the Muslim world, the Palestinian question from an Islamic perspective.

### 42366: Contemporary Ideological Trends, (Schools of Thought)

This course covers a number of topics: general characteristics of contemporary ideological trends, the philosophical composition of these trends and their historical development up to the end of the 20th century. These ideologies include Marxism, Nationalism, Capitalism, Pragmatism and Existentialism. The course will show how these ideologies can be refuted from an Islamic perspective.

### 42367: Studies in Islamic History

This course is an elaborate study of Islamic history. It will mainly focus on the wonders and lights of contributions made by Muslims in the past. This aims at convincing the minds of people to accept the straight path of Islam as a way of life. The course aims also at refuting suspicions and poisonous arguments raised by Orientalists and enemies of Islam.



#### 42314: Methods of Da'wa

This course aims at providing students with information and skills that help them in achieving success in their da'wa and guidance. Special emphasis will be given to psychological factors controlling the public or groups of people. The course also highlights the leading role of the preacher, as a leader, in the society. The course will also introduce methods of preaching and guidance: good call; examples, behavior, good citation or quotation from the Holy Qur'an and Hadith. Finally, the course will focus on Friday sermon, its conditions, characteristics of a good sermon, models of good sermons. Students are expected to deliver Friday speeches.

#### 42315: Prophet's Biography

The course provides an introduction to the study of the prophet's life. It also explains the benefits, characteristics and sources of his biography. The course is also an analytical study of the events in the life of the Prophet starting from the day of his birth to the day of his death.

#### 42412: Fiqh of al-Kitab "al-Qur'an" and a-Sunnah

This course begins with a definition of fiqh and sunna and the relationship between sunna and al-Kitab. The course also studies fiqh social rules referred to in An-Noor sura. These include adultery, accusation of unchastity, etiquette of visits, marriage encouragement, some fiqh rules pertinent to separation between the couple in the light of al-kitab and sunna, namely divorce, its legitimacy, reason, types, divorce initiated by wife after paying compensation(Khul'), and injurious assimilation of wife to mother.

#### 42413: Comparative Religions

This course is a study of theology and the significance of studying it. The course provides also details about Semitic peoples' religions, namely Judaism and Christianity but the course does not ignore India's main religions and basic beliefs. A comparative study will be held among these religions.

#### 42414: Islamic Sects

This course covers a number of topics: origin of Islamic sects, causes for their distinction from other sects. The course will focus on a number of these sects: Al-Asha'rah, Al-Matridiyah, Al-Khawarj and their offshoots, Shiites and their branches, the Druze, al-Marji'a, Al-Mu'tazilah. The course will briefly study these sects in terms of their origin, development and teachings, and their leaders. The course will also attempt to judge them in the light of al-Kitab and the Sunna.

#### 42115: Recitation and Tajwid of the Holy Qur'an

In this course, students are expected to memorize chapter 30 of the Holy Qur'an, study meanings of difficult words, good manners of recitation, virtue of recitation, levels of recitation, familiarity with the ten readings; meaning of "tajwid" linguistically and technically, its rule, wisdom, rule governing the touching of Holy Qur'an by

those lacking ritual purity, "isti'atha" (seeking protection from Allah) al-Basmalah (in the Name of Allah), rules governing "silent noon" and "tanween", rules governing silent "meen", "istila" phonemes, rules governing "ra" and "qalqala". There will be practical training on these rules from Al-Kahf to An-Nas suras in the Holy Qur'an.

### 42131: Fundamentals of Takhrij al-Hadith 1

This course examines the science that investigates the reports of hadith, purpose of investigation, its benefits, books published on this science, ways of investigation, how to make use of it, most important books investigating hadith authenticity and other books of hadiths describing specific things. These are the precise, virtue hadiths etc ... The course also dwells on narrators' biography books and how to benefit from them, how a hadith was compiled from different reporters, how to draw tree of reporters narrating hadiths by arranging them; revision of things pertinent to investigation of hadith sciences, how to judge a certain hadith, how to search for hadith witnesses, how to read narrators' biographies, judging hadith, and investigating its reporters, editing manuscripts and other relevant texts and methodology of hadith criticism.

### 42248: Applied Syntax I "Nahw 1"

This course covers the following topics (1) grammatical terms such as noun, verb, alphabet, morpheme, structure, subject, predicate, "kana" and its sisters, "inna" and its sisters (2) morphological balance, emphasis, attribution and all derivatives (3) application and this includes comprehensive application of Arabic syntax issues extracted from the Holy Qur'an.

### 42349: Applied Syntax 2 "Nahw 2"

This course covers the following areas of syntax: free object, syntactic inclusion, direct object, accusative of specification, state, and indirect objects. Texts will be used to cover all these areas.

### 43311: Principles of Islamic Economic System

This course begins with the history of this science in Islam; it also highlights Muslim economists' practical application of economic principles in the Prophet-hood and Guided Caliphs' eras. The course also examines Islamic economy in terms of state resources and expenditure, role of cash in Islamic economy, Islamic banking system and investing money through them; the state's interference in the economic course (prices and monopoly), role of Islamic system in Islamic economy (hisbah), fall of communism which reinforced principles of Islamic economics, capitalism and Islamic economy, inflation (world chronic economic problem) and Islam's role in solving it.

### 51121: Management Principles I

The aim of this course is to develop the student's concepts of management, its principles, methods, theories, schools, fields, problems and elements. It also aims at providing students with information about its history, and philosophy, processes,

planning, organization and evaluation. The course is also planned to keep the student abreast of recent developments in management, diagnosis of some management problems and taking rational decisions.

### **52121: Accounting Principles I**

The goal of this course is to acquaint students with the basic principles and concepts which represent the framework of accounting. The course will specifically discuss the meaning of accounting, its historical development, and its importance in taking economic decisions, and its basic theories on which financial principles and procedures and final financial operations are based. All this is for the purpose of serving the management and other parties involved in making economic decisions, related to the company. However, this is on the assumption of accuracy and validity of financial operations during the year.

### **53121: Microeconomics**

This course deals with the nature of economic principles, its scope, bases and concepts pertinent to behavior analysis of producer and consumer (microeconomic units). The course also deals with theory of the firm, price determination, distribution theory, allocation of resources and market mechanism and value concept.

### **53122: Macroeconomics**

Topics covered in this course include basic principles of macroeconomics, concept of national product, national income, their measuring techniques, economic fluctuation and economic policies and principles used to encounter these fluctuations. The course also introduces principles of foreign trade.

### **53123: Statistics Principles I**

This course covers a number of topics: basic principles of statistics, methods of data collection and presentation, measures of central tendency and dispersion, statistical distributions, and testing of hypotheses.

### **56121: Finance Principles**

This course aims at introducing student to the time value of money. The course is also a study of the relationship between returns and risks, companies' appropriate financing foundations, ways of measuring risks and their types, profit policies adopted by companies, cost of capital, and optimum capital structure.

### **56460: Islamic Banks**

This course is an examination of Islamic banks in terms of their establishment philosophy, sources of their finance, their methods, structure of their capital, property right compared with other financial sources. This will be in addition to these banks' investment and activities as opposed to commercial banks.

in the firm. The course then concludes some practical marketing case studies for analysis, and solutions from a marketing and management point of view.

### 53312: Money and Banking Systems

In this course, students learn about origin of money, its nature, development and function. They also learn about different monetary systems and theories. Further, the students learn about origin of banks, their development and functions particularly in the field of money creation and the effect of that on economic activity, the introduction of state central banks, their functions and mechanism of implementing the monetary policy. The course ends with a look at international monetary relations and systems.

### 43412: Graduation Project

This course aims at improving students' potential for carrying an independent research by reading intensively into relevant economic literature. Students are expected to write economics papers on important local and international economic issues. After completion of papers, students need to submit them to a faculty committee member for feedback and approval.

### 53415: Economic Feasibility Studies and Project Evaluation

In this course, students learn how to use scientific methods and tools in data collection about projects in addition to the study and analysis of these data to arrive at results that may determine feasibility of the project from technical, marketing, financial and social aspects. Students also learn about foundations of financial analysis, concept of cash flow and techniques used in evaluating investment projects and the choice of the best project taking into consideration sensitivity analysis.

### 56313: Financial Management (in Shareholding Companies)

In this course, students are introduced to employment environment of financial management, and financial statements, as a basis for planning, investment and financial analysis, planning as well as analysis of liquidity and profitability. The course ends with a look at net working capital and methods of financial analysis.

### 56316: International Banks Operations

This course aims at acquainting students with bank operations and services and their role in facilitating the activation of foreign trade. The course also sheds light on foreign services offered by banks operating in Palestine with emphasis on forms of payment in foreign operations such as transfers, bills, checks and types... Further, the course emphasizes forms of internal and external operations such as open accounts, credits, and collection policies... The course ends with a look at financing foreign trade (bank operations in financing foreign trade), monetary markets and money risks.

### 56418: Management of Banking Credits

In this course, students learn about the structure of a model banking system, rates of banking interest and their relationship with economic circumstances and variables, credit instruments, credit considerations (SCS) particularly those pertinent to guarantees, their types and banking suitability.

### **41233: Research Methodology**

This course teaches students the principles and skills of preparing and writing out a research. It includes submitting a research which is evaluated by the teacher according to the principles of the ideal research.

### **41444: Ijtehad and the Goals of Islamic Legislation**

This course introduces ijtehad, its types, importance and aims. It also introduces the aims of Islamic legislation showing its important role in ijtehad.

### **41426: General rules of Fiqh (alqawaid alfiqhiiia)**

It includes an introduction to the general rules of fiqh, their importance and their necessity for deriving legislations with a number of examples of these rules. Additionally, it shows the differences between rules of fiqh and fundamentals of fiqh.

### **42249: Using Computer in "Shari'a" Sciences**

It is a course that teaches students the skills they need for finding religious information through the computer. It teaches them how to use CD's and other computer facilities that help in their search for information.

### **41364: Fiqh of Legislative Verses and Hadiths**

Legislative verses and hadith are discussed and introduced in this course. It also introduces the judgments deduced from these verses through examples from sura albakara, alnisa'a and alnoor with a number of hadiths.

### **41258: Fiqh Issues in Prohibition & Permission**

It deals with the meaning of prohibition and permission and studies a number of contemporary issues regarding their prohibition or permission in Islam. For example, the issues of smoking, abortion and mercy killing.

### **43455: Special Topics in Fiqh of Contemporary Transaction**

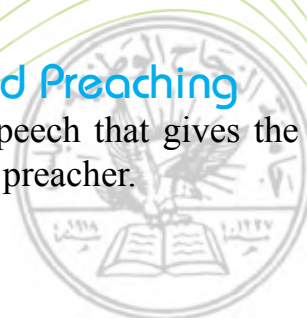
It introduces a number of contemporary transaction issues for knowing their verdict according to Quran, Sunah and scholars' opinions.

### **41337: Human Rights and Environment in Islam**

This course deals with human rights and the environment in Islam. Also, it deals with the international declarations regarding them to show Islams stand towards the two. The course shows how Islam respects man and his rights as well as woman and child.

### **42369: The Art of Delivering Speech and Preaching**

It shows how to prepare and to give a successful speech that gives the required results on the listeners. It is useful for both teacher and preacher.



### 42265: Islamic Studies in Mankind and Society

This is a course that looks at the soul and deals with different types of souls and how Quran and Sunnah can influence the human soul positively. It also deals with the society and how to find the ideal society.

### 42365: Contemporary Islamic World

This course throws light on the history of the Islamic nation and the causes of its development. Then it deals with the Islamic nation today culturally, socially, economically and its politics.

### 42367: Studies in the Islamic History

This course gives the time of the Islamic nation from the Caliphs till the fall of the Ottoman Empire and introduces students to the sources that deal with the history of this nation.

### 41359: Islamic Texts in English

This course introduces students to the important vocabulary in Islamic scholarship especially Islamic call, creed, economics, jurisprudence and its foundation. It includes a discussion of texts from the Quran, hadith and books on orientalism.

### 42232: Sunnah and Its Role in Islamic Legislation

This course focuses on the necessity of obedience to the Messenger as well as the role of sunnah in legislation with emphasis on reliable sunnah.

### 42317: Palestine in Qur'an and Sunnah

This course dwells on the importance of Palestine and its holiness from a Quranic and Sunnah perceptive.

### 41438: Law of Procedure and its Basics

This course introduces Litigation, its conditions, pillars, types and law of procedures.

### 41332: Contracts 1: Sale and Rent

In this course, students learn the meaning of rent and sale contracts and how to compare them in fiqh and law.

### 41333: Contracts 2: Donations and Notarization

This course builds on contracts 1. It focuses on donation contracts and their notarization.

### 41435: Fiqh of Companies and Commercial Contracts

This course highlights the types of companies and Commercial Contracts and discusses their laws from a fiqh and legal perspectives.

### 43314: Fiqh of Contemporary Financial Transaction 1

This course introduces contemporary financial transactions and banking and investment transaction in particular.

### **43414: Fiqh of Contemporary Financial Transaction 2**

Building on the course No. 43314, this course deals with stock exchange markets, shares, bonds, and insurance industry.

### **43425: Religious and Financial Observation**

This course focuses on concepts of religious observation of banks' practices in addition to financial auditing.

### **43351: General Finance in Islam**

As the title indicates, this course focuses on the country's financial resources and expenditures. It also introduces house of finance in Islam.

### **43111: Introduction to Islamic Banking**

This course begins with history of Islamic banking with emphasis on differences between this type of banking and other banks especially in investment.

### **43252: Economics of Zakat "Alms", and its Contemporary Applications**

This course dwells on new applications of zakat financial resources, thus leaving a positive impact on community development.

### **41341: Fiqh of Transactions**

This course is offered to students majoring in Fundamentals of Religion (Usool e-Deen). It discusses financial transactions and contracts in general.

### **42369: Islamic Journalism**

The course highlights the role of the mass media in Islam particularly in presenting it properly. It also focuses on conditions that control the work in mass media.



# FACULTY OF ECONOMICS AND ADMINISTRATIVE SCIENCES





## **INTRODUCTION**

The Faculty of Economics and Administrative Sciences was established in 1978.

The faculty began classroom instructions in 1978/1979. When started, the faculty had two departments: The department of Business Administration and the department of Accounting. To meet the changing needs of the Palestinian society and to contribute to the economic and social development process, four new departments were introduced that all lead to bachelor degrees and four graduate programs.

## **ACADEMIC PROGRAMS**

The Faculty offers six academic undergraduate programs and four Graduate programs with several fields of specialization.

### ***Undergraduate Programs:***

1. Accounting
2. Business Administration
3. Economics
4. Political Science
5. Banking & Finance
6. Marketing

### ***Graduate Programs***

1. Business Administration (MBA)
2. Economic Policy Management
3. Political Planning and Development
4. Taxation Disputes ( a joint program with the Faculty of Law)

### ***Faculty- Community Relationship***

The Faculty aims at educating students to meet the needs of the local and Arab markets in the fields of economics and administrative sciences that would contribute to the development process. The Faculty had to tackle the burden of interacting with the Palestinian society in economic, management and political spheres. The Faculty members are involved in a considerable number of studies that are directly related to administrative, economic, and social issues in Palestine.

They also participate in academic conferences, symposia, workshops and seminars that are being held inside and outside the country.



## Faculty of Economics and Administrative Sciences Undergraduate Study Plan:

### 1- Faculty Requirements

Every student should, in the first year, successfully complete 12 courses totaling 33 credit hours.

Course #	Course Title	Credit Hours	Prerequisite
111101	Introduction to Law	3	-
21103	General Mathematics	3	-
27120	Introduction to Computer Science	3	-
51113	Basics of Typing(9 hrs per week)	None	-
51121	Principles of Management 1	3	-
52121	Principles of Accounting 1	3	-
53121	Principles of Microeconomics	3	-
53122	Principles of Macroeconomics	3	53121
53123	Principles of Statistics 1	3	-
54121	Principles of Political Science	3	-
56121	Principles of Finance	3	-
57121	Principles of Marketing	3	-
	Total	33	

**2- Departments Requirements: See Relevant Department.**

**3- "Free" Courses: ( 2 courses, each of 3 credit hours =(6 credit hours):**

A student may choose these two free courses from other faculty departments at the university.

**4- University Elective Courses: (6 credit hours)**

A student may choose 3 elective courses " each of 2 credit hours" from the list of the university elective courses offered by other different faculties.

### ACCEPTANCE TO MAJOR

Following are the conditions and Requirements for Acceptance to Major in the faculty departments:

When a student decides to join a faculty department, the following criteria are to be taken into consideration as a basis for his /her acceptance to major:

- A. Students' desire and ability.
- B. Students may apply for acceptance to major in any of the faculty departments after completing successfully a minimum of 30 credit hours.  
student may apply for acceptance to major in coordination with his advisor. He/she must fill an application form that is available in the dean's office and on website. Filled applications are to be submitted to the dean's office or to acceptance majoring committee, (students can apply to major through zajel).
- C. Each department requires a pre-determined average of certain courses and a successful completion of other specific courses. (see department acceptance to major criteria).

- D. The average of the courses in item "C" above is used by the department as a base to major. The faculty council determines the grade average in this regard.
- E. All students in the faculty are expected to complete the requirements and apply for acceptance to major during the first three semesters. If a student fails to fulfill the requirements for acceptance to major within this period, he/she will be given a warning and will be informed that the fourth semester will be his/her last semester for acceptance to major.  
If a student does not select any major at the end of the fourth semester, the faculty council will select the major for the student he/she fulfills its requirements. A faculty dismissal is the result of a student failure to have acceptance in any of the offered majors by the faculty at the end of the fourth semester.
- F. A student may repeat once, one or more of the required courses needed for the purpose of raising his /her average required for acceptance to major within the period allowed for acceptance to major. ( see Article III/A of B.A. Degree Requirements 1998/1999 )
- G. A student may apply to change his/her major to another in the same faculty if he/she fulfills the requirements for acceptance to major in the new department during the period that is been allowed for acceptance to major(maximum the end of his/her fourth semester).
- H. At the beginning of each academic year, the faculty council decides the quota for each department in the faculty.
- I. The Dean of the Faculty and the chair of the acceptance to major committee prepare and submit a signed list of the students who are being accepted to major in each department to the Deanship of Registration and Admission.



## *Description of the courses required for acceptance to the faculty majors*

### **BUS 51121 Principles of Management I**

The aim of this course is to develop the student's concepts of management, its principles, methods, theories, schools, fields, problems and elements. It also aims at providing students with information about its history, and philosophy, processes, planning, organization and evaluation. The course is also planned to keep the student abreast of recent developments in management, diagnosis of some management problems and taking rational decisions.

### **ACC 52121 Principles of Accounting I**

The goal of this course is to acquaint students with the basic principles and concepts which represent the framework of accounting. The course will specifically discuss the meaning of accounting, its historical development, and its importance in taking economic decisions, and its basic theories on which financial principles and procedures and final financial operations are based. All this is for the purpose of serving the management and other parties involved in making economic decisions, related to the company. However, this is on the assumption of accuracy and validity of financial operations during the year.

### **ECO 53121 Principles of Microeconomics**

This course is one branch of economics that aims at examining the functioning of individual industries and the behavior of individual decision-making units-that is business Firms and Households.

### **ECO 53122 Principles of Macroeconomics**

This course is one branch of economics that aims at examining the economic behavior of aggregates income, employment, output and so on – on a national scale.

### **ECO 53123 Principles of Statistics I**

This course covers a number of topics: basic principles of statistics, methods of data collection and presentation, measures of central tendency and dispersion, statistical distributions, and testing of hypotheses.

### **POL 54121 Principles of Political Science**

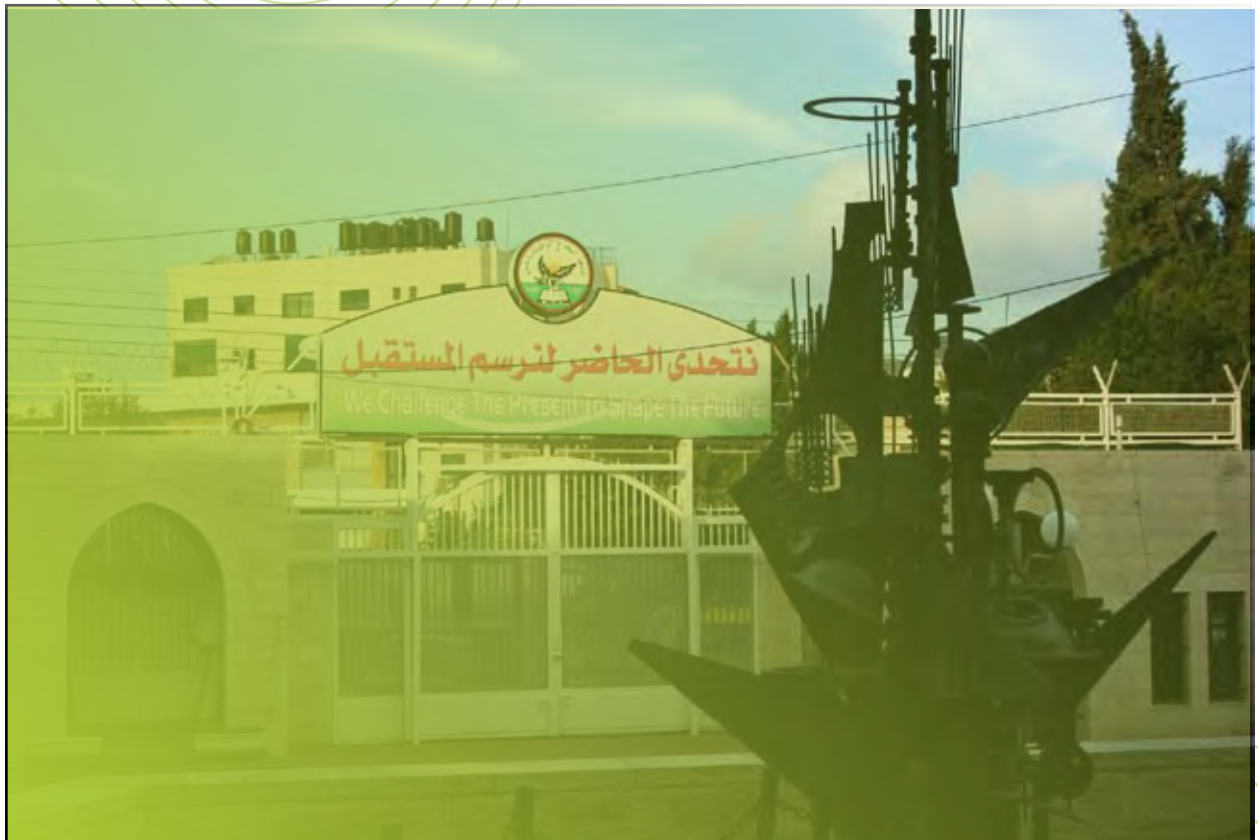
This course acquaints students with the basic concepts of political science, areas and goals of this science, divisions of this science, the link between theory and structures, function and performance of political systems.

### **FIN 56121 Principles of Finance**

This course aims at introducing student to the time value of money. The course is also a study of the relationship between returns and risks, companies' appropriate financing foundations, ways of measuring risks and their types, profit policies adopted by companies, cost of capital, and optimum capital structure.

## MAR 57121 Principles of Marketing

This course is an analysis of the elements of marketing mix: Product pricing, promotion, and distribution decisions. The course aims at providing students with economic and marketing analytical skills of marketing environmental elements, to make appropriate decisions, and marketing skills of non-profit services, material distribution and customer services.



# UNDERGRADUATE PROGRAM IN BUSINESS ADMINISTRATION

## Acceptance to major Requirements :

A) Student successful completion of:

1. 51121 principles of Management (1)
2. 51122 principles of Management (2)

B) Minimum marks of (70%) in each of the above two courses.

## Requirements for a bachelor's degree in business administration:

The Department of Business Administration offers single major in business administration, for students who wish to obtain a bachelor's degree in this discipline, must complete (131) credit hours successfully. This includes university requirements and free credit hours; Faculty requirements; Department requirements of both core major requirements and elective major requirements; and general elective courses.

### IA. Compulsory courses (51 credit hours)

Course #	Course title	Credit hrs	Prerequisite
51111	Research Methods	3	-
51122	Principles of Management II	3	51121
51210	Business Communications in English	3	10103
51220	Human Resources Management	3	51122
51224	Purchasing and Inventory Management	3	51122
51225	Strategic Planning	3	51122
51310	Production Operations Management	3	21103
51312	Organization Theory	3	51122
51315	Organizational Behavior	3	51122
51360	International Business Management in English	3	10325
51412	Operations Research	3	21103
51450	Graduation Project	3	51111
52122	Principles of Accounting II	3	52121
52230	Cost Accounting	3	52122
53124	Economics of Palestine	3	53122
56313	Corporate Financial Management	3	56121
111251	Commercial Law	3	111101
	Total	51	

## IB. Elective courses (Students may choose 18 credit hours)

Course #	Course title	Credit hrs	Prerequisite
51212	Mathematics of Finance	3	21103
51251	Management Thought	3	51122
51259	Sales Management	3	57121+51122
51353	Management Environment	3	-
51354	Office Management and Organization	3	51122
51356	Managerial Control	3	51122
51359	Small Business Management	3	51122
51410	Strategic Management in English	3	51122 + 10325
51411	Policies and Decision Making	3	51122
51424	Financial Analysis	3	52230
51425	Training and Administrative Development	3	51122
51429	Production Planning and Control	3	51310
51431	Contemporary Management Issues	3	-
51432	Project Logistics Management	3	51122
51436	Industrial Psychology	3	51315
51451	Insurance Theory	3	51122
51455	Banks Management	3	51122
51458	Management Information Systems	3	10100 + 27120
56460	Islamic Banks	3	56121
53415	Economic Feasibility Studies and Projects Evaluation	3	53122
56212	Financial Institutions Management	3	51122 + 56121
56312	Investment Analysis and Management	3	56121
57222	Marketing Management	3	57121
57225	Commercial Promotion	3	57121
57329	Consumer Behavior	3	57121
53213	Principles of Statistics II	3	53123



### **BUS 51111 Research Methods:**

This course aims to teach students the basic concepts and tools that are applied in the research field of business administration. The course endeavors to maximize students' awareness about the modern techniques and their implications in research through making sure that the student had possessed the required skills for the practical life.

### **BUS 51122 Principles of Management II:**

This course is a continuation of the previous course (51121) that aims to enrich students' academic background and enable them to obtain pre-requested knowledge for acceptance the major in Business Administration. The course involves the main topics which focus on management activities and functions such as production, marketing, finance, procurement and personnel.

### **BUS 51210 Business Communications In English:**

This course aims plans to develop the student's writing abilities and skills of all types of business letters in English. The course includes discussing how to write letters of non-trade types, forms, communication, as well as, how to apply for a vacancy and how to give presentations to sell a commodity. This may help the student to prepare a professional resume.

### **BUS 51212 Mathematics of Finance :**

This course works to improve students' understanding and knowledge about concepts and types of simple and compound interests; methods of financial calculation; discount bills; repay the loans in installments; current accounts; how to settle debt; bonds issuance of evaluation; methods of calculating depreciations of fixed assets; and the relationship of depreciation of fixed assets to income tax.

### **BUS 51220 Human Resources Management:**

This course put forwards the significant role of human resources management in dealing with workforce and the problems that are related to the human element in the organization. This includes following a clear and fair recruitment policy; periodical assessment of wages and salaries scales; consolidating the concepts of equality and justice through incentives; as well as, developing ways to evaluate the performance of individuals.

### **BUS 51224 Purchasing and Inventory Management:**

This course spots the light on some important issues that are related to an effective purchase and storage management. The course offers developing students' background about the concept of procurement, storage, and the foundations of scientific search; thus, enable students to acquire skills in scientific research and procurement functions and storage. This involves developing scientific thinking and innovation among students through linking the theory with practice and focusing on specific objectives of the importance of procurement and warehousing.



### **BUS 51225: Strategic Planning:**

This course aims to provide students with the skills and capabilities needed to deal with long and immediate futuristic issues, through identifying the organization's environment and related challenges and barriers, including SWOT analysis.

### **BUS 51251 Management Thought:**

This course aims to develop an administrative contemporary thought in a proper perspective and in an ideological base that illustrates the development of social sciences and other humanitarian including the Industrial Revolution of Europe and America. The course works to develop students' capabilities for critical analysis of different aspects of management thought and related behavioral patterns prevalent in industrialized societies. In addition, the course exemplifies the ability of modern management theories to address the problems of development in the Third World.

### **BUS 51259 Sales Management:**

This course aims to provide students with necessary skills for forecasting sales and managing the sale process. This includes educating students how to use related statistical methods and other quantitative techniques and methods that are used in personal selling operations management.

### **BUS 51310 Production Operations Management:**

This course aims to stimulate the quantitative issues and matters of management in terms of production and operations. The course aims to develop mathematical and analytical skills among students for more competitive position of the organization in the market. The course involves discussing the relationship between competition and the market and how scientific studies carried out before, during and after the production process. In addition, the proper demonstrates the production lines, explains the project factors, and economic quantity of materials that must be retained in the project, through using both qualitative and quantitative methods.

### **BUS 51312 Organization Theory:**

The objective of this course is to identify the organizational process through illustrating theories of classical and modern organizational theories, the principles of organization, planning and installation of the organization, the external and internal environments of organizations, devolution of power sources, informal and formal groups, conflict and organizational development and changes.

### **BUS 51315 Organizational Behavior:**

This course aims to give an introduction about the employees' behavior and its determinants in organizations. The course demonstrates behavioral theories; the concept of personality, perception and attitudes; values system and the role of communities on human behavior processes and climate the organizational behavior during organizational change and development. The course spots lights on how the management deals with and manages these issues including analyses plans processes and programs.

### **BUS 51353 Management Environment**

This course aims to improve the awareness of students about the importance of the surrounding circumstances and conditions of the organization's environment, involving political, economical, social, and technological forces. This course argues that adapting with the environmental factors is the cornerstone of any construction and developmental process. The course aims to highlight the significant role of these factors and their impact on management which seeks a distinguished competitive position and needs to respond to the required changes.

### **BUS 51354 Offices Management and Organization;**

This course aims to give a comprehensive idea about office management as a crucial part of the institution. The course also discusses clerical work "secretarial work" in the institution as foundation services that simplify business and procedures.

### **BUS 51356 Managerial Control:**

This course aims to prepare students to possess robust knowledge regarding different theoretical and practical controls on utilities through identifying many of related ideas and concepts to the administrative law and public administration. This includes recognizing the importance of administrative research related to work and to the power of the state to protect the public interest and the legality.

### **BUS 51359 Small Business Management:**

This course aims to enable students to understand the art of managing small businesses /projects. Part of this course focuses on the concepts and analytical tools applied in small projects, and discusses case studies and practical analysis of some local small businesses.

### **BUS 51360 International Business Management in English:**

This course aims to provide students with international business terminology in English, as well as to make them familiar with ways and methods that are used by the management to deal effectively with foreign markets and the entry rules of international markets.

### **BUS 51410 Strategic Management:**

This course aims to provide students with the skills for long term thinking, through conducting the necessary analysis of data related to internal and external environment (SWOT) analysis for long term planning. In addition, this course aims to develop students' skills in dealing with modern management terms, thus, to strengthen their abilities to scan and analyze situations effectively for more rational strategic decisions.

### **BUS 51411 Policies and Decision-Making:**

This course aims to highlight the role of senior management in enterprises, which relies on the analysis, and linking the parts of the enterprise with each other, to reach

desired results. It focuses on the integration and inclusiveness, as well as benefiting from knowledge obtained and accumulated students from courses to incorporate such knowledge together to reach better decisions and policies. The course also seeks to introduce students to the importance of political factors, economic and social decision-making process.

### **BUS 51412 Operations Research:**

This course aims to give an introduction to the students about the basic principles of operations research with a special focus on administrative aspects of the subject, to enable students to use quantitative data effectively as a major input element in the decision making process. In addition, this course is designed to help students to reach to the optimal resolutions through mathematical models for achieving the maximum profit or the minimum costs.

### **BUS 51425 Training and Administrative Development:**

This course aims to provide students with the necessary knowledge about the nature and importance of training administrative development of the workforce, as well as providing them with the methodology by which the process of developing an effective training plan and methodology. This course, also, aims to provide students with the skills needed to manage, implement and evaluate training programs.

### **BUS 51429 Production Planning and Control:**

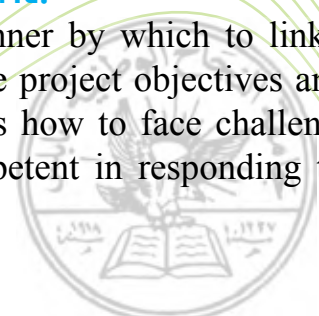
This course aims to develop the concept of operations management and productivity in terms of the growth of the production process, the selection of the project site, the design of the factory building, clarifying the approach to the integrated production systems, working to reschedule the production, analysis of technical composition of the product, address the system (MRP), and planning industrial materials. This, also, includes illustrating energy planning and productivity, effectiveness and control of production, quality control (QC) and production efficiency and control (PAC).

### **BUS 51431 Contemporary Management Issues:**

This course aims to provide students with the skills necessary to analyze the current attitudes of local and international environments and to enable them to apply these skills on their companies and firms. This involves studying and exploring existing successful companies in this context overall countries and corporations in the field of management.

### **BUS 51432 Project Logistics Management:**

This course aims to provide students with the manner by which to link all the functions of the project in tangible way to achieve the project objectives and goals and of clients. The course endeavors to train students how to face challenges and problems of the project and enable them to be competent in responding to those challenges efficiently.



### **BUS 51436 Industrial Psychology:**

This course aims to help students to understand the link between the psychological issues within industries in terms of production. This involve focusing on surveying attitudes and opinions, analysis of the nature of the work, circumstances, motivations, analysis of leadership and characteristics of charismatic leader, as well as, frustration and its causes. In addition, the course spots light on how to create leaders, group communications, learning and thinking, problem solving, influencing behavior. Consequently, the course discusses to capacity analysis and measurement, analysis of human engineering, psychology of management, industrial safety and accidents at work, guidance and vocational training.

### **BUS 51450 Graduating Project:**

This course aims to measure the ability of students to invest what they learned in dealing with and analyzing problems in management and marketing. The course encourages students to choose their own topics according to their interests and with accordance and agreement with the supervisor. Then, students prepare their proposals and start their study by which at the end they discuss the methodology, results, findings and conclusions with their supervisor and colleagues.

### **BUS 51451 Insurance Theory:**

The course aims to bring in students with the concept of risk and its types, as well as functions of insurance including its types, policies and prices, premiums, reserves, administrative management of the installations of insurance, insurance marketing, and the procedures for the insurance policies, settlement of claims and compensation, supervision and control facilities of insurance and reinsurance.

### **BUS 51455 Banks Management:**

This course aims to make students familiar with the banking system, the types of banking, commercial banking, money creation, sources of financing, and commercial banks. This involves other significant topics such as aspects of employment “credit facilities” direct and commercial bank ,budget analysis, and the internal organization of the commercial bank, the central bank and its relationship to commercial banks, lending institutions Specialized agencies. The difference between commercial banks and Islamic banks is also examined within this course.

### **BUS 51458 Management Information Systems MIS:**

The course aims to publicize information systems, and its importance in the organization through focusing on the importance of information management and its usefulness in setting goals to achieve the organization’s goals and objectives efficiently. The course addresses information as an important element in planning and coordination that serves as an indicator in which it is used to ensure that the plans be implemented effectively. The course, also, includes methods of obtaining the necessary information from customers and distributors and the process of information flow.

## DEPARTMENT STAFF

### *Associate Professors*

Mufeed Al-Shami Ph.D. in Business Education-Management Development, University of Houston, Texas, USA, 1986.

### *Assistance Professors*

Yousef Ghneim Ph.D. in Business Administration and Marketing, University of An-Neelayn, Sudan, 1999.

Hussein Al-Araj Ph.D. in General Management, University of Glasgow, UK, 1989.

Kassim Mohammed PhD in Risk and Quality Management/ Healthcare Organisations, Massey University, New Zealand, 2007

Nojoud Habash Ph.D in International Investment, University of Patras, Spain, 2007.

### *Instructors*

Suleiman Abu Jamous M. Sc. in Industrial Management, University of Dallas, Texas, USA, 1979.

Ali Mahmoud Zaghab Master of Business Administration, University of Dallas, Texas, USA, 1980.

Nader al-Qaryouti M.Sc. in Human Resources Management (HRM). Ain Shams University, Cairo, Egypt, 1989.

Jamal Fahed Master of Strategic Management for Sustainable Development, University of Bologna, Bologna, Italy, 2003.

Hussein Al-Abed Master of Business Administration. An-Najah National University, Nablus, 2000.

Rani Shahwan MBA, E-Business and IT, Masstricht School of management, Masstricht, Nether Lands, 2003.



# UNDERGRADUATE PROGRAM IN ACCOUNTING

## Admission Requirements

To join the Department of Accounting, a student must successfully complete Principles of Accounting I 52121 and Principles of Accounting II 52122. A minimum of 70% must be obtained in each of the two courses.

## Requirements for a B.Sc. degree in Accounting

The Department of Accounting offers a single specialization in Accounting. Students wishing to obtain a B.Sc. in Accounting have to complete successfully 131 credit hours which include university, Faculty and department compulsory and elective courses in addition to “free” courses (six credit hours).

### IA. Compulsory courses (51 credit hours)

Course #	Course title	Credit hours	Prerequisite
52111	Research Methods	3	-
52122	Principles of Accounting II	3	52121
52210	Accounting for Partnerships & Corporations	3	52122
52213	Accounting for Financial Institutions	3	52122
52221	Accounting (in English)	3	52112 + 10325
52230	Cost Accounting	3	52122
52310	Financial Statement Analysis	3	52210
52312	Tax Accounting	3	52210
52314	Governmental Accounting	3	52122
52321	Intermediate Accounting (in English)	3	52221
52352	Managerial Accounting	3	52230
52410	Auditing and Accounts Review	3	52312
52413	Accounting Theory	3	52321+52411
52425	Accounting Information Systems	3	27120/10100
52452	Seminar in Accounting	3	52413
52453	Practical Training (60 hrs of field work)	1	Accomplishment of not less than 100 credit hours
53124	Economics of Palestine	3	53122
111251	Commercial Law	3	111101
	Total	51	

## **IB. Elective courses (Students may choose 18 credit hours)**

Course #	Course title	Credit hours	Prerequisite
51122	Principles of Management II	3	51121
51412	Operations Research	3	51103
52214	Private Accounting	3	52122
52332	Agricultural Cost Accounting	3	52122
52414	Contemporary Accounting Cases and Problems	3	52321
52421	Advanced Accounting (in English)	3	52413
52423	International Accounting	3	52413
52432	Oil and Minerals Accounting	3	52122
52433	Social Accounting	3	52413
52400	Computer Applications in Accounting	3	27120/10100
53213	Principles of Statistics II	3	53123
53221	Microeconomics Theory	3	53122
53311	Public Finance	3	53122
53415	Economic Feasibility Studies & Projects Evaluation	3	53122
56313	Corporate Financial Management	3	56121

### **Course descriptions**

#### **ACC52111 Research Methods**

The purpose of this course is to help students to understand research tools and methods used in administrative sciences and in accounting in particular. The course will acquaint students with the basics of scientific research in accounting. These basics include research proposal design, selection of sample, questionnaire design, means of data collection, analysis of data and hypothesis formulation and testing. By the end of the course, students are expected to have mastered research writing in accounting.

#### **ACC52122 Principles of Accounting II**

This course is a continuation of Accounting I. In this course, students will learn how to conduct settlement of different statements of accounts by end of fiscal year. The course also discusses the hows of dealing with accounting errors which might be discovered when and after preparing final statements of accounts. Furthermore, the course discusses practical and scientific accounting methods, particularly the American accounting methods, Accounts reconciliation.

#### **ACC52210 Accounting for Partnerships & Corporations**

This course aims at acquainting students with the necessary accounting procedures to prove the operations of establishing solidarity companies, prepare their final statements, and distribute their profits or losses among partners. The course also dwells on shareholding companies in terms of their financial activities and their legal parameters, issuance of their shares, distribution of dividends among shareholders. The course ends with a look at issuance of bonds, determination of optimum bond price, and liquidation of shareholding companies from a legal point of view.

### ACC52213 Accounting for Financial Institutions

The first part of the course deals with accounting in insurance companies. This study includes statements of insurance institutions in terms of bookkeeping, records, and processing of insurance operations. The course also includes investments and how they are dealt with in bookkeeping. The course also looks at the hows of preparing final financial statements of insurance companies. The second part of the course focuses on bank accounting and commercial banks in particular. Students will get a general but a comprehensive idea about importance of banks and their role in development of the country's economy. The course also examines activities/operations of banks' different departments particularly current accounts department and foreign transactions department (currency transfer and credits). Finally, the course will teach students how to prepare banks' financial statements and the main elements forming these statements.

### ACC52214 Private Accounting

This course aims at acquainting students with accounting procedures followed in proving financial operations in multi-branch companies. The course, in addition, discusses financial operations belonging to free professionals such as lawyers and doctors, in addition to non-profit institutions and non-government organizations such as charitable societies and clubs.

### ACC52221 Accounting (in English)

In this course, students will learn about accounting principles and concepts in English. This enables students to get acquainted with accounting terminology in English, which will help students deal with other courses and cope with the world of work after graduation. The course will also keep students abreast of recent developments in accounting. Students will be exposed to accounting articles in English, dealing with major aspects of accounting.

### ACC52230 Cost Accounting

Students, in this course, learn about concepts and analysis procedures to generate cost data for management planning and control. The course will specifically deal with accounting systems used in industrial companies. In this regard, the course will look at elements of costs & their classifications. The course also discusses standard costs and their importance in controlling cost elements. Finally, the course examines some mathematical models, such as linear programming and probability theory, used to help management in taking its economic decisions.

### ACC52310 Financial Statement Analysis

This course is a study of financial analysis instruments and methods as a basis for objective analysis and discussion directed towards items of financial statements. The course also dwells on relationships among different items of these statements in comparison with historical criteria and specific patterns. This will allow students to judge the efficiency of project management and its financial role in the short and long runs.



## ACC52312 Tax Accounting

This course is a study of tax accounting characteristics, conditions for imposing income tax on individuals and institutions, and conditions for exempting others from paying taxes. The course holds a comparison between accounting tax and income tax. The course also shows how to test elements in the income tax statement prepared by companies to find about the extent to which the statement matches the tax law rules. The course finally teaches students how to estimate, and collect taxes, and it also introduces students to legal measures followed when it comes to objection, evasion and collection.

## ACC52314 Governmental Accounting

This course is a study of the nature of government accounting and its relationship with commercial accounting, the law and accounting foundations used. The course also examines the nature of the state general budget, its breakdown, and stages of its preparation and ways of estimating revenues and expenditures, implementation of general budget and internal control of expenditures. The course ends with a look at debts due to government, bookkeeping, accounting restrictions and stages of external control by the finance ministry and office of accountancy.

## ACC52321 Intermediate Accounting

This course covers the main topic concerning conceptual framework underlying financial accounting, financial reporting, accounting and the time value of money, investments, cash, receivables, inventory and acquisition and disposition of property, plant and equipment, impairments and depreciation.

## ACC52332 Agricultural Cost Accounting

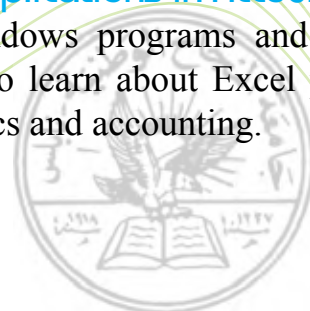
This course is one branch of cost accounting. In this course, students get acquainted with accounting operations of financial activities carried out by agricultural projects: plant and animal. In this respect, the course examines how to calculate production costs as a result of project activities and how to write financial reports.

## ACC52352 Managerial Accounting

This course is a study of cost accounting applications and related techniques to decision making with emphasis on control and use of internally generated accounting. Topics include cost allocation, variance analysis, budgeting and cost control systems forecast of markets on the basis of available data.

## ACC52400 Computer Programming and it's Applications in Accounting

Students, in this course, get acquainted with Windows programs and various applications of Ms-Office packages. The students also learn about Excel program with emphasis on its application in the fields of statistics and accounting.



## ACC52410 Auditing and Accounts Review

This course is a study of common foundation and bases in reviewing and testing process of final statements of accounts and their appendixes prepared by different economic units. Students, in this course, also learn about the auditing process, its structure, and necessary procedures. There is also a study of internal control procedures in these economic units.

## ACC52413 Accounting Theory

This course aims at introducing students to aspects and theoretical foundations of accounting procedural concepts and principles. Topics covered in this course include origin and development of accounting, definition of accounting theories, accounting principles and concepts (which represent the theoretical framework of accounting) financial statements, income concepts and their measurement, revenues, expenditures, profits and losses, and nature of accounting problems in the general budget.

## ACC52414 Contemporary Accounting Cases and Problems

The aim of this course is to provide students with practical experience and accounting skills directly related and linked with some financial issues. These issues include accounting in the context of inflation, accounting vs human resources, assets evaluation, leases, intangible assets and expansion and merger of public shareholding companies.

## ACC52421 Advanced Accounting (in English)

This course covers accounting operations, patterns, acquisition, and merger of public holding companies, foreign currency operations, changing financial statement prepared in foreign and local currencies. The course also examines a variety of advanced financial accounting issues such as lease contracts, pension funds, end of service severance payments, etc.

## ACC52423 International Accounting

This course deals with the world of international accounting. It provides students with the necessary background to understand issues and problems pertinent to international accounting and the necessary knowledge to analyze and solve these issues and problems and International Accounting Standards.

## ACC52425 Accounting Information Systems

In this course, students learn about information systems management, and accounting information systems in particular. Students will learn about the nature of these accounting systems both as comprehensive systems and as branch systems. This includes design of plans to develop the system and its sub-systems including purchasing, cash management, cost systems, data flows, selling accounting system as well as payrolls, warehouses, production, clearance and responsibility accounting systems, and liability. The course also examines industrial cost systems and computerized accounting systems. Students will learn about the goals of these systems, their procedures and other elements such as reports, control procedures and feedback.

## ACC52432 Oil and Minerals Accounting

As the title suggests, this course will endeavor to get the student acquainted with accounting procedures and principles applied when dealing with financial activities of oil producing companies. This allows the student to be knowledgeable in accounting problems pertinent to oil exploration, digging and production which result from economic, political and legal circumstances of oil industry. Finally, the course tackles problems of preparing financial statements at the end of oil companies' period of time.

## ACC52433 Social Accounting

This course is designed to introduce social accounting. The course highlights issues, and raises questions ignored in traditional accounting and its developments.

## ACC52452 Seminar in Accounting

This course is mostly devoted to the practical side of accounting. It highlights some accounting problems likely to face students in the world of work when they graduate. Part of the course is devoted to presentation and discussion of real accounting cases. The other part will provide the students with methods of academic research in practical accounting issues to enable them to crystallize an applicable idea about what goes on within the companies' walls at present.



## **FACULTY MEMBERS**

### ***Associate Professors***

Nafez I. Abu- Baker      Ph.D. in Accountancy,  
University of Dundee, Dundee, UK, 1995.

### ***Assistant Professors***

Saed Al Koni      Ph.D. in Accountancy,  
Universitaet Wuerzburg, Germany, 1999.

Ghassan Da'as      Ph.D. in Accountancy,  
Amman Arab University for Graduate studies, Jordan, 2006.

Ameen Haddad      Ph.D. in Accountancy,  
Illinois University, Illinois USA, 1990.

Hatem Al-Kukhun      Ph.D. in Accountancy,  
Sudan University of Science & Technology, Sudan, 2003.

Sameh Al-A'atoot      Ph.D in Accountancy,  
Arab Academy, Amman, Jordan, 2005.

### ***Instructors***

Jihad Hamdan      M.Sc. in Accounting,  
Roosevelt University, Chicago, USA, 1988.

Bahjat M. Younis      M.Sc. in Accounting,  
University of Jordan, Amman, Jordan, 1995.

Jawad A. Haddad      MBA, Concentration Accounting,  
An-Najah National University, Nablus, Palestine, 1999.

Mu'ez Abu-Elia      M.Sc. in Accounting,  
Arab Academy, Amman, Jordan, 1997.

Ahmad R. Said      MBA, Concentration Accounting,  
An-Najah National University, Nablus, Palestine, 1999.

Bashar H. Fattouh      M.Sc. in Accounting,  
Arab Academy, Amman, Jordan, 1998.

# UNDERGRADUATE PROGRAM IN ECONOMICS

## Admission Requirements

To major in Economics, students must successfully complete Microeconomics 53121 and Macroeconomics 53122. A minimum of 70% must be obtained in each of the two courses.

## I. Requirements for a B.A. degree in Economics

The Department of Economics offers a single specialization in the field of Economics. Students who wish to obtain a B.A. degree in Economics must complete successfully 131 credit hours which include university, Faculty and department compulsory and elective courses, in addition to "free" requirements.

### IA. Compulsory courses (51 credit hours)

Course #	Course title	Credit hours	Prerequisite
52122	Principles of Accounting II	3	52121
53111	Research Methods	3	53122
53124	Economics of Palestine	3	53122
53221	Microeconomics Theory	3	53122
53222	Macroeconomics Theory	3	53122
53311	Public Finance	3	53122
53312	Money and Banking	3	53122
53313	International Trade	3	53122
53314	Principles of Mathematical Economics	3	53121 + 53122 + 21103
53355	Islamic Economics	3	53122
53358	Industrial Economics	3	53221
53412	Economic Development	3	53222
53413	Seminar	3	53311+ 53222+53221
53415	Economic Feasibility Studies and Projects Evaluation	3	53122
53452	Econometrics	3	53123
53454	Labor Economics	3	53222
111250	Commercial Law	3	111101



## 1B. Elective courses (Students choose 18 credits)

Course #	Course title	Credit hours	Prerequisite
51122	Principles of Management II	3	51121
52230	Cost Accounting	3	52122
52400	Computer Programming and its Applications in Accounting	3	27120
53213	Principles of Statistics II	3	53123
53214	History of Economic Thought	3	53122
53216	Economic Studies (in English)	3	53122
53354	Multinational Corporations	3	53123
53357	World Economic Systems	3	53122
53251	Analytical Statistics	3	53122
53252	Agricultural Economics	3	53122
53253	Banking Economics	3	53121
53315	Political Economics	3	53122
53351	Israeli Economy	3	53122
53352	Arab World Economies	3	53122
53356	Contemporary Economic Issues	3	53122
53414	Comparative Economic Systems	3	53122
53451	Economic Policy	3	53322 + 53312
53453	Economic Growth Theories	3	53412
53455	Economies of Cooperatives	3	53122
53456	National Income Distribution Theories	3	53222
53457	Palestinian Taxation System	3	53311
56218	Monetary and Financial Markets	3	56121
56313	Corporate Financial Management	3	56121
56412	International Finance	3	53312
53450	Economic Planning	3	53221
53460	Economics of Information	3	53122

## Course descriptions

### ECO53111 Research Methods

This course aims at acquainting students with research methods, particularly those used in economics sciences. The course teaches students basic skills necessary in economic studies and research. Topics covered include how to write Research Proposal, hypothesis formulation, and testing, selection of sample, data collection techniques and the quantitative and qualitative analysis, and report writing skills and documentation.

### ECO53124 Economics of Palestine

This course is a study of Palestinian's economic resources, economic development and demographic growth before and after the Israeli military occupation. The course is also a study of major economic sectors and aspects of underdevelopment and imbalances as results of the Israeli economic policy which aims at making Palestine's economy dependent and underdeveloped, via the different hindrances and obstacles.

### ECO53150 General Principles of Economics

The purpose of this course is to acquaint non-Economics majors with the nature of economics, and the most important economic concepts and technical terms which help students in understanding and interpreting economic phenomena in their environment.

### ECO53214 History of Economic Thought

This course covers a number of topics: origin and development of economics, stages of economic thought with emphasis on contributions of Mercantilism Classicism, Marxism, Neoclassicism and Keynesianism in addition to Islamic economic thought. The course also examines major trends in successive development in economic thought particularly the New Keynesianism and the New Monetary School.

### ECO53216 Economic Studies (in English)

This course aims at enriching students' economic terms in English. This will be through the extensive study and discussion of economic texts.

### ECO53221 Microeconomics Theory

This course is a study of economic behavior of microeconomic units and the analysis of conditions for balance of these units. The course also examines price theory in different markets, methods of behavior and balance analysis of microeconomic units.

### ECO53222 Macroeconomics Theory

Topics covered in this course include concept of measuring national income and its methods, national product, aggregate supply and demand, general equilibrium in the national economic markets of products, labor and money, and the dynamics of general economic activity and growth, inflation, inflationary recession issues. The course ends with a look at economic activity with foreign countries and economic policy.

### **ECO53251 Analytical Statistics**

This is an advanced statistical study of the basics of statistical analysis, how of statistical data processing with emphasis on analysis of variance, record figures. The course also expands on the study of correlation, regression and some statistical distributions.

### **ECO53252 Agricultural Economics**

This course introduces the students to agricultural economics, its subjects, goals and branches. The course particularly looks at the agricultural sector, its economic characteristics, agricultural production economics, land economics, agricultural marketing and agricultural cooperatives.

### **ECO53253 Banking Economics**

This course is devoted to the study of bank behavior as a credit institution aiming to achieve the maximum economic return. The course investigates the role of banks in increasing and collecting savings as well as in financing private and public investments.

### **ECO53311 Public Finance**

This course aims at study the development of the public finance definition, the public budget and its components, the components of the public expenditures and its importance to achieve the economic goals of the state and the different ways to finance the budget deficit.

### **ECO53312 Money and Banking**

In this course, students learn about origin of money, its nature, development and function. They also learn about different monetary systems and theories. Further, the students learn about origin of banks, their development and functions particularly in the field of money creation and the effect of that on economic activity, the introduction of state central banks, their functions and mechanism of implementing the monetary policy. The course ends with a look at international monetary relations and systems and Islamic Banking.

### **ECO53313 International Trade**

This course covers several topics: international trade theories, relationship between trade terms and balance of payments, employment, price rates, international trade policies and their impact on international trade terms, current international economic system, its criticism and the need for a new international economic system to replace the current one.

### **ECO53314 Principles of Mathematical Economics**

This course begins with an explanation of mathematical economics and its origin and the importance of using the mathematical method in analyzing economic laws. Then the course moves to identify mathematical tools employed in economics particularly in the consumer behavior theory, the equilibrium or firm, general equilibrium and economic growth and input-output model.



## ECO53315 Political Economics

This course is concerned with the study of the concept of political economics. That is, it deals with emerging production relations among people during the production process and economic activity. The course focuses on interpretation of economic laws that regulate reciprocal economy with emphasis on value surplus theory, capital theory, reproduction theory, aggregate theory and distribution theory.

## ECO53351 Israeli Economy

This course is a study of how the Israeli economy has come into being and how it has developed over the years. The course examines the development of its major sectors, and infrastructure and its foreign economic links, and unique features of its economic growth.

## ECO53352 Arab World Economies

This course aims at introducing factors that have influenced the shaping of Arab countries' economies. It also traces developments of these economies with emphasis on the Arab countries' efforts to solve the problems of agricultural issues and industrialization. The course also examines the structural changes in these economies and relationships with foreign economies.

## ECO53354 Multinational Corporations

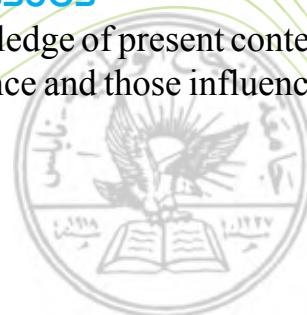
This course addresses the mechanism that has led to the emergence of giant economic corporations in Europe and America and how they have expanded in most countries of the world. The course highlights the disadvantages and advantages of these multinationals on national economies and their effect on economic structures, markets and economic development. The course also discusses the ways of their "invasion" of other countries.

## ECO53355 Islamic Economics

This course aims at acquainting students with the difference between economics, as a field of knowledge, and economic ideology. The course emphasizes the Islamic economic ideology and highlights the components of Islamic economic ideology based on Islamic share's sources. Topics covered include the economic problem, wealth, ownership system, distribution, monetary and financial systems, production, foreign trade, value concept, economic development and planning and role of the state in solving economic problems.

## ECO53356 Contemporary Economic Issues

The purpose of this course is to deepen student's knowledge of present contemporary economic issues particularly those having global influence and those influencing Arab and local economic environments.



### ECO53357 World Economic Systems

This course is concerned with the factors that have led to the emergence of the contemporary world economic order, its nature and its contradictions. The course focuses on the status of the different international systems within this order and the new trends in the division of international labor and the developing countries' efforts to change this order.

### ECO53358 Industrial Economics

This course is a study of the market's different structures and how they influence company behavior (production, pricing, and cost) company performance (profit, growth, research and development). These will be studied in the framework of the well-known ideological schools in industrial economics. Further, the course covers competition strategies, in both local and international markets, at the institutional and industrial sector levels. The course ends with a study of industrial development strategies coupled with an attempt to link these alternatives with the state of Palestinian industrial sector.

### ECO53413 Seminar

This course aims at improving students' potential for carrying an independent research by reading intensively into relevant economic literature. Students are expected to write economics papers on important local and international economic issues. After completion of papers, they will be discussed in the seminar with the other students.

### ECO53414 Comparative Economic Systems

This course is an analysis of the framework by which economic systems can be compared. The emphasis is on basic differences among economic systems, nature of contradictions among them and how addressing these contradictions. The course will mainly emphasize the study of forms properties and organization, management of production and economic activity. The course ends with a look at the distribution laws in capitalist, socialist, Islamic and mixed economies.

### ECO53415 Economic Feasibility Studies and Projects Evaluation

In this course, students learn how to use scientific methods and tools in data collection about projects in addition to the study and analysis of these data to arrive at results that may determine feasibility of the project from technical, marketing, financial and social aspects. Students also learn about foundations of financial analysis, concept of cash flow and techniques used in evaluating investment projects and the choice of the best project taking into consideration sensitivity analysis.

### ECO53450 Economic Planning

Students, in this course, get acquainted with the goals, types and stages of planning: preparation, implementation and follow-up of plans. To this end, students will be introduced to input and output models, economic growth models, measurement and mathematical models. Planning is taught at both national and sectoral levels.

## ECO53451 Economic Policy

Topics covered in this course include concept and goals of economic policy and authorities in charge of its implementation. The course emphasizes the types and tools of economic policy, namely the policy of maintaining competition, income distribution policy and social justice.

## ECO53452 Econometrics

This course aims at providing students with an idea about principles of ways followed in economics in order to check quantitatively the extent to which economic models and theories match the present situation. The course presents the basics of regression model, analysis of variance, hypothesis testing, general linear model, estimators and their properties, ordinary least squares, confidence intervals. Finally, the course looks at economic forecast by using the regression model.

## ECO53453 Economic Growth Theories

This course is an attempt to find out the reasons behind the emergence and development of economic growth theories and their theoretical foundations. Emphasis is on the study of Marxism, Keynesianism, and Neoclassicism growth theories against the background of the outstanding economic ideological contributions of these schools.

## ECO53454 Labor Economics

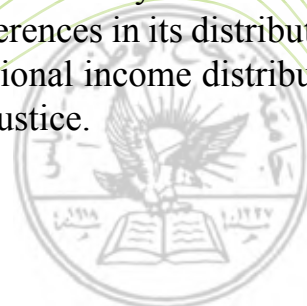
This course focuses on the operations of the labor market. The course analyzes labor force characteristics, and trends, types and theories of unemployment, and the public and private manpower policies. The course also examines wage structures, mechanism of wage determination and minimum wage laws. The course also briefly looks at labor supply and demand and investment in education and training, productivity and social security systems and trade unions.

## ECO53455 Economies of Cooperatives

This course examines the origin, development and philosophy of cooperatives as a form of production organization and economic activity. The course focuses on identification of types of economic cooperatives in the West Bank and the Gaza Strip.

## ECO53456 National Income Distribution Theories

This course is a study of income distribution theory both the functional and the personal. The course also explains theories pertinent to the ways of measuring the distribution of personal income, and factors behind differences in its distribution. The course ends with an emphasis on the importance of national income distribution and its role in achieving both economic growth and social justice.



## ECO53457 Palestinian Taxation System

This course begins with an introduction to the basics of taxation systems in terms of technical bases of taxes and their types: direct and indirect, individual tax, capital tax and income tax. The course discusses in detail the Palestinian taxation system since its emergence in 1994 with the advent of the Palestinian National Authority, and developments or changes rendered in the system with an emphasis on Income Tax, Value Added Tax and Property Tax.

## ECO53460 Economics of Information

This course aims to study the role of information in the economy. It handles the economic value of information as input factor which can generate value added in the economy. It also study the different measurement of information ant its role in the economic development, with some cases from the Palestinian economy.

## **FACULTY MEMBERS**

### ***Full professors***

Abdelfattah Abu Shokor

Ph. D. in Economic Development,  
Philipps University, Marburg, West Germany,  
(Bundes Republic Deutschland) (BRD), 1980.

Bassem Makhoul

Ph.D. in Econometrics and Industrial Economics,  
University of Utah, U.S.A., 1992.

### ***Associate Professors***

Omar Abdel Razeq

Ph. D. in Mathematical Economics and International  
Economy, University of Iowa, U.S.A., 1986.

Atef Alawneh

Ph.D. in Economic Theories,  
Munich University, Germany, 1983.

### ***Assistant Professors***

Yousef Abdel Haqq

Ph.D. in Economic Development,  
Ein Shams University, Cairo, Egypt, 1979.

Qassem Joudeh

Ph.D. in International Planning,  
Poznan' School of Economics, Poland, 1979.

Mohmoud Abu Rub

Ph.D. in Political Economics,  
Universitat of Bruno Leuschner, Berlin, East  
Germany(German Democratic Republic), 1984.

### ***Instructors***

Yusr Al-Azhari

M.Sc. in Statistics, Yarmouk University,  
Irbid, Jordan, 1986.

Baker Ishtayeh

M.A. in Economic Policy Management,  
An-Najah N. University, Palestine, 2005.

Rabeh Murrar

M.A. in Economics, Birzeit University, Palestine, 2006.

Majed Amous

M.A. in Economic, University of Sindh, Pakistan, 1995.

Nail Mousa

M.A. in Economics, Jordan University, Jordan, 1997.

Maali Soudi

M.A. in Statistics, University of K.U. Leuven, Belgium, 2001.

Shaker Khalil

M.A. in Economics, Birzeit University, Palestine, 2006.

Haytham Owida

M.A. in Economic Policy Management,  
An-Najah N. University, Palestine, 2003.



# UNDERGRADUATE PROGRAM IN POLITICAL SCIENCE

## Admission Requirements

To join the Department of Political Science, a student must successfully complete:

1. Introduction to Political Science 54121. A minimum of 70% must be obtained in the course.

## Requirements for a B.Sc. degree in Political Science

The Department of Political Science offers a single specialization in Political Science. Students wishing to obtain a B.Sc. degree in this specialization must successfully complete 131 credit hours which include university, faculty and department compulsory, elective courses as well as "free" courses.

### IA. Compulsory courses (51 credit hours)

Course #	Course title	Credit hours	Prerequisite
53124	Economics of Palestine	3	53122
54111	Scientific Research methods	3	None
54131	Approaches to the Study of Political Science	3	54121
54221	Introduction to International Politics	3	54121
54231	Comparative Political Systems	3	54121
54240	Western Political Thought	3	54121
54251	Political Movements and Parties in the Arab World	3	54121
54267	European Union	3	None
54312	Palestine Question at the International Arena	3	10105
54322	Foreign Policies of Major Powers	3	54121
54331	Palestinian Political System	3	54231
54332	Political Systems in the Arab World	3	54121
54333	Israeli Political System	3	54231
54413	Introduction to Zionist Ideology	3	10105
54443	Islamic Political Thought	3	54241
54469	Seminar	3	54111
112104	Principles of International Public Law	3	111101
	Total	51	

## **IB. Elective courses (Students choose 18 credit hours)**

Course #	Course title	Credit hours	Prerequisite
33412	Modern Arab History	3	None
51253	Public Administration	3	None
53315	Political Economics	3	53122
54327	Diplomatic Protocols	3	54121
53352	Arab World Economies	3	53122
54211	Development of Palestinian National Movement	3	10105
54232	International Organizations	3	11101 or 56122
54265	Readings in Political Science	3	54121
54324	Arab World, Iran & Turkey in International Politics	3	54121
55352	Public Opinion	3	54121
54353	Political Sociology	3	None
54355	Contemporary International Issues	3	54121
45361	Arab-European Relations	3	54267
54424	Political, Economic and Military Pacts and Organizations	3	54121
54425	History of International Relations	3	54121
54444	Contemporary Political Thought	3	54241
54453	Political Development and Patterns of Change	3	54121
54454	Human Rights	3	None
54455	Oil and International Policy	3	54121
112106	Constitutional Law	3	11101

### **Course descriptions**

#### **POL54111 Scientific Research Methods**

The purpose of this course is to teach students library skills, documentation of library materials, collection of data, their analysis and classification. Further, the course teaches students methods and tools of field research.

#### **POL54131 Approaches of the Study of Political Science**

This course is an analytical and critical examination of traditional and modern methodologies used in the study of political science with special emphasis on historical, behavioral, functional, and realistic methods in addition to simulation and game theories.

#### **POL54211 Development of Palestinian National Movement**

This course traces the development of Palestinian national movements in the context of their pursuit of national independence. The course begins with a historical background of the development of national movements prior to 1948. Then it moves to discuss national movements established up to 1967. The course focuses largely on Palestinian factions, which emerged after the 1967 defeat, in terms of their ideological and party framework. The course highlights the Palestine Liberation Organization as an umbrella for all these national movements.

### **POL54221 Introduction to International Politics**

This course is a study of theoretical concepts and methods used in the study of political relations among sovereign states. It deals with local and international environments and their influence in the state's internal and foreign policy and behavior.

### **POL54231 Comparative Political Systems**

This subject studies political systems in terms of their environment, stability and sociopolitical orientations as well as their structures and functions. It examines in great details the political models of the USA, Britain, France, Russia and China. These systems are compared with those in the Arab and Third World countries.

### **POL54232 International Organizations**

It explores the international organizations in terms of their origin, development, types and characteristics. Then the course explains the legal status and the role in the international community. It tackles the UN, UNESCO, WHO, and AFO as well as some regional organizations such as the Arab League, Organization of African Unity and Organization of Latin American Countries.

### **POL54240 Western Political Thought**

This course introduces students to the most important trends and tendencies in the Western political thought. It discusses the political doctrines developed by Plato, Aristotle, Augustine, Rousseau, Montesquieu, Machiavelli, Locke, Hegel and Marx. The course emphasizes a number of concepts related to politics such as justice, equality, legitimacy, sovereignty, individualism, freedom, revolution and state.

### **POL54251 Political Movements and Parties in the Arab World**

This course is a study of ideological trends on which political movements and parties have been based. It covers Marxist, Islamic and Pan-Arabism parties.

### **POL51253 Public Administration**

This course aims at introducing students to this field of knowledge and its branches and nature of its theoretical and practical relationship with the society's political, social and economic contexts. The course studies public institutions, programs and policies. It also looks at decision-making process, analysis of policy performance, regulations as well as moral and legal bases controlling administrative tradition in the state.

### **POL54265 Readings in Political Science**

It consists of selected readings in major fields of political science, political theory, political system, political life and international relations. Students are expected to do in-class and home assignments: translation, writing, and conversation.



## **POL54267 European Union**

This class examines the origin and development of the European Union as well as its official institutions in charge of drawing up general policies and taking decisions. The course also deals with the relations of EU with non-member countries and investigates the expansion of the EU and the challenges surrounding it. It also looks into the future of the EU particularly in the economic, monetary, security, social and foreign aspects.

## **POL54312 Palestine Question in the International Arena**

This course is a study of the development of the Palestinian question in the international arena particularly at UN, among the non-aligned countries, Muslim countries, and regional and international organizations. The course also examines the influence of the US and the former Soviet Union foreign policies on the development of the Palestinian cause. The course ends with an emphasis on the Palestinian people's influence on developments at the international level.

## **POL54322 Foreign Policies of Major Powers**

This course is a comparative analysis of institutions' functional structures directly or indirectly concerned with foreign policy decision making in the USA, Russia, UK, France and China.

## **POL54324 Arab World, Iran and Turkey in International Politics**

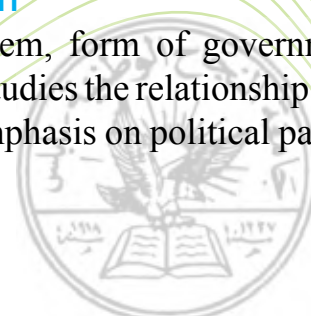
This course addresses the interaction between the Arab and Muslim Worlds, in the Arab East, and the world political system. Emphasis is on the shrinking stage and the containment of the Islamic political system and its submission to the European hegemony system up to the WWII. The course also addresses the stage of European hegemony, disintegration and its replacement by the American hegemony and the then American-Soviet competition. The course, in addition, covers foreign policies in the countries of the region and the influence of the predominant states' policies over the Arab East.

## **POL54327 Diplomatic Protocols**

This course introduces students to modern or public diplomacy, its types, tasks and the how of practicing it in the permanent missions stationed in other countries. The course also dwells on diplomacy and diplomatic theory; diplomatic privileges and immunities; functional aspects of diplomatic and consular life.

## **POL54331 Palestinian Political System**

This course is a study of Palestinian political system, form of government, its institutions and political environment. The course also studies the relationship between the executive and legislative authorities with special emphasis on political parties and functionaries and the decision-making process.



### **POL54332 Political Systems in the Arab World**

This course surveys contemporary political systems of all Arab countries. It makes also a comparative analysis of political institutions, namely the legislative, executive and judiciary authorities, bureaucracies, parties and political leaderships in the Arab world. The course also looks at the Arab League and the role it plays in achieving Arab unity through its different agencies.

### **POL54333 Israeli Political System**

This is a comprehensive survey course of the Israeli political system, its institutions and environment, and characteristics of the Israeli society. Emphasis is on political parties and functionaries and the political decision-making process. The course also shows the link between ideology and the Israeli political behavior.

### **POL55352 Public Opinion**

This course is a study of elements shaping the public opinion and its influence on political behavior and the role it plays in the political process.

### **POL54353 Political Sociology**

This course aims at studying the essential relationship that links sociology and political science. The course examines and studies the relationship between politics and society, and between political and social structures, between political behavior and social behavior. In this respect, it highlights and stresses the social context of political phenomenon.

### **POL54355 Contemporary International Issues**

This course is a study of transformations in the world order in the wake of the former Soviet Union collapse and the effect of these changes on a number of political issues: New World Order; role of the UN in times of war and peace; regional, world and civil wars; globalism; international “terrorism”; weapons of mass destruction.

### **POL54361 Arab-European Relations**

This course examines the collective policy stances of the EU members. It also analyzes the EU attitudes, goals and approaches concerning the Arab-Israeli conflict and the Palestinian people’s rights in particular. It also tackles the influence of the EU in the development of Arab-European ties in the light of the US and Israeli policies toward the EU’s political role in the Arab East.

### **POL54413 Introduction to Zionist Ideology**

This course begins with an introduction to the Zionist ideology in an analytical historical context with emphasis on the Jewish and Western origins of Zionism, the major trends in Zionist ideology and the creation of the Zionist movement. The course also traces the beginning of Jewish colonization of Palestine and the relationship between Israel and the World Zionist Organization. The course ends with a brief survey of the Zionist movement and ideology at present.

### **POL54424 Political, Economic and Military Pacts and Organizations**

The purpose of this course is to provide students with an idea about world conditions that prevailed in the world after WWII, which led to the division of the world into two major camps, starting of the cold war and the establishment of military alliances. The circumstances after WWII also led to significant changes in the political and economic map of international relations. New economic blocs emerged. Students are also introduced to military alliances and economic organizations in terms of their objectives, and influence in international relations.

### **POL54425 History of International Relations**

This course traces the historical development of international relations and the international political system from all aspects: political, social, economic and historical. The course also examines international political problems and their causes, and the role of international organizations in finding solutions to world problems and the effect of that on world peace and security.

### **POL54443 Islamic Political Thought**

This course is an investigation into the basic political principles in Islam according to the Holy Qur'an and Prophetic traditions as well as according to senior Muslim scholars' independent judgments and interpretations. The course also discusses traditionalists', theologians' and al-Asha'iras' thoughts. The course will attempt to link the intellectual arguments/ debates among Islamic schools of thought with the political philosophical trends in the Muslim World.

### **POL54444 Contemporary Political Thought**

This course examines the liberal, conservative, revolutionary philosophies. It also discusses Leninism, non-Marxist socialism, Fascism, national socialism and Moaism. There is also a discussion of political thought by raising the scientific behavioral trend in the study of political science.

### **POL54453 Political Development and Patterns of Change**

This course is concerned with some political studies dwelling on the hows of certain political systems work and get organized. However, the course does not ignore other studies which took into consideration some aspects of governments' historical development. The course, moreover, stresses the fact that political studies change owing to political, social and economic changes.

### **POL54454 Human Rights**

This course begins with a definition of human rights, and a brief look at the history of human rights and its development particularly after WWII. In this course, students learn about kinds of human rights and examples of these rights in international conventions and national constitutions of some countries. The course looks also at most important guarantees for the protection and respect of human rights and public freedom and the mechanism of their implementation within the same country.

## **POL54455 Oil and International Policy**

This course first surveys the history of oil exploration, oil industry and multinational oil companies. Then the course moves to discuss the status of oil, its importance and its role in international relations in times of war and peace. In this respect, the course covers the role of oil in economic development policies and the foreign policies of oil-producing countries (OPEC) and Arab oil-producing countries in particular.

## **POL54469 Seminar**

Topics covered in this course include the study of the nature of political research, modern schools' methodologies in political science, methods of studying policy and government. There will be also an application of scientific research methods in political science.

## **FACULTY MEMBERS**

### ***Full Professors***

Abdul Sattar Kassem

Ph.D. in Political Science,  
University of Missouri, Columbia, U.S.A., 1977.

### ***Associate Professors***

Sa'eb Erakat

Ph.D. in International Policy,  
University of Bradford, UK, 1982.

### ***Assistant Professors***

Farouq el-Aileh

Ph.D. in Political Science,  
Compelettsa University, Spain, 1984.

Nayef Abu Khalaf

Ph.D. in Political Science,  
University of Bradford, U.K., 1986.

Othman Othman

Ph.D. in Political Science,  
Universitaet of Muenster, Germany, 1991.

Raid Nairat

Ph.D. in Political Science,  
Institute of International Relations  
Kiev, Ukraine, 1995.

Saqer Jabali

Ph.D in Political Science  
Center for Arab Research and  
Studies, Cairo, 2003.



# UNDERGRADUATE PROGRAM IN FINANCIAL AND BANKING SCIENCES

## Admission requirements

To major in Banking and Finance, a student must successfully complete Principles of Management I 51121; Principles of Accounting I 52121 and Principles of Finance 56121. A minimum of 70% must be obtained in each of the three courses.

## Requirements for a B.Sc. degree in Banking and Finance

The Department of Banking and Finance offers a single major in Banking and Finance. Students wishing to obtain a degree in this major must successfully complete 131 credit hours which include university, faculty, and department compulsory and elective courses in addition to “free” requirements.

### IA. Compulsory courses (51 credit hours)

Course #	Course title	Credit hours	Prerequisite
51458	Management Information Systems	3	27120/10100
52213	Accounting for Financial Institutions	3	52122
52122	Principles of Accounting II	3	52121
53124	Economics of Palestine	3	53122
53312	Money And Banking	3	53121
56111	Research Methods	3	-
56212	Financial Institutions Management	3	56121+51122
56218	Financial Markets	3	56121
56312	Investment Analysis and Management	3	56121
56412	International Finance	3	53312
56413	Financial Analysis	3	52122
57414	Bank Marketing	3	57121/56121
56313	Corporate Financial Management	3	56121
56314	Readings in Finance	3	10325
56416	Portfolio Management	3	56218
56418	Bank Credit Management	3	56121
56419	Practical Training	3	56416
111251	Commercial Law	3	111101
	Total	51	

## IB. Elective courses (Students choose 18 credit hours)

Course #	Course title	Credit hours	Prerequisite
51122	Principles of Management II	3	51121
51212	Mathematics of Finance	3	21103
51220	Human Resources Management	3	51122
51455	Bank Management	3	51122
51312	Organization Theory	3	51122
51359	Small Business Management	3	51122
51412	Operations Research	3	21103
51451	Insurance Theory	3	51122
56460	Islamic Banks	3	51122
52210	Accounting for Partnerships and Corporations	3	52122
52230	Cost Accounting	3	52122
52312	Tax Accounting	3	52210
52352	Managerial Accounting	3	52230
52400	Computer Programming	3	10100
53213	Principles of Statistics II	3	53123
53313	International Trade	3	53122
53221	Microeconomics Theory	3	53121
53311	Public Finance	3	53122
53315	Political Economics	3	53121
53415	Economic Feasibility Studies and Projects Evaluation	3	53120
56316	International Bank Operations	3	56121
56415	Recent Topics in Finance	3	56313
56417	Computer Based Financial Applications	3	10100/27120/56313



## Course descriptions

### FIN56111 Research Methods

The aim of this course is to help students to understand methods and tools employed in research writing in administrative sciences and finance. Students will learn about basics of research in accounting studies and research: sampling, questionnaire design, means of data collection, data analysis, and hypothesis testing. By the end of the course, students should be able to write term papers and reports.

### FIN51212 Mathematics of Finance

The course introduces students to interest rates calculations, simple interest rate, compound interest rate, fixed installments loan a amortization schedule, settlements, for long and medium term loan, Excel electronic spread sheets.

### FIN56212 Financial Institutions Management

This course begins with an introduction to the banking systems, types of banks, and commercial banks' activities, money creation, sources of financing commercial banks, aspects of employment (direct and indirect credit facilities), commercial bank budget analysis, commercial bank internal organization, the central bank and its relationship with commercial banks, specialized credit institutions and differences between Islamic and commercial banks.

### FIN56218 Financial Markets

Students, in this course, are introduced to the concept of financial market, and competent financial market hypotheses. The course briefly looks at Palestine Securities Exchange. It also identifies pillars of stock exchange markets, types and tools of exchange markets. Further, the course examines financial markets and their significance in the market and investment instruments. The course details on each of these instruments.

### FIN56312 Investment Analysis and Management

This course introduces the concept of investment, long term investment decisions, risks and returns with emphasis on method of calculating net of current value and its relationship with cost of capital and assessment of shares and bonds.

### FIN56313 Corporate Financial Management

In this course, students are introduced to employment environment of financial management, and financial statements, as a basis for planning, investment and financial analysis, planning as well as analysis of liquidity and profitability. The course ends with a look at net working capital and methods of financial analysis.

### FIN56314 Readings in Finance

This course covers a number of finance topics. Emphasis is on theoretical and modern practical applications of finance concepts pertinent to finance and investment



decisions: Finance structure, merger, project evaluation, financial securities evaluations, dividends distribution and stock exchange markets...

Students will read fresh scholarly articles in journals published in English.

### **FIN56316 International Bank Operations**

This course aims at acquainting students with bank operations and services and their role in facilitating the activation of foreign trade. The course also sheds light on foreign services offered by banks operating in Palestine with emphasis on forms of payment in foreign operations such as transfers, bills, checks and types... Further, the course emphasizes forms of internal and external operations such as open accounts, credits, and collection policies... The course ends with a look at financing foreign trade (bank operations in financing foreign trade), monetary markets and money risks.

### **FIN56412 International Finance**

This course tackles changes and influences in balance of payments. The course also examines policies followed in correcting imbalances and their effect on the state's macroeconomic aspects. The course, in addition, investigates the causes for changes in exchange rates and the hows of their prediction and the impact of international (financial) economic relations on countries' macroeconomics.

### **FIN56413 Financial Analysis**

This course is a study of instruments and methods used in finance analysis as a basis for objective analysis and discussion directed towards different financial statement items. The course also looks at the relationships among the different items of these statements and compares them with historical criteria and specific patterns in order to judge on the efficiency of project management and its long and short financial positions.

### **FIN56415 Recent Topics in Finance**

The course is a study of contemporary finance topics and problems in the area of finance, real e finance, corporate financial management, investment, financial institutions and markets.

### **FIN56416 Portfolio Management**

Topics covered in this course include definition of investment portfolios, concept of optimum investment portfolio, the how's of building the optimum investment, the hows of reducing risks by diversifying and employing Beta coefficient to predict risks of investment portfolios and patterns of policies followed in portfolio management. Other topics covered include measurement of investment portfolio manager, international portfolios and future contracts.

### **FIN56417 Computer Based Financial Applications**

The course is an application of the students theoretical studies on computer. The concentration will be on the qualitative materials, analytical developments in security selection and portfolio performance evaluation, investment analysis, time value of money. This is to be done utilizing various computer programs especially excel.

## FIN56418 Bank Credit Management

In this course, students learn about the structure of a model banking system, rates of banking interest and their relationship with economic circumstances and variables, credit instruments, credit considerations (SCS) particularly those pertinent to guarantees, their types and banking suitability.

## FIN56460 Islamic Bank Management

This course discusses the financial system in general and the history of money includes the money in islam and the different types of banks, history, definition, philosophy, objectives, sources of Islamic banks financing Islamic banks investment are discussed thoroughly, mudaraba, murabaha, lease sale banks, Islamic sukak, Islamic banks sources of funds, Islamic banks services, financial statements control of Islamic banks.

## **FACULTY MEMBERS**

### ***Professors***

Tariq el-Hajj                      Ph.D. in Finance and Banking,  
University of Berlin, Germany, 1986.

### ***Instructors***

Islam Abdel Jawaad              M.Sc. in Accounting and Finance,  
Arab Academy, Amman, Jordan, 1996.

Mufeed Thaher                      Ph.D. in Accounting and Finance,  
Anneelien University, Sudan, 2004.

Hisham Jabr                          Ph.D. in Finance  
University of Glasgow. U.K. 1990

Bassam Al-Shouli                  Master of Business Administration, concentration on finance  
Trleton State University, USA 1982



# UNDERGRADUATE PROGRAM IN MARKETING

## Admission requirements

To join the Department of Marketing, a student must complete successfully Principles of Marketing 57121 and Principles of Management I 51121. A minimum of 70% must be obtained in each of the two courses.

## Requirements for a B.Sc. degree in Marketing

The Department of Marketing offers a single specialization in Marketing. Students wishing to get a B.Sc. degree in Marketing must successfully complete 131 credit hours which include university, Faculty and department compulsory, and elective courses in addition to "free" requirements.

### IA. Compulsory courses (51 credit hours)

Course #	Course title	Credit hours	Prerequisite
51111	Research Methods	3	-
51122	Principles of Management II	3	51121
51210	Business Communications (in English)	3	10103
51220	Human Resources Management	3	51122
51259	Sales Management	3	57121+51122
51412	Operations Research	3	21103
53124	Economics of Palestine	3	53122
56313	Corporate Financial Management	3	56121
57222	Marketing Management	3	57121
57223	Marketing Strategy	3	
57225	Commercial Promotion	3	57121
57324	Marketing Research	3	57121+51111
57329	Consumer Behavior	3	57121
57414	Bank Marketing	3	57121+56121
57427	International Marketing	3	
57433	Marketing Studies in English	3	10325
57449	Graduation Project	3	51111
	Total	51	

### **IB. Elective courses (Students may choose 18 credit hours)**

Course #	Course title	Credit hours	Prerequisite
51224	Purchasing and Inventory Management	3	51122
51250	Strategic Planning	3	51122
52122	Principles of Accounting II	3	52121
52230	Cost Accounting	3	52122
53415	Economic Feasibility Studies and Projects Evaluation	3	53122
57130	Personal Selling	3	57121
57131	Public Relations	3	57121
57326	Tourism Marketing	3	57121
57332	Managing Existing Products	3	57121
57428	New Products Development Strategy	3	57121
57434	Customer Services Management	3	57121
57435	Quantitative Methods in Marketing	3	56313
57436	Marketing Control	3	57121
57438	Marketing for Nonprofit Organizations	3	57121
57439	Health Services Marketing	3	57121
57440	Agricultural Marketing	3	57121



## **Course descriptions**

### **MAR57130 Personal Selling**

This course discusses selling developments related to the different methods of selling, and skills when dealing, negotiating with customers and interacting with them.

### **MAR57131 Public Relations**

This course aims at providing students with basic skills necessary for communicating with the internal and external community of the institutions. Students learn methods of studying and analyzing public opinion, its trends and formation, and its encounter. Also the course looks at necessary skills for planning public relations campaigns for the benefit of institutions and their reputation in the marketplace.

### **MAR57222 Marketing Management**

This course provides students with skills on how to apply managerial functions in marketing activity, marketing planning skills, organizing, directing, implementing and controlling of marketing activities.

### **MAR57223 Marketing Strategy**

This course aims at deepening student's knowledge of managing marketing activities particularly linking available resources with marketing opportunities which emerge as a result of developments and changes in the environment. The course also provides students with intellectual skills that enable them to analyze state of marketing activities in the light of results as a prelude to drawing a clear-cut policy for the future and introducing students to strategic alternatives in the context of economic crises.

### **MAR57225 Commercial Promotion**

In this course, students learn about basic concepts pertinent to promotion and scientific methods. Students acquire skills that enable them to prepare and design promotional messages in a systematic, scientific and methodological way. In this course, students are also expected to prepare field working papers directly after completion of each topic.

### **MAR57324 Marketing Research**

In this course, students are expected to invest their knowledge acquired in Research Methodology in the field of marketing. The course provides students with the practical knowledge pertinent to the methods of conducting marketing research, research analysis, formulation or presentation of results to serve marketing decision makers and enable them to apply research marketing skills in studying marketing problems in the Palestinian environment.

### **MAR57326 Tourism Marketing**

This course provides students with practical knowledge about marketing concepts and skills acquired in Principles of Marketing. The course also provides them with

the necessary knowledge to understand the nature of tourism services, the hows of their planning and appropriation with the tourists' preferences. The students will be introduced to historical, religious and health tourism as well as to management of hotel services.

### **MAR57329 Consumer Behavior**

The aim of this course is to introduce students to human behavior concepts important in the study of purchasing behavior. Students will be also provided with behavioral models which explain purchasing behavior. The course also looks at skills employed in the application of different behavioral concepts on the state of the Palestinian consumer.

### **MAR57332 Managing Existing Products**

Like other courses, the aim of this course is to provide students with the necessary skills to enable them to manage existing products. This includes study, analysis of products life cycle and the relationship of each stage with the surrounding environment, planning skills and financial analysis of products oriented towards markets.

### **MAR57414 Bank Marketing**

Students, in this course, learn about principles of marketing banking services, analyzing banking services, purchasing behavior and its determinants, consumer behavior, marketing environment of the banking services, developing and innovating of banking services, pricing banking services, clients' patterns and ways of dealing with them.

### **MAR57427 International Marketing**

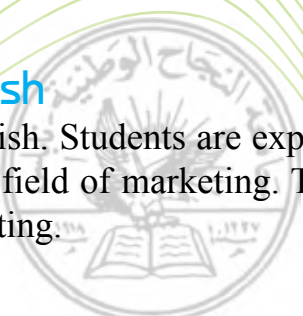
This course introduces students to alternative methods used in entering foreign markets and how to evaluate these alternatives. The course also provides students with skills to analyze, study and evaluate risks and successes, opportunities in foreign markets and the hows of managing elements of marketing mix in the light of differences among foreign external environments.

### **MAR57428 New Products Development Strategy**

This course provides students with the necessary skills needed for development of product ideas, dealing with them, analyzing and evaluating them in order to have a successful product in the market. Students learn methods of financial, economic, and statistical analysis. Comparison among alternatives will be done to choose the best of available ones.

### **MAR57433 Marketing Studies in English**

This course teaches students marketing terms in English. Students are expected to read, translate and write reports and term papers in the field of marketing. They are also expected to keep abreast of developments in marketing.



## **MAR57434 Customer Services Management**

Emphasis, in this course, is on reception of and processing of clients' orders by using the computer, in addition to preparation, packaging and shipment of these orders. Other topics covered include stockpiling procedures in warehouses, transportation, purchasing and information.

## **MAR57435 Quantitative Methods in Marketing**

This course discusses how quantitative methods are used in marketing activities to draw up policies, build strategies and evaluate results in the marketing field.

### **MAR57436 Marketing Control**

This course discusses control methods and their application in marketing activities in order to enhance the marketing competency and effectiveness in organizations.

### **MAR57438 Marketing for Nonprofit Organizations**

This course focuses on how to introduce and apply marketing concepts in public health, social welfare institutions, fund-raising campaigns for charitable societies and free education services.

## **MAR57439 Health Services Marketing**

In this course, students are provided with necessary skills to apply modern marketing concept in private and public health care institutions. To this end, students will learn how to study, and analyze the nature of health services and the dimension of investment in health institutions and the beneficiaries' objectives from their services.

## **MAR57440 Agricultural Marketing**

This course aims at providing students with the necessary skills to apply marketing concepts on agricultural produce. To this end, students will be taught how to study and analyze the nature of agricultural produce, in comparison with other products, and the influence of that in marketing and management of the produce.

## **MAR 57449 Graduation Project**

This course sets the stage for what the students have learned through all previous semesters in the marketing department. It aims at measuring students capabilities to determine, analyze, and solve marketing research problems. This course allows student's to practice the learned theories and concepts to solve real research issues and problems, and so, students are encouraged to prove their comprehension of what they have learned in the marketing and administrative discipline as well.



## **FACULTY MEMBERS**

### ***Assistant Professors***

Majeed Othman

Ph.D. in Marketing,  
University of Rajasthan, India, 1994.

Mustapha Al-Hajj Ali

Ph.D. in Agricultural Sciences,  
Kiel University, Germany, 1990.

Motasem I.A. Masoud

Ph.D. in Marketing,  
Amman Arab University for Graduate Studies,  
Jordan, 2005.

Sam A.F. Alfoqahaa

Ph.D. in Marketing,  
Amman Arab University for Graduate Studies,  
Jordan, 2007.

### ***Lecturers***

Abd-Allah Samara

M.Sc. in Marketing,  
University of Jordan, Jordan, 1986.

### ***Instructors***

Ma'arouf Dweikat

MBE. Marketing Management,  
University of the Punjab, Pakistan, 1980.

Najeh Abdelqader

M.B.A. An-Najah National University,  
Palestine, 2000.



# FACULTY OF ENGINEERING



## **INTRODUCTION**

Faculty of Engineering of An-Najah National University was established in the year 1979 and started offering one degree (Bachelor of Civil Engineering). Then later, in the year 1980, the department of Architectural Engineering was established.

As the local Palestinian economy and the regional pan Arab economy evolved, the demand on engineers in other disciplines has increased. For the past 20 years the faculty of engineering kept introducing new programs. Currently the engineering faculty houses ten academic engineering departments: Civil Engineering, Architectural Engineering, Electrical Engineering, Chemical Engineering, Industrial Engineering, Computer Engineering, Building Engineering, Mechanical Engineering, Mecatronics Engineering, and Communication Engineering.

Faculty of Engineering is also providing seven graduate programs leading to master degree in fields: Structural Engineering, Highways and Transportation Engineering, Water and Environment Engineering, Urban and Regional Planning, Architectural Engineering, Clean Energy Engineering, and Engineering Management.

The academic plans of all the Engineering Faculty' programs have been constructed in away that meet the needs of the local and regional markets from both scientific and practical points of view. The faculty follows the known international standards of scientific engineering.

An-Najah National University has established and constructed a new university campus in AL-Junaid. As a result the Faculty of Engineering was moved to the New Campus starting the academic year 2005/2006. The new engineering building includes: engineering workshops, several laboratories equipped with state of the art and modern instruments and devices suitable to conduct advanced teaching and research works. In addition, the laboratories are also used to provide many services to the local community. Faculty of Engineering of An-Najah National University is recognized as the leading engineering faculty in the West Bank due to quantity and quality of available programs. The faculty has the more than 90 faculty members most of them having doctorate degrees from well renowned institutions.

## **MISSION AND OBJECTIVES**

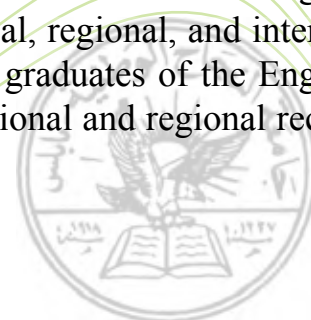
The mission and objectives of Faculty of Engineering have well compromise with the general mission of An-Najah National University through three recognized main objectives: Faculty of Engineering is well recognized locally and regionally, providing high quality engineering programs that are compromise with other programs provided by other recognized international universities and within the international standards, and providing the country with well educated and trained engineers who are able in taking position in the process of construction and development of the country.

In general, Faculty of Engineering aims in getting a leading position and takes into account the variable conditions in the development of the infrastructure, the environment and the economy of the country through the following:

- ◆ **Graduates:** Developed graduates unifying the engineering methodology in Palestine, having enough practical experience, able to join the local, regional, and international work markets, and have the following recognized characteristics:
  - ⇒ Ability to have enough experience in analytic and physical fields.
  - ⇒ Ability to have the knowledge, and engineering methodology for analyzing engineering problems
  - ⇒ Ability to find suitable engineering solutions.
  - ⇒ Ability to have suitable practical experience through academic laboratories, projects, and field training.
  - ⇒ Ability to have enough knowledge in the local, regional, and international engineering work rules.
  - ⇒ Ability to respect the carrier
  - ⇒ Ability to apply the known social, work, and teamwork rules
  - ⇒ Ability to make a communication with the others
  - ⇒ and enjoying social work.

That's all within the suitable social and humanitarian limits.

- ◆ **Scientific Research:** Performing distinct research compromises the international development in both scientific and practical fields, and giving priority to the national needs. Faculty of Engineering aims of achieving this goal through the well-developed faculty staff, the modern laboratories, and the new scientific references with integration with scientific and engineering centers in the university.
- ◆ **Social work:** Getting a leading position in local social work. Besides the share of the faculty in social work through the graduate and the scientific research, Faculty of Engineering also aims in achieving this goal by providing the Palestinian community with laboratories, scientific experience, and Engineering consultations with support of the scientific centers in the University.
- ◆ **Awards:** An indication of the distinct academic and research in the Engineering Faculty, the faculty has been awarded several local, regional, and international prizes for research and applied projects. Several graduates of the Engineering Faculty are also achieved distinct positions in national and regional recognized companies.



## ACADEMIC PROGRAMS

The College of Engineering offers ten academic programs leading to B.SC. and Seven M.SC. Degrees.

### 1. UNDERGRADUATE PROGRAMS

- ⇒ Civil Engineering
- ⇒ Architectural Engineering
- ⇒ Electrical Engineering
- ⇒ Chemical Engineering
- ⇒ Industrial Engineering
- ⇒ Computer Engineering
- ⇒ Mechanical Engineering
- ⇒ Building Engineering
- ⇒ Mechatronics Engineering,
- ⇒ Communication Engineering.

### 2. GRADUATE PROGRAM (FIVE FIELDS)

- ⇒ Structural Engineering
- ⇒ Transportation and Highway Engineering
- ⇒ Engineering management
- ⇒ Architectural engineering
- ⇒ Clean energy

**NOTE:** After joining the College of Engineering, a student initially signs up for general courses offered by the college. Students are expected to complete 30 credit hours by the end of the year. The college requirements are distributed as follows:

#### *College requirements (21 credit hours)*

Course No.	Course Title	Credits
21101	Calculus 1	3
21102	Calculus 2	3
22101	Physics 1	3
22102	Physics 2	3
22115	Physics lab for Engineering	1
66111	Computer Programming	3
67100	Engineering workshop 1	1
62110	Engineering drawing	2
64100	Introduction to engineering Engineering Ethics	1
64300	Principles of Scientific Research and Technical Writing	1
Total		21

# **CIVIL ENGINEERING DEPARTMENT**

## **UNDERGRADUATE DEGREE IN CIVIL ENGINEERING**

### **APPLIED TO STUDENTS OF 2008 AND HIGHER MAY 2009**

#### ***Introduction***

The Department of Civil Engineering was established at the beginning of the academic year 1979/1980. The Department at present offers a bachelor degree in Civil Engineering that provides fundamental knowledge and applications in civil engineering. The program focuses on all areas of civil engineering including: structures, water resources and environmental engineering, transportation engineering, soil mechanics and foundation, construction engineering and management, and surveying. In addition, the Department offers the following master degrees: Structural Engineering, Highway and Transportation Engineering, and Water and the Environmental Engineering.

The B.Sc. in Civil Engineering requires 166 credit hours, of which 26 credit hours are university requirements, 20 credit hours are college requirements, and the rest which are 130 credit hours are department requirements. All students must take internship and a capstone course of graduation design project as a requirement for graduation. The typical time of study is five years.

The Department has 19 full time faculty members and 9 supporting staff in all areas of civil engineering. In addition, the department has state-of-the-art classrooms and several laboratories: soil mechanics lab, fluid mechanics lab, construction materials lab, traffic engineering lab, highway and asphalt lab, surveying lab, and computer lab. In addition, the labs are used to provide testing and consulting services for the community.

#### ***Specialty (Major) Requirements***

In order for a student to qualify for specialty in Civil Engineering s/he must finish the following courses with at least a grade of 70%:

21101	Calculus 1
21102	Calculus 2
22101	Physics 1
22101	Physics 2

Once the above condition is met, s/he must submit an application to the department requesting acceptance in the department. The department accepts students based on the average of the grades in the above courses and the number of seats available for the given academic year.



## ***Undergraduate degree in Civil Engineering (Dept. code #1)***

The Department of Civil Engineering offers a single specialization in civil engineering. Students wishing to pursue a B.Sc. degree in civil engineering are required to complete 166 credit hours, which include university, college and departmental compulsory and elective courses, in addition to requirements from other departments. The following table summarizes these requirements:

No.	Type of Course	Compulsory Courses (credit hours)		Elective Courses (credit hours)	Total (credit hours)
1	University	20		6	26
2	College	21		-	21
3	Department	From other departments	22	15	119
		From the department	82		
Total		145		21	166

### ***1. University Requirements (26) credit hours:***

#### ***1.1 Compulsory Requirements (20) credit hours:***

Course No.	Course Title	Credit Hours	Pre-requisite
10101	Islamic Culture	3	
10102	Arabic Language	3	
10103	English Language I	3	
10322	English Language II	3	10103
10105	Palestinian Studies	3	
10117	Leadership and Communication Skills	1	
10108	Society Service	1	
10100	Introduction to Computer	3	
Total Credit Hours		20	

#### ***1.2 Elective Courses (6) credit hours:***

The student should select 6 credit hours from elective courses offered from different colleges other than his college. The student is not allowed to select more than one elective course from one of a specified college of the university.

## 2. College Requirements (21) Compulsory credit hours:

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
21101	Calculus I	3	3	-	-
21102	Calculus II	3	3	-	21101
22101	General Physics I	3	3	-	-
22102	General Physics II	3	3	-	22101
22115	Physics Lab for Engineering	1	-	2	22102
60100	Introduction to Engineering and Engineering Ethics	1	1	-	10322
60300	Principles of Scientific Research and Technical Writing	1	1	-	-
62102	Engineering Drawings	2	-	4	-
67100	Engineering Workshops I	1	1	2	-
66111	Computer Programming	3	3	-	-
32101	English at Workplace	0	3	-	Studied in Graduation Semester
Total		21	18	8	

## 3. Department Requirements: (119) credit hours

### 3.1 Compulsory Offered from Other Departments: (22) credit hours

Department	Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
				Theory	Practice	
Chemistry	23101	General Chemistry (1)	3	3	-	-
Chemistry	23107	General Chemistry (1) lab	1	-	2	23101
Mathematics	21201	Calculus III	3	3	-	21102
Mathematics	21202	Engineering Mathematics	3	3	-	21201
Mathematics	21230	Statistics and Probability for Engineers	3	3	-	21102
Chemical Engineering	64251	Numerical Analysis for Engineers	3	3	-	21202+66111
Industrial Engineering	65301	Engineering Management and Economy	3	3	-	21101
Mechanical Engineering	67210	Dynamics	3	3	-	61110
Total			22	21	2	





### 3.2 Compulsory Offered from the Civil Engineering Department: 82 credit hours

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61110	Statics	3	3	-	21101 , 22101
61205	Construction Materials	2	2	-	
61206	Construction Materials Lab	1	-	2	Concurrent with 61205
61207	Mechanics of Materials	3	3	-	61110, 21102
61208	Mechanics of Materials Lab	1	-	2	Concurrent with 61207
61222	Surveying (1)	2	2	-	21230
61223	Surveying (1) Lab	1	-	2	Concurrent with 61222
61230	Engineering Geology	2	2	-	
61304	Building Construction	2	2	-	61205, 62102
61305	Building Construction Lab	1	-	2	Concurrent with 61304
61306	Civil Engineering Drawing	1	-	2	61305
61315	Structural Analysis (1)	3	3	-	61207
61317	Structural Analysis (2)	2	2	-	61315, 64251
61318	Structural Analysis (2) Lab	1	-	2	Concurrent with 61317
61322	Surveying (2)	2	2	-	61222
61323	Surveying (2) Lab	1	-	2	Concurrent with 61320
61331	Soil Mechanics	3	3	-	61207, 61230
61332	Soil Mechanics Lab	1	-	2	Concurrent with 61331
61341	Fluid Mechanics	3	3	-	67210
61345	Hydraulics	3	3	-	61341
61346	Fluid Mechanics and Hydraulics Lab	1	-	2	Concurrent with 61345
61352	Environmental Engineering (1)	3	3	-	23107
61360	Transportation Systems (1)	3	3	-	61322
61361	Transportation Systems (1) Lab	1	-	2	Concurrent with 61360
61390	Design of Reinforced Concrete Structures (1)	3	3	-	61315
61391	Practical Training	3	-	320	Fourth Year Level
61412	Design of Reinforced Concrete Structures (2)	2	2	-	61390, 61317
61413	Design of Reinforced Concrete Structures (2) Lab	1	-	2	Concurrent with 61412
61420	Steel Structures	3	2	2	61317
61431	Foundation Engineering	3	3	-	61331
61441	Hydrology	3	3	-	61345
61451	Environmental Engineering (2)	3	3	-	61352, 61345
61452	Environmental Engineering Lab	1	-	2	Concurrent with 61451
61463	Transportation Systems (2)	2	2	-	61360
61464	Transportation Systems (2) Lab	1	-	2	Concurrent with 61463
61470	Specifications and Quantities Estimating	3	3	-	61304 , 65301 or 68350 ,65301
61472	Engineering Management	3	3	-	61304 , 65301 or 68350 ,65301
61598	Graduation Project (1)	2	2	-	Department Agreement
61599	Graduation Project (2)	3	3	-	61598
Total		82			

### 3.3 Elective Courses Offered from the Civil Engineering Department: (15) credit hours

The department offers a number of courses in civil engineering to allow students to make up for what they might not have taken in the department compulsory courses. All electives are offered in the form of core courses and after department approval. The department has a committee charged with the offering of these courses. The elective course might be given to a student as an independent study if he/she is researching a subject directly related to the course. Every student has to study at least 5 courses (equivalent to 15 credit hours) from which 2 courses should be related to the students' graduation project.

#### Elective Courses in Structures

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61511	Conceptual Design	3	3	-	61318, 61390
61513	Design of Reinforced Concrete Structures (3)	3	3	-	61412
61514	Pre-stressed Concrete	3	3	-	61390
61515	Plastic Design	3	3	-	61420
61516	Stone Construction	3	3	-	61205, 61304 Or 61205, 68350
61517	Computer Application in Structures	3	3	-	61318
61518	Special Topics in Structures	3	3	-	61318
61519	Dynamic Analysis for Structures	3	3	-	61317
61715	Failure Analysis	3	3	-	61412

#### Elective Courses in Surveying

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61522	Adjustments of Survey Measurements	3	3	-	61322
61619	Advanced Topics in Surveying	3	3	-	61322
61620	Geographic Information Systems (GIS)	3	2	2	61322



## Elective Courses in Geotechnical Engineering

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61531	Advanced Soil Mechanics (1)	3	3	-	61331
61532	Advanced Soil Mechanics (2)	3	3	-	61331
61533	Advanced Foundation (1)	3	3	-	61431
61534	Advanced Foundation (2)	3	3	-	61431
61535	Computer Application in Geotechnical Engineering	3	3	-	61431
61536	Advanced Lab in Soil Mechanics	3	1	4	61331

## Elective Courses in Water Engineering

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61541	Ground Water	3	3	-	61441
61542	Systems and Operations in Hydrology	3	3	-	61441
61543	Water-Plant-Soil System	3	3	-	61441
61544	Drainage Systems	3	3	-	61441
61545	Advanced Hydraulics	3	3	-	61345
61676	Water Resources Management	3	3	-	61441

## Elective Courses in Environmental Engineering

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61551	Environmental Quality Monitoring	3	3	-	61352
61552	Chemical Processes for Water and Wastewater Treatment	3	3	-	61352
61553	Management of Soil Waste	3	3	-	61352
61554	Environmental Management Systems and Auditing	3	3	-	61352
61555	Water and Wastewater Technology	3	3	-	61352
61556	Environmental Impact Assessment	3	3	-	61352
61557	Environmental Geochemistry	3	3	-	61352
61558	GIS in Environmental Engineering	3	3	-	61352

## Elective Courses in Transportation Engineering

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61561	Traffic System Management	3	3	-	61463
61562	Advanced Pavement Design	3	3	-	61360
61563	Transportation Planning	3	3	-	61463
61564	Special Topics -Traffic Engineering	3	3	-	61463
61576	Advanced Traffic Engineering	3	3	-	61463
61667	Advanced Highway Design	3	3	-	61360

## Elective Courses in Project Management Engineering

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61582	Project Management and Control	3	3	-	61472
61583	Productivity Improvement and Quality Control	3	3	-	61472
61584	Site Management and Safety Factors	3	3	-	61472
61585	Advanced Construction Project Management	3	3	-	61472

## General Elective Courses

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61603	Advanced Topics in Civil Engineering	3	3	-	Department Agreement
61604	Civil Engineering Systems	3	3	-	Department Agreement
61605	Special Topics in Civil Engineering	3	3	-	Department Agreement
61670	Advanced Topics in Civil Engineering Materials	3	3	-	Department Agreement

## Courses Offered to Other Departments

Course No.	Course Name	Credit Hours	Hour per Week		Prerequisite
			Theory	Practice	
61110	Statics	3	3	-	21101, 22101
61207	Mechanics of Materials	3	3	-	21102, 61110
61208	Mechanics of Materials Lab	1	-	2	Concurrent with 61207



## **Courses Outlines**

### **Compulsory Courses**

#### **64100 Introduction to Engineering and Engineering Ethics**

History of engineering, evolution and relationship with other disciplines mainly planning and management, types of engineering, engineering design, engineering ethics, steps for solving engineering problems.

#### **22115 Physics Lab for Engineering**

Lab experimentation in the subjects covered by Physics I and Physics II. This includes experiments in the fields of electricity and mechanics.

#### **64300 Principles of Scientific Research and Technical Writing**

Fundamentals of scientific research, types of research, experimentation, simulation, statistical analysis, creative thinking, presentation skills, technical report and c.v. writing.

#### **67100 Engineering Workshops I**

Development of basic skills in fields of manual sheet metal fabrication, welding processes, and household electrical circuits. Students should perform in individual practical exercises.

#### **62102 Engineering Drawings**

This course covers several topics: basic drawing techniques and materials used, orthographic projection, technical sketching, geometric constructions and drawing isometric and oblique pictorial views of objects.

#### **21230 Engineering Probability and Statistics**

Set theory, relative frequency and probability; joint probability and independent events. Random variables, distribution functions, density functions, and Gaussian random variables. Multiple-random variables, joint-distribution functions, joint-density functions, conditional distribution functions, and central limit theorem. Random processes, stationary, and independence. Correlation functions, covariance, and Gaussian random processes. Random processes spectral characteristics, power density spectrum, cross-power spectrum, relation between correlation functions and power density spectra.

#### **66111 Computer Programming**

Basic programming concepts. Writing, executing, and debugging programs. Concepts of modularity and encapsulation, focusing on modules and abstract data types. Covers some basic data structures.

#### **21202 Engineering Mathematics**

Classification and solution of first order equation with application, higher order and solution, power series and solution also the student will learn the fundamental of partial differential equation, method of solution of first and second order nonlinear partial differential equation.

## 64251 Numerical Analysis for Engineers

The course aims to clarify the basic skills of numerical methods such as: error calculations, solving linear and non-linear equations and their systems, numerical differentiation and integration, solving ordinary differential equations and their systems, curve fitting and interpolation. Students will be practiced on some special software related to numerical methods

## 61110 Statics

This course introduces the students to the fundamental concepts of vectors, equilibrium of force system for particles and rigid bodies. It also looks at the application of principles of statics to structures, axial force, shear and bending moments, friction, centroid, and moment of inertia.

## 67210 Dynamics

Kinematics of particles, two and introduction to three dimensional dynamics of rigid bodies. Force and acceleration, work and energy, impulse and momentum. Introduction to vibrations.

## 61205 Construction Materials

A study of properties and behavior of building materials used in civil engineering, such as cement, concrete, metals, and wood. Students will also learn the standard specifications and testing methods associated with the production and quality control methods, and workplace safety procedures.

## 61206 Construction Materials Lab

Laboratory application of various experiments related to construction materials.

## 61207 Mechanics of Materials

Topics covered in this course are fundamental principles and theories of stress and strain, and their interrelationship, mechanical properties of materials, pressure, influence of temperature, shear and bending forces and stresses, flexural and compound stresses, maximum and minimum strains, deflection of beams, stability of columns.

## 61208 Mechanics of Materials Lab

Laboratory applications and experiments to the topics covered in the course mechanics of materials.

## 65301 Engineering Economics and management

Topics covered include principles and ways used by the engineer to justify the economic decisions concerning long and short-term planning, development of skills in preparing cash-flow as well as present and future value calculations. The students are introduced to different ways used in evaluating projects and their economic feasibility using present value, future value, annual payments, and rate of return profit to choose most feasible project and computer applications, and basic concepts management.

### 61222 Surveying (1)

Introduction, theory of errors, Distance measurement, Leveling, Theodolite and its applications, Electronic distance measurement, Coordinate geometry and traverse surveying, Areas and volumes.

### 61223 Surveying (1) Lab

There will be field exercises to cover all the subjects of Surveying (1) / 61222

### 61230 Engineering Geology

This course studies various types of geological sciences and their relationship to other sciences. Topics covered include: cosmology, crystallography, mineralogy, petrology and soil and rock engineering behavior. At the end, it provides an introduction to soil mechanics.

### 61304 Building Construction

The subjects taught in this course include: the types of construction, preparation of the site, safety in the construction site, the elements of a building and their types such as foundation, columns, beams, roof, etc., the materials used in the construction process such as concrete, blocks, steel, stones, etc., the finishing elements such as plastering, painting, tiling, electrical and mechanical work, elevators, etc. Overall, this course aims to develop student's abilities to construct a building from beginning to end.

### 61305 Building Construction Lab

Practical drawing applications for various exercises related to building construction.

### 61306 Civil Engineering Drawing

This course aims at providing an introduction to engineering drawings related to civil engineering using CADD. A student will practice on using general drawings, symbols, measurements, dimensions, directions, distances, and templates. A student will also practice using maps, surveying maps, plans, construction plans, roadway plans and cross-sections, water and wastewater plans, electricity and telecommunication plans, etc, and plans for structural designs and details.

### 61315 Structural Analysis (1)

This course is an analysis of statically determinate beams, trusses, compound and simple, cables and arches and rigid frames. It also includes a study of deflection computation using different methods, and influence lines for determinate elements. Introduction to solve indeterminate structures using matrix method.

### 61317 Structural Analysis (2)

This course focuses on the analysis of statically indeterminate structures and frames using matrix method and finite element method. Theoretical application on equilibrium columns and dynamic of structures. Computer applications.

## 61318 Structural Analysis (2) Lab

Application to the topics covered in structural analysis (1) and (2).

## 61322 Surveying (2)

Route surveying, Horizontal control surveys, Introduction to photogrammetry, Global positioning systems (GPS) measurements, Introduction to geographic information systems (GIS).

## 61323 Surveying (2) Lab

There will be field exercises to cover all the subjects of Surveying (2) / 61322

## 61331 Soil Mechanics

Students will learn the fundamental principles of soil behavior including physical and mechanical properties, as well as the classification, identification, and soil-testing. Students will also be introduced to the principles of permeability and seepage as well as the theory and applications of consolidation. The course ends with a look at shear strength applications on soil and soil bearing for building foundations and other purposes.

## 61332 Soil Mechanics Lab

This lab covers various practical experiments on soil mechanics principles.

## 61341 Fluid Mechanics

Study of fluids under conditions of rest and motion. Fundamentals of units and fluid properties through fluid statics, kinematics, systems, control volumes, conservation principles, ideal incompressible flow, impulse-momentum principles, real fluid flow, similitude dimensional analysis, and normalization of equations.

## 61345 Hydraulics

Applications to flow in pipes and open channels, lift and dray and hydraulic machining (pumps and Turbines) introduction to the design requirements of water systems including water supply, storm water drainage and waste water collection. Introduction to software used for water systems design.

## 61346 Fluid Mechanics and Hydraulics Lab

(Concurrent with Hydraulics and Water Systems). Principles of Fluid Mechanics and Hydraulics through laboratory experiments. Experiments cover fluid properties, hydrostatics and pressure measurement, velocity and flow measurement, orifices, venturi meters, and weirs in addition to flow in open channels and pumps.

## 61352 Environmental Engineering (1)

Introduction to environmental systems, problems, and pollution. Sources, impacts, and controls of water pollution, air pollution, soil pollution, solid waste pollution, and noise pollution. Units and reporting in environmental engineering. Environmental standards. Environmental conservation. Environmental management (prerequisite general chemistry).



## 61360 Transportation Systems Engineering (1)

Basic design aspects of highway geometrical design, which include roadway elements, route selection, vertical and horizontal alignment, and cross-sectional elements. Basic principles of highway structural design, subgrade material, materials of construction for roadways, asphalt mix design, and design of flexible and rigid pavement structures.

## 61361 Transportation Systems Engineering (1) Laboratory

Application of route location and design of highways principles through design project. Subgrade and granular material tests for highway construction. Highway bituminous materials general properties and gradation testing. Asphalt mix design and binder recovery testing. Highway deformation and friction testing. Quality control tests for highway construction.

## 61390 Design of Reinforced Concrete Structures (1)

Students are introduced to the definitions and design theories, analysis and design of structural elements for bending, shear force, axial force, and torsion. Application of the mentioned theory on design of structural element: slabs, columns, and footings.

## 61391 Practical Training

8 weeks of practical training of at least 320 practical hours. This engineering practical training should be performed in a creditable engineering establishment.

## 61412 Design of Reinforced Concrete Structures (2)

Analysis and Design a structure as one unit. Slab systems. Long columns. Deflection and earthquake design. Computer applications.

## 61413 Design of Reinforced Concrete Structures (2) Lab

Practical applications to various topics covered in design of reinforced concrete (1) and (2).

## 61420 Steel Structures

This course provides students with a background about specifications, requirements, and behavioral principles and design of structural steel tension, compression, and flexural members. The course also introduces the types of connections: riveted, bolted, and welded. The course finally provides structural detailing for trusses, beams, and columns and frame elastic designs. It also includes some computer applications.

## 61431 Foundation Engineering

This course begins with review of soil mechanics and introduction to subsurface exploration. Then it covers bearing capacity of shallow foundation, stress distribution and foundation settlement. Then it moves to lateral earth pressure and retaining structures. This course ends with an introduction to the pile foundation system. It includes computer applications.

## 61441 Hydrology

Hydrology is the science of water. Engineering Hydrology is concerned with planning, design, and operation of engineering projects for the control and use of water. The course is to cover the concept of hydrological cycle and to study the different hydrological process and systems. These are to include meteorological parameters and concepts related to hydrology, precipitation, Evaporation and transpiration, infiltration and subsurface flow and stream flow. The stream flow hydrographs and modeling the relation between precipitation and runoff are the major part of the course. The course is also to cover probability in hydrology as a basis for planning. An introductory chapter to groundwater Hydrology is to be presented.

## 61456 Environmental Engineering II

Introduction to water and wastewater treatment processes and plants. Planning, design, and operation and maintenance of physical, chemical, and biological water and wastewater treatment processes. Packaged treatment plants. Wastewater reuse systems. Sludge management. Integrated design of treatment systems (prerequisite environmental engineering I).

## 61457 Environmental Engineering Lab (1 credit hour)

Basic chemistry and chemical calculations related to environmental engineering lab experiments, lab methods and interpretation of results. Essential environmental lab experiments including the determination of pH, alkalinity, conductivity, solids, turbidity, BOD, COD, Nitrogen, Jar test, and biological microorganisms. Spectrophotometric, atomic absorption. Gas-chromatographic. Analysis of metals and gases (prerequisite general chemistry and general chemistry lab).

## 61463 Transportation Systems Engineering (2)

Principles of traffic operations, which include characteristics of the elements of the transportation systems, traffic engineering studies, principles of traffic flow, intersection control including principles of signal design, capacity and level of service for freeways/multi-lane highways and signalized intersections. Fundamentals of transportation planning process and principles of travel demand forecasting.

## 61464 Transportation Systems Engineering (2) Laboratory

Various traffic engineering studies: data collection, tabulation, and analysis including using the appropriate software for data collection, manipulation, and analysis. The lab includes application project.

## 61470 Specifications and Quantities Estimating

This course introduces the basic principles of calculating costs of civil engineering projects, ways of estimating contractor's and subcontractor's costs, owner's and design engineer's costs. The course also looks at types and ways of estimating costs, types of contracts and their conditions, construction project costs, quantity takeoffs, pricing, claims, change orders, types of drawings and various components of the project. Technical specifications, their types, and methods of their writing, in addition to risk management, and losses during execution.

## 61472 Engineering Management

Topics covered in this course include basic principles of project management, project analysis and planning, programming, organizing, and controlling during construction stage. The course also covers the different ways for project programming such as critical path method. In addition, it looks at ways of distributing and controlling costs, safety and quality control during. This course explains how to allocate the resources and level them for the project. It shows also how to draw cash flow and to crash the duration; in addition, costs, safety, quality control during implementation will be explained, and finally some computer Programs will be applied (Ms Project, PRIMAVERA, etc...).

## 61598 Graduation Project (1)

## 61598 Graduation Project (2)

In these two courses, which are covered in two consecutive semesters, each student is expected to select a civil engineering problem in consultation with his/her supervisor and the approval of the department head. The work produced should reflect the high standard of academic strength, expressive ability and professional orientation at the final stage of the student's preparation. The project prepared by the student should be defended in front of a special committee.

## **Elective Courses**

### **Elective Courses in Structures**

#### **61511 Conceptual Design**

Importance of conceptual design. Conceptual design requirements. Loads calculations including wind and seismic. Design of several structural elements. Two and three dimensional design of structures. Invention methods in structures.

#### **61513 Design of Reinforced Concrete Structures (3)**

Analysis of thin shell structures using theory of shells. Design of water tanks and domes. Footing and retaining wall design. Computer applications.

#### **61514 Pre-stressed Concrete**

Several design methods for pre-stressed concrete. Stresses calculations. Stress losses in pre-stressed concrete. Deflection in pre-stressed concrete elements. Design to resist shear loads. Dimensions of pre-stressed concrete structural elements. Fixing joints.

#### **61515 Plastic Design**

Plastic behavior in structures. Theory of ultimate analysis and finite design. Ultimate loads for structural elements. Loads cause frames failure. Slab analysis based on plastic methods. Elastic conditions for resisting seismic loads.

#### **61516 Stone Construction**

Stone specifications. Blocks and concrete units. Design of stone wall. Stone building Rehabilitation. Applications. Lab tests on stone.

#### **61517 Computer Application in Structures**

Several computer applications in civil engineering, including finite elements, structural dynamics, stability theory, and bridge engineering.

#### **61518 Special Topics in Structures**

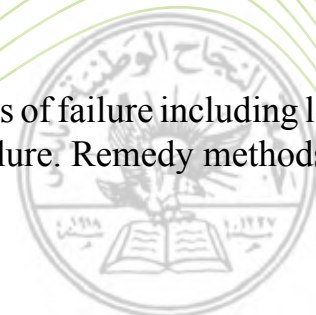
Selected topics to be thoroughly studied and analyzed in areas of structural engineering and design.

#### **61519 Dynamic Analysis for Structures**

One degree of freedom of structures. Review of basics principles of dynamic analysis. Numerical and close form solution analysis of structures. Multi degree of freedom of structures.

#### **61715 Failure Analysis**

Structural behavior. Definition of failure. Main sources of failure including locations of failure. Methods of preventing failure. Causes of failure. Remedy methods.



## *Elective Courses in Surveying*

### **61522 Adjustments of Survey Measurements**

Surveying errors, Propagation of variances and covariances, Weights, Least squares adjustment: method of observation equations, method of condition equations.

### **61619 Advanced Topics in Surveying**

Students will cover advanced topics in surveying that other than topics covered in ordinary courses.

### **61620 Geographic Information Systems (GIS)**

Introduction to GIS, Data models and structures, Georeferencing and coordinate systems, Data collection and data entry, Spatial analyses, Visualization, Choosing a GIS.

## ***Elective Courses in Geotechnical Engineering***

### **61531 Advanced Soil Mechanics (1)**

This course will cover advanced topics in soil mechanics regarding soil improvements, site investigation, and landsliding and slope stability.

### **61532 Advanced Soil Mechanics (2)**

This course will cover advanced topics in physical and chemical properties of soil, theory of consolidation, and advanced topics in shear strength of cohesive and cohesionless soils.

### **61533 Advanced Foundation (1)**

This course covers advanced topics in foundation engineering, such as, pile foundation, sheet piles, braced excavation systems, and building on difficult soils.

### **61534 Advanced Foundation (2)**

This course covers advanced topics in geotechnical earthquake engineering and rock mechanics.

### **61535 Computer Application in Geotechnical Engineering**

Computer geotechnical applications using special geotechnical software.

### **61536 Advanced Lab in Soil Mechanics**

This course offers lab experiments that will be done by the students individually on cohesive, cohesionless soils, and rocks.



## ***Elective Courses in Water Engineering***

### **61541 Ground Water**

Groundwater hydrological cycle; hydrology and aquifer formation, steady state hydraulics of groundwater, unsteady state solution of groundwater flow, well fields, solute transport and sea water intrusion. Groundwater modeling and management.

### **61542 Systems and Operations in Hydrology**

Hydrologic systems and processes for surface water, analysis of metrological data, hydrology of urban, rural, forests, and arid areas, hydraulic models for flood routing calculations, model for surface flow, statistical models for analysis of hydrologic data, computer applications.

### **61543 Water-Plant-Soil System**

The relationship between water, soil, and plant. Plant water requirements, irrigation scheduling, water transport and distribution, irrigation schemes, wastewater reuse in agriculture, and the impacts of irrigation on the environment.

### **61544 Drainage Systems**

Review of piping and open channel hydraulics. Hydraulic structures in drainage. Storm water drainage systems. Sewage collection systems. Applications including urban drainage, rural, and agriculture drainage. Software application.

### **61676 Water Resources Management**

Principles of water resources planning & management. Statistical tools in management. Economic considerations. Social considerations. Risk analysis and reliability. Applications of management tools to Palestinian water resources.

### **61545 Advanced Hydraulic**

Review of flow in pipes and channels. Varied flow in channels. Unsteady flow in pipes. Water hammer. Hydraulics of sediment transport. Spillway and design of small dams.

## ***Elective Courses in Environmental Engineering***

### **61551 Environmental Quality Monitoring**

The origin and background of environmental quality monitoring; current legislation and governmental objectives; and practical applications including continuous measurement and sampling techniques, analysis/monitoring, soil, gas, water, and particulate measurements, site selection, calibration, QA/QC, and data ratification.

### **61552 Chemical Processes for Water and Wastewater Treatment**

The range of modern water treatment processes for the removal of dissolved impurities (including toxic metals and trace organics) and the destruction of pathogenic organisms. The basic principles on which the processes are based, selection of appropriate processes, knowledge of practical design considerations.

### **61553 Management of Soil Waste**

Overview of the roles and functions of solid waste services. Appreciation of the legislation relevant to the collection and disposal of wastes and curbside recycling, understanding the sources of wastes their nature and classification, understanding the options available for the minimization, recovery, re-use, treatment, and disposal of wastes, understanding the practical aspects of curbside recycling schemes, understanding the various types of collection systems and the different types of vehicles and transport systems, understanding how alternating collection systems may be employed for the collection of refuse and recycling, appreciation of the special needs of dealing with health care wastes, appreciation of the processes involved in inviting, tendering, and awarding contracts, and understanding the process of effectively monitoring and managing contracts in wastes collection and curbside recycling schemes.

### **61554 Environmental Management Systems and Auditing**

How to develop and implement an effective Environmental Management System. Fundamental principles of effective environmental auditing and understand its role in Environmental Management and benefits to industrial sites. Understanding the requirements, benefits and problems of auditing systems such as ISO and IMS. How EMS can be used to enhance economic performance and improve business competitiveness, how to use EMS to facilitate regulatory compliance, and the benefits of accredited EMS leading to increased regulator confidence. How to create an internal culture of process optimization and waste minimization. How to design and plan effective auditing procedures - solid & practical advice. Different types of environmental audit, and the tangible benefits they bring to businesses. Understanding the liabilities of environmental auditors and those commissioning them.

### **61555 Water and Wastewater Technology**

This course is designed for persons wishing to work in the water utilities, environmental engineering consultancies, process contractors, equipment manufacturers, industrial water users, environmental agencies, and suppliers serving the international water and



environment sectors. The course covers the technology and process design to prevent pollution and to provide pure water for drinking and industrial use. New technologies, engineering, and management techniques will be presented.

### **61556 Environmental Impact Assessment**

Conduct objective evaluation and formal description of a real natural system or geographic region, preparation of a unified document summarizing physical, biological and social aspects of a study area, and review of pertinent laws and EIS documents.

### **61557 Environmental Geochemistry**

The abundance of the chemical elements and the principles of distribution and migration of elements in geological environments, and some applications to selected examples.

### **61558 GIS in Environmental Engineering**

Student in this course will learn how geographic information system (GIS) technology allows users to combine tabular information with maps, creating powerful spatial databases which display and query information in new ways. This course will teach students general GIS and global positioning (GPS) skills and concepts.

## ***Elective Courses in Transportation Engineering***

### **61561 Traffic System Management**

Management of the various types of traffic systems including CBD streets and junctions, arterials and freeways. Management of residential area streets. Public transportation management. Restraint measures and parking management. Measures to improve safety and environmental quality. Traffic administration. Application of transportation systems management concepts in the urban areas in Palestine.

### **61562 Advanced Pavement Design**

Advance knowledge and practical training in the analysis and design of highway and airport pavements. Principles of theoretical and practical approaches of design. Various methods of design are introduced for both flexible and rigid pavements. Stresses in both types of pavements are studied and analyzed. Introduction to the principles of pavement management, pavement evaluation, maintenance, and rehabilitation.

### **61563 Transportation Planning**

The transportation planning process. Transportation studies, data collection and management. Transportation modeling. Land-use and transportation planning. Demand analysis. Network and supply analysis. Forecasting travel demand. Impact assessment and evaluation.

### **61564 Special Topics -Traffic Engineering**

Advanced topics of interest to students related to traffic engineering and its computer applications.

### **61576 Advanced Traffic Engineering**

Introduction to emerging issues and trends in traffic engineering. Traffic flow characteristics. Gap acceptance and queuing theory. Signalized intersection design and capacity analysis. Highway capacity and level of service. Signalized corridor analysis. Traffic safety.

### **61667 Advanced Highway Design**

Geometric design of highways as related to operation, capacity, and safety. Alignment, drainage, and roadways features. The use of computer software for preparing highway design drawings.



## *Elective Courses in Project Management Engineering*

### **61582 Project Management and Control**

Introduce the characteristics and concepts of the construction industry, the facility delivery process, labor productivity, construction costs, scheduling, cost accounting, and emerging technologies relevant to the construction industry. Project organizations; the design and construction process; labor, material, and equipment utilization; cost estimation; construction pricing and contracting; construction planning; cost control, monitoring accounting; and management systems construction.

### **61583 Productivity Improvement and Quality Control**

Topics covered in this course include the different management theories, how to improve productivity and its effects on project cost. How to prepare a schedule, how to control quality for the construction projects and risk management

### **61584 Site Management and Safety Factors**

Topics covered in this course the principles of project management, safety factors on site during the construction phase, the effects of accidents on the time, cost and quality of the project and the material used and their risks

### **61585 Advanced Construction Project Management**

The course provides a survey-level treatment of many aspects of the construction project management process. Overview of the process and the foundation for advanced study at the graduate level, to enable students to have a working awareness and some knowledge of several construction management issues. The primary goal of this course is to familiarize students with the construction industry, activities that take place throughout a construction project, and responsibilities involved in successfully managing construction. Specific topics will include the difference between “cm” and “CM”, description of the construction management process, description of project controls, and description of how to “keep score” of a construction project’s success or failure

## **General Elective Courses**

### **61603 Advanced Topics in Civil Engineering**

Advanced topics in civil engineering that provide detailed study of course/s covered in fourth and fifth year of the B.Sc. degree.

### **61604 Civil Engineering Systems**

This course will introduce the students to the engineering approach for planning, design, implementation and operation of civil engineering systems. Other topics that are covered by this course are failure analysis of civil engineering systems, reliability and sustainability of civil engineering systems, professional practices and documentation of civil engineering systems.

### **61605 Special Topics in Civil Engineering**

Selected topics to be thoroughly studied and analyzed in areas of civil engineering.

### **61670 Advanced Topics in Civil Engineering Materials**

Physical and chemical aspects of constitution and fundamental properties of materials. Cements and concrete mixes. Asphalts and asphaltic concrete. Laboratory investigations : sampling and testing.



## FACULTY MEMBERS

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## **DEPARTMENT OF ARCHITECTURE**

The Department of Architecture has a five-year program leading to the first professional degree in Architectural Engineering.

### ***Undergraduate Program in Architecture:***

The central goal of the undergraduate program is the mastery of solving architectural problems, mainly the contemporary and the emerging issues, studying the inveterate and well-known solutions, as well as developing and improving these solutions.

The architect's dynamic role in building industry, and in the society as a whole, makes it imperative to plan a well-balanced education. Thus, the following broad subjects are included in the program: Environmental and Architectural Design, History and Theory of Architecture, Construction Materials and Systems, Structural Concepts and Design, Environmental Systems in Architecture, Urban Design and Planning, Computer-Aided Design (CAD), in addition to Islamic and Palestinian Architecture. Starting from the fourth year, there is an opportunity to focus on one of the architectural main fields through selective courses introduced by the department.

### ***Admission Requirements:***

The student will be accepted in the Department of Architectural Engineering in accordance with his/her average in the General Secondary Exam (50%) and in the Architectural Qualification Exam (50%), held by the department during the admission period. Full admission will be secured only if he/she is among the top number of applicants. The Department of Architectural Engineering, in coordination with the Faculty Council and the Dean, determines the exact number of architecture majors in line with the faculty's needs and capacity. Special case students, who passed the Architecture Qualification Exam, are included in the defined number of accepted students in a special ratio also defined by the department.

### ***Transfer Students:***

Transfer students may be admitted to the architectural program only if their qualifications demonstrate a compatible level of entrance and retention standards as those in operation at An-Najah National University Department of Architecture. Transfer credit for architectural courses, earned at recognized architectural schools, will be accepted if the successfully completed courses are equivalent to those offered by An-Najah National University Department of Architecture.

### ***Architectural Internship :***

The program requires satisfactory completion of twelve-weeks of work at a recognized architectural or environmental design firm. This internship, however, is governed by the regulations of the Department of Architecture to assure a challenging and rewarding experience.

The internship, which counts for a maximum of four credits, may be completed in the summer following either the sixth or the eighth semester.

## **Student Projects:**

The study of architecture involves extensive project work. Consumption of studio materials and supplies makes the cost, to the students, higher than to those who follow non-studio curricula. Architectural students are cautioned to budget carefully to meet cost requirements.

Different types of students' works, such as projects and models, may be retained by the department. Students are advised to keep photographic files of their work for the portfolio.

## **The Bachelor of Architecture Degree Requirements**

To earn the Bachelor of Architecture Degree the student should successfully complete a total of " 170 " credit hours for the following requirements:

<b>Course Title</b>	<b>credit hours</b>
University Requirements	26 credit hours
Faculty Requirements	21 credit hours
Department Requirements	123 credit hours
Department courses	111 credit hours
Electives department courses	12 credit hours
Free Elective Courses	6 credit hours
<b>Total</b>	<b>170 credit hours</b>

Detailed descriptions of the above requirements are below:

### **UNIVERSITY REQUIREMENTS (23 credit hours)**

<b>Course No.</b>	<b>Course Title</b>	<b>credit hours</b>
	Islamic Culture	3 credit hours
10101	Arabic Language I	3 credit hours
10102	Reading Comprehension I	3 credit hours
10103	Grammar I	3 credit hours
10322	Palestinian Studies	3 credit hours
10105	leadership and communication skill	1 credit hours
10117	English in t he workplace	0 credit hours
32101	Community Service	1 credit hours
10108	Introduction to computing	3 credit hours
10100	Free elective from other Faculties	6 credit hours
	<b>Total</b>	<b>26 credit hours</b>





### **FACULTY REQUIREMENTS (20 credit hours):**

<b>Course No.</b>	<b>Course Title</b>	<b>credit hours</b>	<b>Prerequisite</b>
21101	Calculus I	3 credit hours	-
21102	Calculus II	3 credit hours	21101
22101	Physics I	3 credit hours	-
22102	Physics II	3 credit hours	22101
22115	Physics Lab	1 credit hour	22102
67100	Engineering Workshop	1 credit hour	-
62150	Introduction to Architecture	1 credit hour	-
64300	Research and communication skills	1 credit hours	-
66111	Computer programming	3 credit hours	-
62113	Architectural Drawing I	2	Admission to professional program
Total		21 credit hours	

## DEPARTMENTAL REQUIREMENTS (123 credit hours)

### Department Courses (111 credit hours)

Course No.	Course Title	credit hours	Prerequisite
62117	Descriptive Geometry	2	62102 or 62113
62123	Design Principles I	3	Admission to prof. program
62124	Design Principles II	3	62123
62114	Architectural Drawing II	2	62113
62121	Free Hand Sketching I	1	-
62122	Free Hand Sketching II	1	62121
62222	Architectural Presentation	1	62122, 62113
62225	Architectural Design Studio I	4	62114,62124
62226	Architectural Design Studio II	4	62225
62335	Architectural Design Studio III	4	62226
62336	Architectural Design Studio IV	4	62335
62445	Architectural Design Studio V	4	62336
62446	Architectural Design Studio VI	4	62445
62555	Architectural Design Studio VII	4	62446
62556	Architectural Design Thesis (Graduation Project)	4	62571, 62555
62200	Visual Training I	2	-
62201	Visual Training II	2	62200
62345	Theory of Architecture I	3	62346
62216	History of Architecture I	3	62113
62217	History of Architecture II	3	62216
62346	History of Architecture III	3	62117
62311	Palestinian Architecture I	2	62217
62333	Architecture of Islamic World I	3	62217
62431	Urban Design	3	62336
62510	Interior Architecture	2	62336
62480	Computer Aided Design (CAD) I	3	10100
62230	Materials and Construction I	2	-
62231	Materials and Construction II	2	62230
62330	Building Construction Systems in Architecture I	3	62231
62331	Building Construction Systems in Architecture II	3	62330
62251	Architectural Structures I	3	21102, 22102
62353	Architectural Structures II	3	62251
62354	Architectural Structures III	3	62353
62461	Environmental Systems in Arch. I	3	-
62462	Environmental Systems in Arch. II	3	62461
62310	Surveying for Architects	2	-
62560	Architectural Practice I	2	62446
62561	Architectural Practice II	2	62560
62571	Thesis Program	2	62446
62433	Introduction to Planning	3	-
62460	Building Economics	3	-
62400	Architectural Internship	3	62336, Department Approval
65301	Economy and Engineering management	3	21101

### ***Elective Department Courses (12 credit hours):***

12 credits required from the following courses or from those additional courses that will be developed as electives in the department.

<b>Course No.</b>	<b>Course Title</b>	<b>credit hours</b>	<b>Prerequisite</b>
62520	Architectural Preservation	2 credit hours	
62530	Behavior in Architecture	2 credit hours	
62540	Architectural Photography	2 credit hours	
62550	Urban Visual Analysis	2 credit hours	
62473	Special Problems	2 credit hour	
62511	Palestinian Architecture II	2 credit hours	62311
62533	Architecture of Islamic World II	2 credit hours	62333
62590	Computer Aided Design (CAD) II	2 credit hours	62480
62570	Urban and Regional Planning	2 credit hours	62433
62566	Landscape Architecture	2 credit hours	
62577	Site Planning	2 credit hours	
62522	Housing	2 credit hours	
62544	Solar Energy Design	2 credit hours	

### ***Free Elective (6 credit hours):***

May be chosen from the courses offered in the university and suitable to the student.

## Required department courses

62123	Design Principles (I)		3 C.H. Studio
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A study in basic principles of the design process, through an introduction to general ideas and concepts of design theories.

			(Prq.: admission to professional program)
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62124	Design Principles (II)		3 C.H. Studio
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Development and application of basic concepts of design in several small and simple building projects.

			(Prq.: 62123)
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62150	Introduction to Architecture		1 C.H. Lecture
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An introduction to architecture as a profession, its concerns, challenges and potentials, and relationship with other environmental design and engineering fields including construction, urban planning, landscaping and interior design.

62200, 62201	Visual Training (I), (II)	1 C.H. Lecture	1 C.H. Studio
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Development of aesthetic expression and judgment in design and architecture through the creative use of art elements and design principles.

			(Prq.: 62200)
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62121, 62122	Free Hand Sketching (I), (II)		1 C.H. Studio
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Building the sketching skills as one form of expression and thinking in the design process.

			(Prq.: 62121)
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62113	Architectural Drawing (I)		2 C.H. Studio
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Development of fundamental skills in architectural drawing, through the use of variety of graphic materials, methods and techniques.

62114	Architectural Drawing (II)		2 C.H. Studio
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Development of skills in architectural drawing and presentation. Methods of constructing one and two-point perspectives, shades and shadows projection on two-dimensional drawings.

			(Prq.: 62113)
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62225, 62226, 62335, 62336	Architectural Design (I), (II), (III), (IV)		4 C.H. Studio
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Sophomore and junior students are introduced to several design projects of average scale and complexity. The main objective is to expose students to a wide range of building types, and to acquaint students with design requirement and solutions suitable for each building type. (educational, health, commercial, cultural and touristic).

			(Prq.:62114, 62116 Each one of the design courses is a prerequisite for the one that follows)
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62216, 2217,	62346 History of Architecture	(I), (II), (III)	3 C.H. Lecture
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Study of the development of world architecture from classical to present times.

		(Prq.:62216 for H of .A (II); for H. of A (III) 62217)	
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61117	Descriptive Geometry		2 C.H. Lecture
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Fundamentals of descriptive geometry. Three-dimensional study of objects, their projections and intersections in space.

		(Prq.: 62102 Or 62113)	
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62333	Architecture in the Islamic World (I)		3 C.H. Lecture
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Analytical study of the history of Islamic architecture; evolution and development of architectural form under the influence of the Islamic culture.

		(Prq.: 62217)	
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62230, 62231	Materials and Construction (1), (2)	2C.H. Lecture	1 C.H. Studio
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A study of the building materials properties and manufacturing including, concrete, stone, brick, metals and wood. Introduction to construction systems, details drawing exercises and the production of a limited set of working drawings.

		(Prq.: 62230)	
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62310	Surveying for Architects	2C.H. Lecture	
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An introduction to principles and fundamentals of surveying and its application in architecture.

62345	Theory of Architecture		3 C.H. Lecture
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Study of the major philosophies and trends that has formed different directions and movements in architecture.

		(Prq.:62346)	
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62251, 62353, 62354	Architectural Structures (I), (II), (III)		3C.H. Lecture
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Introduction to the methods of analysis and design of structures. Structural analysis and design in reinforced concrete, steel and timber.

		(Prq.:21102m 22102 for A. S. (I), 62251 for A.S (II) 62321, 62353 for A.S (III))	
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62330, 62331	Building Construction Systems in Architecture (I), (II)	2C.H. Lecture	1 C.H. Studio
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Advanced study of the building construction systems of individual and composite materials. Evaluation and selection of systems with regard to construction process, technological, economic, regularity and expressive constraints. Production of a complete set of working drawings and written descriptions.

		(Prq.: 62231, 62330)	
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62461, 62462	Environmental Systems in Architecture (I), (II)	3 C.H. Lecture
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An examination of the impact of environmental technology on building design concepts. Introduction to theoretical and scientific basis of air conditioning, sanitation, lighting, and acoustics.

	(Prq.: Each course is a prq. for the next )
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62400	Architectural Internship	3 C.H.
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Twelve weeks period of work at a recognized architectural firm, in compliance with the Department of Architecture internship guidelines, office work and field experience.

	(Prq.: 62336 or Department approval)
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62445	Architectural Design (V)	4 C.H. Studio
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Focus on the traditional architecture and the traditional urban environments of old towns of Palestine. Exposure to architectural surveys, documentation of old buildings, conservation, adaptation of old buildings to contemporary uses and fitting new buildings in old contexts.

	(Prq.: 62336)
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62446	Architectural Design (VI)	4 C.H. Studio
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Developing understanding of housing design and housing schemes suitable to local Palestinian culture, economy, and building regulation. Exposure to different approaches in solving problems related to housing design.

	(Prq.:62445)
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62555	Architectural Design (VII)	4 C.H. Studio
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Development of design strategies on an urban scale and looking beyond the design of individual buildings. Focus on problems related to urban design, public spaces, and the integration of one project with the rest of the city.

	(Prq.: 62446)
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62556	Architectural Design Thesis (Graduation Project)	4 C.H. Studio
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Individually selected by students and approved by the department. The final design project is designed by the student in his/ her final year with general supervision by course instructors.

	(Prq.: pass 62555, 62571)
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65301	Building Economics and Management	3C.H. Lecture
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Study of the costing techniques and financing procedures. Examination of the principles and methods of specifications and construction estimation.

	(Prq.: 21101)
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62433	Introduction to Planning		2C.H. Lecture
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Introduction to fundamentals in city planning, its importance and relationship to the built environment. Study of the main characteristics and components of the city; the evolution and development of cities. Concise study of the planning process, design of cities and preparation of land use plans.

62572	Architectural Practice		2C.H. Lecture
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Examination of the professional architectural practice and the problems relating to job control both in the office and the field. Construction contracts, bidding supervision, building law, architect relationship with the owner, and professionals in the building industry.

			(Prq.: 62446)
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62571	Thesis Program		3C.H. Lecture
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The main objective is to introduce students to research methods, techniques and tools. Theoretical study and application of sampling, questionnaires, interviews, observations and experimentation are also introduced. The course guides students to prepare their final project theses.

			(Prq.: 62446)
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62222	Architectural Presentation		1 C.H. Studio
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Introduction to different methods and techniques of presenting architectural drawings, such as pencil techniques, ink and color rendering, oil & water colors techniques.

			(Prq.: 62122, 62113)
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62311	Palestinian Architecture (I)	2C.H. Lecture	
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Study of traditional Palestinian architecture, traditional architectural elements, building materials and techniques.

			(Prq.: 62217)
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62480	Computer Aided Design (CAD) (I)	1C.H. Lecture	2 C.H. Studio
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An introduction to different computer programs available to facilitate the production of architectural drawings.

			(Prq.: 10100)
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62431	Urban Design	2C.H. Lecture	1 C.H. Studio
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Analysis of urban form as a product of the social, economic and political forces and the aesthetic theories. Contemporary international experience in urban design and adaptability of the developed criteria and methods to local needs.

			(Prq.: 62336)
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62510	Interior Design	1 C.H. Lecture	1 C.H. Studio
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History and theory of the interior design and its related components. Consideration of design determinants including behavioral, activity, environmental and technological factors. Design analysis and synthesis.

## Elective Departmental Courses

62570	Urban and Regional Planning	1C.H. Lecture	1 C.H. Studio
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A comprehensive theoretical and practical study of the fundamentals of urban and regional planning. The historical development and phases of planning process, content and characteristics and methods of preparing planning documents and plans, such as the comprehensive plan, land use plan. Also it introduces some of the planning procedures such as land subdivision, the reserved real-estate. It provides also a general idea of the planning of particular areas in the city: city center, industrial zones, archeological sites, and agricultural and recreational areas.

			(Prq.: 62433)
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62566	Landscape Architecture	1C.H. Lecture	1 C.H. Studio
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Review of history and theories of landscape architecture. Introduction to design of the outdoor environment covering residential and small scale landscape developments. Project program, site selection and analysis, concept generation and design schemes.

62522	Housing		2 C.H. Lecture
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Introduces students to the fundamentals of housing design and to problem solving such as planning housing projects and residential areas. The course introduces students to the basic principles of planning local and international housing projects.

62533	Architecture in the Islamic World II		2C.H. Lecture
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Study the development and focus on contemporary architecture and architects in the Islamic and Arab world through analysis of important examples.

			(Prq.: 62333)
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62511	Palestinian Architecture II		2C.H. Lecture
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Study the development of local architecture that occurred during the twentieth century.

			(Prq.: 62311)
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62590	Computer Aided Design (CAD) II	1C.H. Lecture	1C.H. Lab.
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Focus on different 3D architectural programs.

			(Prq.: 62480)
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62520	Architectural Preservation		2 C.H. Lecture
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Examination of the contemporary theories, techniques and practice of the urban and architectural historic preservation and their applicability to regional and local preservation problems. Discussion of historical, legal, political, financial and programmatic aspects.

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62540	Architectural Photography		2C.H. Lecture
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Techniques of photographic image generation. Development of darkroom skills. Photography as a communicative aid in architectural design.

62530	Behavior in Architecture		2C.H. Lecture
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Examination of the mutual influence between the human behavior and the built form. Study of the social and psychological concepts by which the behavior/environment relationship can be understood.

62544	Solar Energy Design	2C.H. Lecture	
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Solar energy thermal processes, systems and components. Passive and active solar systems and their design implications in architecture. Solar system economics.

62550	Urban Visual Analysis	2 C.H. Lecture	
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Examination of urban form and space with regard to visual principles and aesthetic values. Survey and analysis of urban areas. Theory of visual perception and its application to urban form problems.

62473	Special Problems	2 C.H	
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Study of specific architectural problems under the direction of a faculty member in the department. This course may be repeated for a maximum of four credits.

62577	Site Planning	1 C.H. Lecture	1 C.H. Studio
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A comprehensive study of the concept and context of site planning. Providing students with the basic principles and phases of site planning process including the analysis of physical characteristics of sites, selection and distribution of activities, transportation systems and design elements applicable to site.

# DEPARTMENT OF ELECTRICAL ENGINEERING

## 1) Study Plan

The program consists of 165 credit hours distributed as shown below

### 1.1) Admission Requirements:

1. Fulfillment of the specialization conditions in the engineering faculty.
2. Passing the courses: 21101, 21102, 22101, 22102 and based on the competitive average in these courses until the fulfillment of the capacity of the program.

### 1.2) Graduation Requirements

- 1- University requirements (26 credits)

#### a) Mandatory courses (20credits)

Course No.	Course title	Credits
10101	Islamic Culture	3
10105	Palestinians studies	3
10102	Arabic language 1	3
10103	English language 1	3
10104	English language2	3
10117	Leadership and communication skills	1
10108	Community service	1
10100	Introduction to computer	3

#### b) Elective courses (6 credits)

- 2- Faculty requirements (21 credits)

Course No.	Course title	Credits
21101	calculus I	3
21102	calculus II	3
22101	general physics I	3
22107	General Eng. Physics lab.	1
22102	general physics II	3
66111	Programming Languages	3
62102	Engineering drawing	2
67100	Engineering workshop	1
064100	Introduction to Eng. Ethics	1
064300	Principles of Research	1
32101	English at work	



### 3- Department requirements (118 credits)

a) Mandatory courses offered by the electrical engineering Department (78 credits)

Course No.	Course Name	C.H.	Pre-Requisite
063211	Electrical Circuits 1	3	22102
063212	Electrical Circuits 2	3	063211
063214	Electronic Circuits 1	3	063211
063215	Electrical Circuits Lab	1	063211
063270	Electromagnetic 1	3	063211
063313	Electronic Circuits 2	3	063214
063314	Electronic Circuits Lab	1	063214
063315	Electrical Measurements and Sensors	3	Co-063212
063323	Electrical Machines 1	3	063212
063324	Electrical Machines 2	3	063323
063325	Electrical Machines Lab.	1	063323
063343	Control Systems	3	063373
063364	Modeling of electrical engineering systems	3	063373
063373	Systems & Signal Analysis	3	063212
063374	Electromagnetic 2	3	063270
063375	Communication Principles	3	063373
063411	Power Electronics	3	063313
063412	Electronic Circuits 3	3	063313
063422	Electric Power Systems 1	3	063324
063423	Electric Power Systems 2	3	063422
063426	Electrical Installation and Safety Systems	3	063324
063441	Control Systems Lab	1	Co-063343
063460	Internship	3	
063471	Digital Communications	3	063375
063473	Communication Lab	1	063375
063568	G. Project I	2	
063569	G. Project II	3	
066222	Digital electronics Circuit	3	063313
066292	Digital electronics Circuit Lab.	1	066222
066428	Microprocessor and Microcontroller	3	066222
066498	Microprocessor and Microcontroller Lab	1	066428

### **b) Mandatory courses offered by other Department (21 credits)**

Course No.	Course title	C.H
21201	Calculus III	3
21202	Engineering Mathematics	3
21230	Statistics and Probability for engineers	3
23101	General Chemistry I	3
064251	Engineering Numerical Analysis	3
065301	Engineering economics and Management	3
067219	Engineering Mechanics	3

### **c) Elective courses (19 credits)**

Students can chose to focus on one of the following topics

#### **Telecommunication Courses**

Course No.	Course title	C.H.	Pre-Requisite
063413	Electronics for communications	3	063412
063477	Advanced Telecom Lab	1	063471
063571	Information and Coding Theory	3	063471
063572	Communication Systems	3	063471
063573	Microwaves	3	063374
063575	Digital Signal Processing	3	063471
063576	Mobile Communication Systems	3	063572
063577	Digital Image Processing	3	063471
063578	Special Topics in Communications	3	
063579	Networks and Data Transfer	3	063471

#### **Power Courses**

Course No.	Course title	C.H.	Pre-Requisite
063420	Stability and Protection of Power Systems	3	063423
063424	Control of Electric Machines	3	063343
063425	Renewable Energy Systems	3	063422
063427	Power Generating Stations and Substations	3	063422
063428	Programmable Logic Controllers PLC	3	
063429	High Voltage Technology	3	063423
063520	Power Electronics and Control of Electric Machines Laboratory	1	063424
063521	Power Transmission and Distribution Networks	3	063423
063522	Operation and Control of Electric Power System	3	063423
063529	Special Topics in Power	3	
063527	Electric Power Systems Lab.	1	063422



## Control Courses

Course No.	Course title	C.H.	Pre-Requisite
063428	Programmable Logic Controllers PLC	3	
063443	Digital Control	3	063343
063444	Artificial Intelligence and Expert Systems	3	063343
063449	Advanced Control Systems	3	063343
063543	Process and Automated Systems Design	3	063343
063544	Special Topics in Control Systems	3	
063545	Introduction to Robotics	3	063343
063546	Computerized Control Systems design	3	063343
063547	Advanced Control Lab	1	063449
066527	Embedded Systems	3	066428

### d) Courses offered for non electrical Engineering students

Course No.	Course title	C.H.	Pre-Requisite
063291	Electrical and electronic circuits	3	
063292	Electrical Circuits	3	
063293	Electronics	3	
063294	Electrical and Electronic Circuits Lab.	1	
063391	Electrical Machine	3	
063392	Electrical Machines Lab.	1	
063591	Electric Drive	3	

## **Course Description**

### **063211 Electrical Circuits 1**

Circuit variables & elements. Simple resistive circuits, techniques of circuit analysis. Inductance & capacitance. Natural & step response of RL, RC, RLC circuits, Sinusoidal steady state analysis

### **063212 Electrical Circuits 2**

Power calculations. Three phase circuits, series & parallel resonance, Laplace transform in circuit analysis, two port network, Laplace transformation

### **063214 Electronic Circuits 1**

Electronic materials, device and principles, P-N junction diode & applications, Zener diodes & other 2 terminal devices, Bipolar (NPN –PNP )& FET (Junction, Enhancement and Depletion MOSFETs) transistors constructions and theory of operations, Transistor biasing circuits and graphical (load line) analysis , Introduction to Op-amp circuits and applications , Introduction to small signal models for diodes & transistors

### **063215 Electrical Circuits Lab**

Introduction to Lab Instruments, Ohm's law, Network Theorem, Voltage Source, Characteristics of AC circuit, Capacitors and Inductors, RLC Series and parallel, Resonance, Three phase circuits

### **063270 Electromagnetic 1**

Vector algebra; orthogonal coordinate systems, static Electric fields produced by discrete and continuous charge distributions; Gauss's law; Divergence and Divergence theorem; Electrostatic potential and potential difference; Gradient and conservative fields; Energy stored in electrostatic fields; Current and current density; Continuity of current; Conductors and their properties; Conductor-free space interface, method of images ;Dielectrics; Dielectric-Dielectric interface, Dielectric-Conductor interface; Resistance and capacitance; Laplace's and Poissons equations, separation of variables; Biot-savart law; Amper's law; Curl law and Stocke's theorem. Magnetic flux and Magnetic flux density; Vector magnetic potential; Magnetic materials; Magnetostatic Boundary conditions; Inductance and mutual inductance; Maxwell's equations for static fields in differential and integral forms.

### **063313 Electronic Circuits 2**

Large signals amplifiers designs and analysis , small signal models for BJT , and amplifier analysis under various configurations : CE, CC and CB, small signal analysis for FET amplifier analysis for CS, CD and CG configurations , Multistage and Composite amplifiers, Current Sources and Current Mirrors ,Differential amplifiers and their analysis , Power amplifiers ( classes A, B , AB and C ) and power calculations . Advanced op-amp circuits

### 063314 Electronic Circuits Lab

Types of Diodes, Rectifier diode, Half wave rectifier, Bridge rectifier, On state and off state characteristic of zener diode, Testing the layering and rectifying of bipolar transistor, Characteristic of the transistor, Depletion layer Fets, Characteristic of the Fets, Multistage amplifier, Differential amplifier, Push pull output amplifier, Operational amplifier, Static behavior of operational amplifier, Dynamic behavior of the OP-AMP

### 063315 Electrical Measurements and Sensors

Measurement and error, Electromechanical indicating instruments, Bridge measurements, Analog electric instruments, Digital instruments, Oscilloscopes, Sensors and transducers, Data acquisitions systems

### 063323 Electrical Machines 1

Introduction to Machinery principles, Transformers: single-phase & Three phase, DC machinery fundamentals, DC motors, DC generator

### 063324 Electrical Machines 2

AC Machine fundamentals, Synchronous generators, Synchronous motors, Induction motors, Single phase and special-purpose Motors

### 063325 Electrical Machines Lab.

Single phase transformers: open. and short circuit tests, parallel operation of transformers. Three phase transformers: star and delta connections, balanced and unbalanced loads. DC – generators: Separately, shunt, series and compound generators. DC – motors: Shunt, series and compound motors. Three phase and single phase synchronous generators. Three phase and single phase induction motors. Three phase and single phase synchronous motors. Single phase generators synchronized with the main supply.

### 063343 Control Systems

Introduction to control: open-loop and closed loop control. Modeling: transfer function, block diagram, signal flow graph, state equations. Feedback control system characteristics: sensitivity, disturbance rejection, steady-state error. Performance specifications: second-order system, dominant roots, steady-state error of feedback systems. Stability: Routh-Hurwitz criterion, relative stability. The root locus method. Frequency response methods: Bode diagram, performance in the frequency domain, Nyquist stability criterion, gain margin and phase margin, Nichols chart.

### 063364 Modeling of electrical engineering systems

This course includes the basics of software applications in electrical engineering. Students are supposed to learn several software packages related to electrical engineering systems.

## 063373 Systems & Signal Analysis

Continuous-time signals and systems, Continuous-time linear time-invariant systems, impulse response, convolution, system properties, relation to differential equations, Fourier series, Fourier transform, Applications involving the Fourier transform, Sampling, Discrete-time signals and systems, Discrete-time linear time-invariant systems, Fourier analysis of discrete-time signals/systems, DTFT, Z-transforms, State variables

## 063374 Electromagnetic 2

Faraday's law; Displacement current; Maxwell's equations for time-varying fields; Constitutive properties; Boundary conditions for time-varying fields; Power flow and the Poynting vector; The sinusoidal steady state; The wave equation; Uniform plane waves in lossless and lossy media; Conductors and dielectrics; Polarization of uniform plane waves; Group velocity and dispersion; Normal and oblique incidence of uniform plane wave on plane boundaries; perpendicular and parallel polarization, TEM waves on lossless TL; Frequency-domain analysis of lossless transmission lines; TL matching; Power flow on TL's; Elemental electric and magnetic dipole antennas; Radiation patterns of elemental dipoles; long dipole and monopole antenna; Antenna array's, pattern multiplication; Antenna directivity and gain; Friis transmission equation

## 063375 Communication Principles

General introduction to Communication Systems. Representation of Signals. Bandwidth. Amplitude modulation, Ordinary AM, DSB-SC, SSB, VSB, Frequency translation, Phase Modulation and Frequency Modulation. Narrow Band FM, Wide Band FM. Transmission of Information. Noise Sources and their effects in Communications Systems. Filters and Demodulation Devices. Frequency division Multiplexing, Sampling theorem and TDM, Analog pulse Modulation (PAM. PDM. PPM)

## 063411 Power Electronics

Thyristors, Diac, Triac and IGBT. Triggering circuits. Single and three phase rectifier circuits. Harmonic analysis of voltage and currents of the difference circuits. Voltage regulators. Commutation techniques. DC/DC-Choppers

## 063412 Electronic Circuits 3

Low and High frequency response of transistor ( BJT and FET ) amplifiers , Bode plots, coupling and bypass capacitors and their contribution to the low frequency response, High frequency transistor model, transistor parasitic capacitances and their effect on the high frequency response, transistor forward current gain variation with frequency, Frequency response of cascaded amplifiers, miller capacitance and miller free transistor circuits. Feedback concept, Negative and Positive feedback, Configurations of negative feedback, Feedback amplifier circuit characteristics, Frequency response of feedback amplifiers, Stability of feedback amplifiers, Frequency Compensation methods



### 063413 Electronics of Communication

An overview of communication devices, Impedance matching and transformations, Oscillators; types analysis and circuits, Loop gain analysis, VCO, PLL, Mixers and applications, Conversion losses, Tuned Power amplifiers, AGC circuit, Low Noise amplifiers, Phase locked loops; circuits and applications

### 063420 Stability and Protection of Power Systems

Power system stability. Power system protection. Instrument transformers, relays, fuses and circuit breakers. Transformer protection, motor & generator protection, bus-bar protection, transmission lines protection

### 063422 Electric Power Systems 1

Basic concepts, Series impedance of Transmission Lines, capacitance of transmission lines, Current and voltage Relations on a transmission line, System modeling. Network calculations, Load-flow Solutions and control

### 063423 Electric Power Systems 2

Economic operation of power system, Symmetrical three-phase faults, symmetrical components unsymmetrical faults, voltage control, power factor improvement

### 063424 Control of Electric Machines

Characteristics and sizing of power semiconductor used in controlled electric drives; DC motor drives: speed and torque control; Induction motor drives: voltage control and variable frequency control; Synchronous motor drives: open-loop, closed-loop variable frequency control; Brushless DC Drives; Drives application examples

### 063425 Renewable Energy Systems

Introduction to Solar Energy, Solar astronomy, Analysis of Flat Plate Collectors, Solar Electric Energy Systems, Storage batteries, Wind Energy converters, Biogas, Fundamentals of Geothermal Energy Systems

### 063426 Electrical Installation and Safety Systems

Electrical illumination, Single phase wiring, three phase wiring, Alarm, Safety and control systems, Electrical plants, safety systems, wiring diagrams and supply systems for electrical motors

### 063427 Power Generating Stations and Substations

Types of generating stations. Thermal generating stations, hydropower stations, nuclear and diesel generating stations. Electrical parts of power stations, switch gears transformers, synchronous condensers and generators, auxiliary power requirements of stations. Protection in power stations and substations. Economic factors of power stations and substations

## 063428 Programmable Logic Controllers PLC

Introduction. PLC architecture. PLC Programming Procedures. Selecting Suitable PLC, Basic PLC Programming. Ladder diagrams. Basic PLC functions (Register. Timers. Counter). PLC arithmetic functions. Data handling functions. Engineering applications. PLC installation. Troubleshooting and Maintenance.

## 063429 High Voltage Technology

Generation of high voltage (HVAC & HVDC), high transient voltage. High voltage measurement. Electric strength of isolation materials. Electric field in homogeneous and heterogeneous materials. Graphical and experimental determination of electric fields. Phenomena of electric discharge forms, the gas discharge. Fluid isolation materials. Solid isolation materials. Extra high voltage long transmission lines, technical characteristics, equivalent circuit, voltage distribution along the line, real and reactive power flow along the line, methods of increasing the maximum power transferred along the line, of EHV DC transmission lines, rectification, inversion, equivalent circuit, analysis of operating conditions.

## 063441 Control Systems Lab

Fundamentals of Controlling, characteristic and response of first and second order system. Open and closed loop systems. Different types of controllers, effect of controllers on different systems, basic principles of PLC, basic principles of pneumatic systems, machine drive controlling using Contractors and Timers

## 063443 Digital Control

Introduction to Digital Control, Discrete Time Systems and the z-Transform, Sampling and Reconstruction, Open-Loop Discrete-Time Systems, Closed-Loop Discrete-Time Systems, Time Response Characteristics, Stability Analysis of Discrete-Time Linear Systems, Digital Controller Design, Introduction to State-Space Methods

## 063444 Artificial Intelligence and Expert Systems

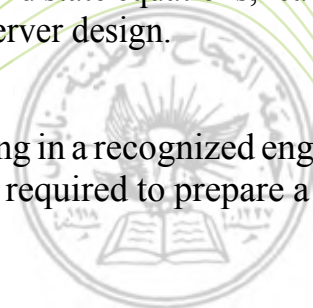
Introduction to artificial intelligence, Knowledge representation & reasoning, Problem solving & search, Natural language understanding, Visual image understanding, Neural networks, Introduction to expert systems, Knowledge acquisition, Inferencing strategies and explanations, Uncertainty & fuzzy logic, Verification & validation, Managerial & organizational considerations

## 063449 Advanced Control Systems

Background and preview. State-space representation. A review of matrix algebra and vector spaces. Analysis of linear time-invariant systems, modal decomposition. Controllability and observability. Relationship between transfer function and state equations, realizations. Pole assignment: state feedback and output feedback, observer design.

## 063460 Internship

Each student is expected to spend eight weeks of training in a recognized engineering company in order to gain practical experience and he is required to prepare a detailed report summarizing the practical work experience



### 063471 Digital Communications

Digital Pulse Modulation, Principles of PCM, DM, SDM, ADM, Linear & non-linear Quantization, quantization noise, different kinds of signaling, TDM, Bit Error Rate, error probability analysis for coherent and non-coherent detection, different kinds of Digital Modulation techniques (PSK, FSK, ASK), Linear prediction, power spectra of digital signals

### 063473 Communication Lab

Signal source, resonance circuits, AM, DSB-SC, SSB-SC, FM, different kind of demulatoion for AM and FM, Sampling, Kinds of framing, DM, sigma delta modulation, PCM and noise in Digital systems. Quantization error

### 063477 Advanced Communication Lab.

Some advanced experiments on some topics like microwave, fiber optics, TV circuit, mobile phone faults, and trouble shooting, DSP including digital filters and signal processing, computer networks and measurement of frequency and wavelength and standing wave ratio

### 063520 Power Electronics and Control of Electric Machines Laboratory

Thyristors, Triacs and Diacs: their parameters and characteristics. Controlled converters and semi converters, controlled three phase converter. Controlled DC motor drives. Controlled induction motor drives. Controlled synchronous motor drives. Brushless DC-motor drives

### 063521 Power Transmission and Distribution Networks

Design of transmission and distribution networks. Choice of nominal voltages. Selection of conductors, poles, transformers and switch gears. Radial and ring type transmission networks. Reliability of transmission networks. Power loss reduction and economical aspects of the different networks

### 063522 Operation and Control of Electric Power System

Control of real and reactive power. Optimum reactive power compensation. Optimum distribution of load between different power plants. Voltage-reactive power control. Load-frequency control

### 063529 Special Topics in Power

Course subjects and content will be always fixed at the beginning of semester according to the interest of the students and in coordination with the teaching staff of the Electrical Engineering Section

### 063543 Process and Automated Systems Design

Building blocks of industrial control and automation systems: sensors, actuators, signal conditioners, computing units and networks. Control systems configurations: feed-forward and cascade. Characteristics of physical variables: temperature, flow, pressure, level, motion. Industrial controllers: PID controllers and on-line tuning, PLC, networked control

## 063544 Special Topics in Control Systems

Course subjects and content will be always fixed at the beginning of semester according to the interest of the students and in coordination with the teaching staff of the Electrical Engineering Section

## 063545 Introduction to Robotics

Components of robot systems; coordinate frames, homogeneous transformations, kinematics for manipulator, inverse kinematics; manipulator dynamics, Jacobians: velocities and static forces, control of manipulator and robotic programming

## 063546 Computerized Control Systems design

Digital Control Theory, Data Acquisition Details, Design & Implementation of Digital Control Systems, Real-time Operating Systems, Specification & Design of Real-Time Systems, Concurrent Systems: The Task Model, Scheduling of Tasks, Fault Tolerant and Fail-Safe Design, Performance Evaluation of Real-Time Systems, Introduction to State Space Methods

## 063547 Advanced Control Lab

This course deals with practical aspects of control engineering. It is intended as a companion course for Digital Control, and serves to augment and demonstrate concepts presented in the classroom. Discrete-time control systems will be designed and tested using microcomputers, compensators, A/D and D/A converter analog computers. Experiments in the control of discrete and analog systems will be performed

## 063568 Graduation Project 1

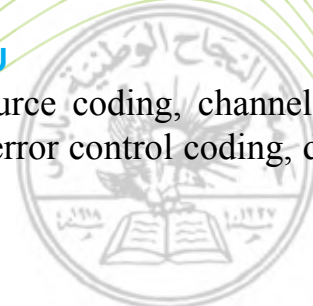
A small part of a major project under the supervision of a staff member which enables the student to apply theoretical knowledge gained to an actual problem. It's the first phase of graduation project II. In this phase the student is expected to finish the survey on the intended title; finish all financial and management requirements; purchase all needed components; finish most of the software (if any); and partially start building the hardware (if any).

## 063569 Graduation Project 2

A major project under the supervision of a staff member which enables the student to apply theoretical and practical knowledge gained to a large scale engineering problems. It is the second phase in which the student is expected to bring all parts of the project together; all software (if any) and hardware (if any) should be completed. Any recommendations for further developments should be indicated.

## 063571 Information and Coding Theory

Entropy and Information theory, types of data, source coding, channel coding, Secrecy coding. Channel capacity, Shannon theorem, error control coding, detection and correction methods



## 063572 Communication Systems

Basic Television overview from studio to viewer; frequency range and band names, Transmitted signals, Black and white receivers, color receivers. Satellite communication principles, kinds of orbits, transmission path, noise consideration and link budget

## 063573 Microwaves

Electromagnetic Wave and Transmission Line Theory, Smith Chart, Impedance matching, TM and TE modes. Optical Fibers, Wave Guides and Waveguide devices, S-parameters, Magic T, attenuators, Microwave Components, Microwave Measurements. Microwave links, Properties of microwave Signals

## 063575 Digital Signal Processing

Sampling as a modulation process; aliasing, total difference equation solution, the Z-transform and discrete-time system analysis; direct and computer-aided design of recursive and non-recursive digital filters; the Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT); digital filtering using the FFT; analog-to-digital and digital-to-analog conversion; effects of quantization and finite-word-length arithmetic, stability and applications of DSP

## 063576 Mobile Communication Systems

An overview of mobile communication systems, channel characteristics, signal transmission, channel fading, diversity and combining schemes, cellular mobile systems, source coding

## 063577 Digital Image Processing

Introduction to processing and analyzing digital images, image representation techniques, 2D image properties, image enhancement, coding and compression

## 063578 Special Topics in Communications

Emphasizing on current trends in telecommunication engineering and new topics to be discussed

## 063579 Networks and Data Transfer

Applications of Networks, Wide Area Networks, Network Protocols, Standardization, and The OSI model, Connection Oriented and Connectionless Services, The Physical Layer, Medium Access Sublayer, The Data Link Layer, The Network Layer, The Transport Layer, The Session Layer, The Presentation Layer, The Application Layer, X.25, ATM, ALOHA, Ethernet, TCP/IP

## 066222 Digital Electronic Circuits

Number systems, Boolean algebra and reduction techniques, logic gates, combinational logic design, multiplexers, decoders, encoders, code converters, flip-flops, synchronous sequential logic, counters and registers, Asynchronous Sequential Logic, CMOS Families, TTL Families

## 066292 Digital logic control Lab

Introduction to Logic Gates Circuits, Schmitt trigger Gates, Open-Collector Gates, Encoders, Decoders, Multiplexers, Demultiplexers, Clock generator Circuits, Flip-Flop Circuits, Counters, Shift registers, Memory Circuits (RAMS,EPROMS), DAC and ADC Circuits.

## 066428 Microprocessor and Microcontroller

Microcontroller architecture. Address modes and instruction sets. Subroutines and interrupts. Handling software tools including IDE, editor, assembler, simulator and C compiler. Interface techniques including parallel, serial, timer, and analogue peripheral interface.

## 066498 Microprocessor and Microcontroller Lab

This lab is designed to elaborate students' capability in terms of interfacing with microcontrollers. Since how to interface with the microcontroller is the focus of this lab, a student who has completed this course is expected to have the capability that, given an input or output device, he/she can design, develop, implement, and test the hardware and software interface so that the microcontroller can work correctly with the device(s). The microchip selected for this lab is the PIC microcontroller; Six lab assignments were designed to fulfill the above objectives:

Traffic Light Control, LED 5x7 DISPLAY, Simple Piano, Temperature Measurement, Communication, and Motor Speed Controller

## 066527 Embedded Systems

On successful completion of the course all students will develop the following knowledge and understanding Hardware and Software Design ability for basic, simple standalone embedded systems, Basic Hardware architecture of modern low/medium end microcontrollers, Fundamental software architecture of the microcontroller based embedded systems, User-processor Interface design ability with LCD displays, keypads, and buzzers, Assembler and C programming of stand-alone embedded system microcontrollers, Timing in embedded systems by software code and by timer units, Interrupt management, servicing, and hierarchical interrupt structures with application, Building embedded networks with serial communication, Application of the basic system design concepts on a design project



## Courses from other departments

### 21201 Calculus 3

Parametric equations and polar coordinates, vectors in  $R^2$  and  $R^3$  and surfaces, vector valued functions, partial differential with applications and multiple integration, vector mathematics

### 21202 Engineering Mathematics

First order differential equations (Homogeneous and Non Homogeneous, Separable DE, linear DE, Exact DE, Integrating Factor, Applications), Linear, second –order Differential Equations (Modeling, Homogeneous DE: equations with constant coefficients, Euler-Cauchy Equation, Non homogeneous DE : undermined coefficients , variation of parameters ), Systems of Differential Equations, Series Solutions of Differential Equations, Special Functions (Bessel, Legendre,...), Laplace Transforms, Matrices operations, Inverse Matrix, Determinants , Linear System of –Equations , Eigen value and Eigen vectors, Eigen value problems, Separation of variables.

### 21230 Engineering Statistics and Probability

This course provides an elementary introduction to probability and statistics with applications. Topics include: basic probability models; combinations; random variables; discrete and continuous probability distributions; statistical estimation and testing; confidence intervals; and an introduction to linear regression.

### 23101 General Chemistry 1

In this course students learn basic concepts in chemistry, structure of atoms, chemical laws calculations, chemical bonding, forms of compounds, general laws in aqueous solution chemistry, general laws of gases and other theoretical subjects

### 067219 Engineering Mechanics

This course introduce the students to the fundamental concepts of vectors, equilibrium of force system , rigid bodies, stress and strain axial and transitional stress equation of motion, work and energy impulse and momentum, Eigen frequency and eigen mode of rotational system

### 064251 Numerical Analysis

Numerical analysis is concerned with finding numerical solutions to problems, especially those for which analytical solutions do not exist or are not readily obtainable. This course unit provides an introduction to the subject and treats the topics of solving nonlinear equations, both in one variable and in many variables, solving linear systems of equations and of approximating functions by polynomials. These topics are of great practical importance in science, engineering and finance, for example, and also have intrinsic mathematical interest. The course unit concentrates on theoretical analysis and on the development of practical algorithms

## 065301 Engineering Economics and Management

This course will cover the following topic, costing and pricing, budgets, break even, costing factors of production, estimating, tendering and pricing, investment decision, economic and accounting profits, appraisal of public investment projects, principles and practice of project managements, PERT, resource chart, cost chart, S- curves and performance ratio construction law, constructing management and forms of engineering contracts





## ***Courses for non-electrical engineering students***

### **063291 Electrical and electronic circuits**

Introduction, Ohm's law, Kirchoffe's laws, and division rule, Nodal analysis, Mesh Analysis, Linearity and superposition, Thevenin's and Norton's theorems. Inductance and capacitance. AC circuits and three phase circuit analysis. Semiconductor materials. Diodes and Transistors circuits. Operational amplifiers

### **063292 Electrical Circuits**

Introduction, units, definitions, independent source, dependent source, ohm's law, Kirochoffe's laws, and division rule. Nodal analysis, Mesh Analysis, Linearity and superposition, Thevenin's and Norton's theorems. Inductance and capacitance. Source free RL and RC circuits. The unit-step forcing function. RLC circuits. The sinusoidal steady-state response. The phase concept, and introduction to alternating current circuits, and single and three phase circuit analysis

### **063293 Electronics**

Semiconductor materials. pn junction. pn junction diode. DC analysis and models. Zener diodes, Schottky diodes. Diode circuits: Rectifiers, regulators, clippers, clampers, and multiple diode circuits. BJT transistors: Basics, DC analysis, Biasing, and applications. BJT Amplifiers and its Characteristics: Common Collector, Common Base, and Common Emitter. The field-effect transistor: MOSFET and its DC analysis with applications

### **063294 Electrical and Electronic Circuits Lab.**

Laboratory equipment. Ohm's law, series-parallel resistances, Kirochoff's laws, voltage and current divider rules, delta-wye transformations, Thevenin's and Norton equivalents, superposition and reciprocal theorems, maximum power transfer. Three phase circuits

### **063391 Electrical Machine**

Review of magnetic fields and circuits. Single and three phase transformers. Electromechanical energy conversion. DC-machines: DC-generators and DC-motors. Starting DC-motors and speed control. AC-machines: single and three phase induction motors. Three phase synchronous machines

### **063392 Electrical Machines Lab.**

Laboratory experiments on single and three phase transformers. Electromechanical energy conversion, DC-machines: DC-generators and DC-motors, starting DC-motors and speed control, AC-machines: single and three phase induction motors. Three phase synchronous machines

### **063591 Electric Drive**

Introduction to electric drive of AC and DC electrical machines. Sizing, selection and performance of AC and DC machines. Starting circuits and smooth start of electric machines. Analog, digital, and pulse width modulation (PWM) of speed control of ac and dc electrical machines

# INDUSTRIAL ENGINEERING DEPARTMENT

## Admission Requirements

To join the Department of Industrial Engineering, a student must successfully complete Mathematics I (21101); Mathematics II (21102); Physics I (22101); Physics II (22102). A minimum of 70% must be obtained in all of these courses.

Requirements for a B.Sc. in Industrial Engineering

The Department of Industrial Engineering offers a single specialization in Industrial Engineering leading to a B.Sc. in the same major. Students wishing to major in Industrial Engineering must complete 163 credit hours successfully including practical engineering training. These include university compulsory and elective requirements (26 credits), college requirements (21 credits), and department compulsory and elective requirements (116 credits). These courses are classified as following:

## Summary of Requirements for a B.Sc. in Industrial Engineering

Number	Requirements By	Number of Compulsory Credit Hours	Number of Elective Credit Hours	Total Credit Hours
1	University	20	6	26
2	Collage	21	-	21
3	Department	104	12	116
Total Credit Hours		145	18	163

These courses are divided into the following categories:

University Requirements (26 Credit Hours):

## Compulsory Courses (20 Credit Hours):

Course Number	Course Title	Credit Hours	Pre-requisite
10101	Islamic Culture	3	
10102	Arabic Language	3	
10103	English Language I	3	
10322	English Language II	3	10103
10105	Palestinian Studies	3	
10117	Leadership and Communication Skills	1	
10108	Society Service	1	
10100	Introduction to Computer	3	
Total Credit Hours		20	

## Elective Courses (6 Credits):

The student should complete 6 credit hours from courses offered by any other college in the university (except those offered by the engineering collage). Moreover, the student is not allowed to study more than one elective university course from a certain collage in the University.

### Collage Requirements - Compulsory Courses (21 Credit Hours):

Course Number	Course Title	Credit Hours	Pre-requisite
21101	Calculus I	3	
21102	Calculus II	3	Calculus I
22101	General Physics I	3	
22102	General Physics II	3	General Physics I
22115	General Physics Lab. for engineering	1	General Physics II
67100	Engineering Workshop I	1	
60100	Introduction to Engineering and Engineering Ethics	1	
60300	Principles of Scientific Research and Technical Writing	1	
62102	Engineering Drawing	2	
66111	Programming Languages	3	
32101	English in Workplace	0	
Total Credit Hours		21	

### 3. Department Requirements (116 Credit Hours):

Compulsory Courses offered by Industrial Engineering department (71 Credit Hours):

Course Number	Course Title	Credit Hours	Pre-requisite
65202	Introduction to industrial Engineering	1	
65211	Quantitative Methods I	3	Calculus II
65310	Computational Applications Lab	1	Programming Languages
65304	Fluids and Thermal Sciences	3	Calculus II
65301	Economy and Engineering Management	3	Calculus I
65332	Engineering Materials and Metallurgy	3	
65325	Engineering Materials and Metallurgy Lab.	1	Engineering Materials and Metallurgy
65340	Manufacturing Processes I	3	Engineering Materials and Metallurgy
65433	Manufacturing Processes II	3	Manufacturing Processes I
65334	Engineering Metrology and Standards	3	
65420	Methods Engineering	3	Industrial Accounting + Safety Engineering and Human Factors
65372	Statistical Quality Control I	3	Engineering Metrology and Standards + Quantitative Methods I
65413	Operations Research I	3	Engineering Mathematics I
65431	Production Planning and Control	3	Quantitative Methods I
65471	Facility Planning and Design	3	Operations Research I
65440	Automation and Computer Integrated Manufacturing	3	Manufacturing Processes II
65530	Manufacturing Processes Lab	1	Manufacturing Processes II
65450	Machine Design	3	Strength of Materials
65461	Automatic Control	3	Electrical and Electronic Circuits
65540	Automatic Control Lab.	1	Automatic Control
65451	Maintenance Management	3	Quantitative Methods I
65480	Safety Engineering and Human Factors	3	

Course Number	Course Title	Credit Hours	Pre-requisite
65515	Operations Research II	3	Operations Research I
65589	Safety Engineering and Human Factors Lab.	1	Safety Engineering and Human Factors
65531	Total Quality Management	3	
65590	Engineering Training	3	
65591	Graduation Project I	2	
65592	Graduation Project II	3	Graduation Project I
Total Credits		71	

### **Compulsory Courses offered by other departments (33 Credits):**

Offered by department of	Course Number	Course Title	Credit Hours	Pre-requisite
Mathematics	21201	Calculus III	3	Calculus II
Mathematics	21202	Engineering Mathematics I	3	Calculus III
Electrical Engineering	63291	Electrical and Electronic Circuits	3	General Physics II
Electrical Engineering	63294	Electrical and Electronic Circuits Lab	1	Electrical and Electronic Circuits
Electrical Engineering	63391	Electrical Machines	3	Electrical and Electronic Circuits
Electrical Engineering	63392	Electrical Machines Lab.	1	Electrical Machines
Civil Engineering	61110	Statics	3	General Physics I
Mechanical Engineering	67210	Dynamics	3	Statics
Accounting	52360	Industrial Accounting	3	
Civil Engineering	61201	Strength of Materials	3	Statics
Chemical Engineering	64251	Numerical Methods for Engineers	3	Programming Languages + Engineering Mathematics I
Chemistry	23101	General chemistry I	3	
Chemistry	23107	General chemistry I Lab.	1	General chemistry I
<b>Total Credit Hours</b>			<b>33</b>	

### **C. Department's Technical Electives (12 Credits):**

To determine one's major, a student may choose 12 credits from the 5th year level of Industrial Engineering courses as follows.



## Engineering Management

Course Number	Course Title	Credit Hours	Pre-requisite
65510	Quantitative Methods II	3	65211
65514	Statistical Quality Control II	3	65372
65517	Decision Analysis	3	
65521	Energy Management	3	
65533	Simulation	3	
65534	Project Management and Network Analysis	3	
65535	Intelligent Systems in Manufacturing	3	
65536	Management Information Systems	3	
65581	Industrial Safety	3	
65582	Human Factors Engineering	3	
65511	Special Topics in Industrial Engineering	3	

## Manufacturing and Engineering Design

Course Number	Course Title	Credit Hours	Pre-requisite
65535	Intelligent Systems in Manufacturing	3	
65543	Non-Traditional Manufacturing Processes	3	
65545	Design of Manufacturing Systems	3	
65552	Jigs and Fixtures Design	3	
65553	Product Analysis and Design	3	
65563	Automation	3	
65564	Computer-Aided Design (CAD)	3	
65566	Industrial Robots	3	
65581	Industrial Safety	3	

## 3. Maintenance Engineering

Course Number	Course Title	Credit Hours	Pre-requisite
65517	Decision Analysis	3	
65533	Simulation	3	
65571	Maintenance Engineering I	3	
65572	Maintenance Engineering II	3	65571
65573	Reliability Engineering I	3	
65574	Reliability Engineering II	3	65573
65575	Contingency and Fault Tolerance Analysis	3	
65577	Computer-Aided Maintenance and Management	3	
65556	Material Properties and Corrosion	3	
65581	Industrial Safety	3	
65579	Maintenance Engineering Lab	1	
65536	Management Information Systems	3	

Note: The following are courses offered to the students of the Hi-Tich Education department/Faculty of Educational Sciences

Course Number	Course Title	Credit Hours	Pre-requisite
65288	Industrial Safety	3	
65366	Engineering Metrology and Standards	3	
65335	Engineering Economy	3	
65323	Manufacturing Processes	3	
65388	Energy and Environment Engineering	3	

## Course Descriptions

### 65202: Introduction to Industrial Engineering

This course traces the historical development of industrial engineering, presents practice and trends. Definition of Industrial Engineering; its main levels, activities, and working fields. It also introduces basic theories in management, operations research, quality control and manufacturing processes.

### 52360: Industrial Accounting

Introduction to management accounting operations, types of costs, budgeting, costing (based on ABC principles) and pricing systems. Cost based accounting for commercial and industrial firms. Students are also introduced to quantitative theories, information development and interpretation by decision makers and utilization of commercial software programs.

### 65211: Quantitative Methods I:

Probability theory and its applications (discrete and continuous probability distributions, random variables, basic probability laws... etc). Introduction to statistical analysis principles (sampling, standard deviations, normal distributions, ... etc.). Introduction to design of experiments.

### 65304: Fluid and Thermal Sciences

Basic principles of thermodynamic (work and Heat), first and second laws of thermodynamics and their applications. Introduction to fluid mechanics principles; such as continuity equation, Bernoulli equation and their applications.

### 65303: Economics and Engineering Management

Introduction to engineering decision making process based on economic approach to compare alternatives. Equivalent and compound interest formula. Feasibility studies and Introduction to project management.

### 65310: Computational Applications LAB

This course aims at introducing students to computer software used in many industrial engineering applications. These include; text and figure processing, SPSS, operations research, database, email, MS Project, Power Point, Word, productivity, and other commercial software.

### 65325: Engineering materials and Metallurgy

Materials classifications, materials crystal composition, mechanical properties, phases forms, Ferrous and non ferrous alloys, heat treatment processes, plastics, and corrosion of metals.

### 65325: Engineering materials and Metallurgy Lab

Destructive and Non-destructive tests, metal composition tests, heat treatment processes, corrosion tests.

### 65340: Manufacturing Processes I

This course is a study of basic manufacturing processes including casting process, bulk deformation process, chip removal process, joining processes. The course also offers an introduction to numerical control machining.

### 65433: Manufacturing Processes II

In this course, the emphasis will be on analysis of manufacturing processes (casting, metal forming processes, machining processes, plastic processes) from economic and mechanical perspectives. There will also be an emphasis on tool life, power consumption, and numerical control programming.

### 65334: Engineering measurement and standards

Topics covered are error analysis, calibration of measuring devices, tolerances, linear measurements, fixed and deviation type gauges, measurements of pressure, temperature, force and power. The course also covers process of industrial specification and standardization, national and international standards.

### 65372: Statistical Quality Control I

Quality and standards concepts. Operations control. Control charts for variables and attributes, standards and tolerances, accuracy and calibration of devices, computer applications.

### 65413: Operations Research I

This course is a study of deterministic operations research, modeling of linear and integral programming. The course also covers problem formulation, simplex methods and sensitivity analysis. There is also an extensive use of commercial software packages.

### 65420 Methods Engineering

Methods improvement, work measurement, methods and practices of operations

analysis, time and motion studies, assembly methods, design of instructions and procedures. Development of performance indicators, salary scales and incentive schemes, computer applications.

### **65450: Machine Elements Design**

Review of combined stresses, failure of machine parts under variable and fixed loads. Applications in machine element designs; including bolts, welded joints, springs, spindles, gears, brakes, clutches and conveyors.

### **65440: Automation and Computer-Integrated Manufacturing**

Compatibility of product and manufacturing process, concurrent engineering, Sensors and other components for industrial control systems, PLC, automation in handling, introduction to robotics and its applications in industry.

### **65461: Control Systems**

Topics covered in this course include feedback control systems, time response of systems, frequency techniques, stability analysis, design and analysis of digital systems.

### **65451: Maintenance Management**

Maintenance organization, components of a maintenance plan, impact of maintenance on production, system operation and documentation, manual and computerized documentation systems, planned maintenance, and related topics. Use of commercial software packages.

### **65480: Safety Engineering and Human Factors**

This course introduces safety measures that must be adhered to in plants, preventive measures to be available: hazard identification (mechanical, chemical, and electrical hazards). The course also emphasizes process charts, time and motion studies, work sampling, methods improvements, work place design, job evaluation and wage systems.

### **65431: Production Planning and Control**

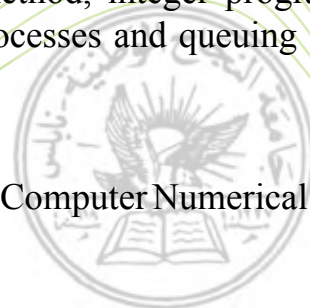
Topics covered in this course are organization and functions of manufacturing planning and control, including forecasting theory, capacity planning, III systems, scheduling, and inventory control. There will also be an extensive use of commercial software packages.

### **65515: Operations Research II**

Review of the simplex method, revised simplex method, integer programming, non-linear programming, introduction to stochastic processes and queuing systems. Extensive use of commercial software packages.

### **65530: Manufacturing Processes Lab**

Experiments in machining, metal forming and casting, Computer Numerical Control, metal cutting using CNC machines.





### 65545: Manufacturing Systems Design

Analysis and design of lines, manufacturing cell design, flexible manufacturing, workstations capacity, manufacturing information systems, and economic of manufacturing systems.

### 65471: Facility Planning and Design

Plant location methods, total process analysis, process integration, material handling analysis, and traditional and computerized plant layout methodologies. Use of commercial software packages.

### 65589: Safety Engineering and Human Factors (Lab)

Students in this course will be asked to conduct a number of experiments: computer application and simulations on subjects covered in SE 65480. Of these, students will make experiments on time and motion studied and machine guarding.

### 65531: Total Quality Management

Continuous process improvement, concurrent engineering, quality function deployment, benchmarking, good manufacturing practice, and ISO 9000.

### 65591: Graduation Design Project I

The course provides an introduction to research methodology, ways of making literature review, the manner of writing technical reports, and specifying the topic of the graduation project.

### 65592: Graduation Design Project II

This course is mainly a study and an analysis of a specific problem in a field determined jointly by the student and his/her advisor.

### 65510: Quantitative Methods II

Statistical methods applications in industrial engineering, hypothesis testing, analysis of variance, regression, experimental design, and introduction to stochastic models.

### 65517: Decision Analyses

Review of Probability Law, formulation of the decision problem, decisions under uncertainty and under risk, decision trees, Bayesian decision analysis intelligent systems in decision – making.

### 65534: Project Management and Network Analysis

Activity modeling and network construction, CPM and PERT techniques, resource allocation, time and cost analysis, random variable in project management, projects monitoring and performance indicators, computer applications.

### 65536: Management Information Systems

Introduction to software and hardware technology, institutional structure and its relation to decision taking techniques, information systems development cycle, databases, applications of management information systems.

### 65533: Simulation

Using statistical models to represent actual systems, using simulation languages and tools to assess and study systems, collection and analysis of data and information for simulation systems and computer applications.

### 65535: Intelligent Systems in Manufacturing

Introduction to intelligent systems historical development, expert systems and its applications in engineering management and manufacturing, knowledge management, introduction to neural networks and its industrial applications, computer applications.

### 65543: Non-traditional manufacturing processes

Revision for traditional manufacturing processes, jet machining, laser machining, forming using mechanical energy, electric discharge machining (EDM), Wire cutting, chemical forming, and other methods.

### 65552: Jigs and Fixtures Design

Fundamentals of jigs and fixtures, principles of molds, dies and tools design, applications of these fundamentals and principles in metal cutting and forming process.

### 65553: Product Analysis and Design

Identification of product need, functionality analysis, design requirements, design processes, concurrent engineering, design for manufacturability, design for quality, and rapid prototyping.

### 65564: Computer Aided Design

Computer aided design in 2D and 3D, finite element analysis of parts, components and subsystems. Extensive computer applications.

### 65563: Automation

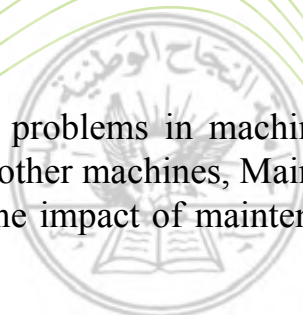
Automation and computer aided manufacturing, group technology, automation in design and manufacturing, material handling, process planning, NC, CNC, DNC, and part programming, and introduction to flexible manufacturing systems.

### 65571: Maintenance Engineering I

Maintenance Concepts, cost of maintenance and profitability failure modes, condition-based maintenance, diagnosis, environmental stress, wear and corrosion, preventive maintenance, and techniques.

### 65572: Maintenance Engineering II

Topics covered in this course include Maintenance problems in machine tools, pumps, compressors, steam turbines, refrigerators, and other machines, Maintenance of buildings, ventilation, heat, electricity and others, the impact of maintenance on safety, energy and the environment.



## 65371: Reliability Engineering I

Explain the concepts of total reliability, the reliability function, distributions of the reliability, failure rates, product life cycle, identification and reliability of products and services, inspection and reliability components of products and services, inspection and reliability components of products, acceleration tests, and the design for reliability improvement.

## 65575: Contingency and Fault Tolerance Analysis

Topics covered in this course include large scale systems and network theory, concepts and applications of short tracks, linking groups, Analysis of service and interruption, Assessment of system reliability and methods of drawing and the use of networks, the use of data collection, and other related topics in addition to a course project.

## 65577: Computer Aided Maintenance Management

Analysis of maintenance information system, identify particular needs of software and hardware of the computer in maintenance, planning and scheduling of maintenance, the use of expert systems in maintenance, and other topics, use of commercial software packages.

## 65579: Maintenance Engineering Lab.

Testing and carrying out of experiments to clarify concepts and procedures presented in the course such as (65571) and (65572), and other experiments such as failure analysis and measurements.

## **FACULTY MEMBERS**

### *Associate Professors*

Ahmed al-Ramahi                      Ph.D. in Mechanical Engineering  
(Machine Theory and Manufacturing),  
Eastern Mediterranean University, Turkey, 1997.

### *Assistant Professors*

Basher sadder                      Ph.D. in Mechanical Engineering  
(Lean manufacturing, simulation, Optimization)  
Brigham young University, Utah, USA, 2005.

Amer Hamdan                      Ph.D. in Industrial and Manufacturing systems  
Engineering University Texas. USA, 2005.  
(On leave).

### *Instructors*

Suleiman Z. A-Daifi                      M.Sc. in Mechanical Engineering/Applied,  
University of Jordan for Science & Technology,  
Amman, Jordan, 1996.

Nidal Y. Dwaikat                      M.Sc. in Industrial Engineering and Management  
(QM & Organizational Development)  
Turin Institute of Technology, Italy, 2008

Yahya Saleh                      M.Sc. in Industrial Engineering (Engineering  
Management)  
University of Jordan, Amman, Jordan, 2005.  
(Sent to get a Ph.D. degree, Turkey)

Ayham Jaaron                      M.Sc. in Engineering Management  
University of Engineering and Technology- Lahore Pakistan, 2004  
(Sent to get a Ph.D. degree, UK)

Mohammed Othman                      M.Sc. in Industrial Engineering  
(Product Design and Development)  
Concordia University, Montréal, Canada, 2007  
(Sent to get a Ph.D. degree, Canada)



# CURRICULUM DESCRIPTION FOR THE BACHELOR DEGREE IN CHEMICAL ENGINEERING

## DEPARTMENT OF CHEMICAL ENGINEERING

### *Requirements for a B. Sc. in Chemical Engineering*

Like other departments in the College of Engineering, the Department of Chemical Engineering offers a single specialization in chemical engineering. Students wishing to obtain a B.Sc. in ChE. must successfully complete a total of 164 credit hours which include university, college, and department compulsory and elective courses. The tables and course description below give details of the compulsory and elective department courses. A list and description of compulsory and elective college and university courses can be found in the student handbook.

### *A. Compulsory Department Courses (105 Credits)*

#### *A1. Compulsory Courses from the Chemical Engineering Department*

Course #	Course title	Credit hrs.	Prerequisite
064202	Principles of Chemical Engineering Calculations	3	23101
064213	Properties of Engineering Materials and Corrosion	3	23102+061110
064231	Fluid Mechanics	3	22101
064232	Heat Transfer	3	064231
064238	Fluid Mechanics Lab	1	064231
064251	Numerical Analysis for Engineers	3	066111+21202
064314	Polymer Science	3	23231
064318	Material and Corrosion Testing Lab	1	064213
064320	Chemical Reaction Engineering	3	064335
064335	Thermodynamics I	3	23102
064336	Thermodynamics II	3	064335
064339	Heat Transfer Lab	1	064232
064361	Mass Transfer	3	064232
064362	Unit Operations	3	064361
064381	Safety Engineering	3	064335
064390	Internship	3	Dept. approval
064428	Chemical Reaction Lab	1	064320+23215
064441	Reactor Design	3	064320
064444	Computer Aided Equipment Design	4	064361
064445	Plant Design	3	064444+065301
064452	Process Modeling in Chemical Engineering	3	064361+064251
064453	Process Control	3	064452
064458	Process Control Lab	1	064453
064468	Unit Operations Lab	1	064362+23215
064475	Soap and Detergen Manufacturing	2	064321
064478	Soap and Detergent Manufacturing Lab.	0	Concurrent 064475

064483	Environmental Engineering and its applications	3	064362
064563	Petroleum Refining	2	064362
064576	Industrial Chemical Technology	3	064362+23235
064591	Graduation Project I	2	Dept. approval
064594	Graduation Project II	3	064591
-	Total	76	-

## A2. Compulsory Courses offered by Other Engineering Departments

Course #	Course title	Credit hrs.	Prerequisite
061110	Statics	3	21101
065301	Engineering Economics and Management	3	21101
-	Total	6	-

## A3. Compulsory Courses offered by Department of Mathematics

Course #	Course title	Credit hrs.	Prerequisite
21201	Calculus III	3	21102
21202	Engineering Mathematics	3	21201
-	Total	6	-

## A4. Compulsory courses offered by Department of Chemistry

Course #	Course title	Credit hrs.	Prerequisite/s
23101	General Chemistry I	3	-
23102	General Chemistry II	3	23101
23107	General Chemistry Lab I	1	23101
23108	General Chemistry Lab II	1	23107+23102
23211	Analytical Chemistry	3	23102+23108
23215	Analytical Chemistry Lab	1	23211+23108
23231	Organic Chemistry	3	+23102+23108
23235	Organic Chemistry Lab	2	23238+23108
	Total	17	-



## B. Elective Department Courses (12 Credits)

The student must take 4 courses (12 credits) from the list of elective courses offered at the Chemical Engineering Department, shown in the table below.

### B1. Chemical Engineering Technologies Courses

Course #	Course title	Credit hrs.	Prerequisite
064472	Inorganic Chemical Technology	3	“
064473	Fine Chemical Industries	3	“
064571	Food Processing Technology	3	Dept. approval
064572	Polymers Technology	3	“
064574	Mining	3	“
064575	Petrochemical Technology	3	“
064577	Biochemical Technology	3	“
064595	Special Topics in Chemical Technologies	3	“

### B2. Separation Processes Courses

Course #	Course title	Credit hrs.	Prerequisite
064465	Membrane Separation	3	Dept. approval
064494	Applications on Transport Phenomenon	3	“
064566	Separation Processes	3	“
064596	Special Topics in Separation Processes	3	“

### B3. Environment Courses

Course #	Course title	Credit hrs.	Prerequisite
064584	Water and Waste Water Treatment	3	Dept. approval
064585	Solid Wastes	3	“
064586	Air Pollution	3	“
064587	Environmental Impact Assessment	3	“
064597	Special Topics in Environment	3	“

### B4. Engineering Mathematics courses

Course #	Course title	Credit hrs.	Prerequisite
064554	Design and Analysis of Experiments	3	Dept. approval
064555	Computer Applications in Chemical Engineering	3	“

## **COURSE DESCRIPTION**

### **CHE064202 Principles of Chemical Engineering Calculations**

Credit Hours: (3-3-0)\*

Prerequisite Courses: 23101

This course aims at studying material and energy balances in feedback and continuous systems, as well as chemical reaction and non-reaction systems. The course also covers multiple and single stage systems, concepts of units, chemical engineering calculations, synthesis of chemical processes, analysis of chemical processes by material and energy balances, behaviors of fluids, enthalpy calculations for changes of temperature, phase and chemical reactions, unsteady state of energy and material balances. The course ends with a full study of an industrial operation.

### **CHE064213 Properties of Engineering Materials and Corrosion**

Credit Hours: (3-3-0)

Prerequisite Courses: 23102, 061110

This course aims to introduce students into engineering materials and the relation between their properties and uses including: materials classification, crystal structures of metals, mechanical properties, failure and mechanics of fracture, destructive and non destructive tests, metallic phase diagrams, alloy systems and heat treatment methods for ferrous and non-ferrous alloys. Also students will study the principles of corrosion, their types, and methods of prevention.

### **CHE064231 Fluid mechanics**

Credit Hours: (3-3-0)

Prerequisite Courses: 22101

This course will provide the student with an overview of key fluid mechanics topics. These include fluid properties, such as viscosity and pressure and its measurement. It also covers the flow of fluids, Bernoulli's equation, the general energy equation, Reynolds's number, laminar and turbulent flows, energy losses due to friction and minor losses, and pump selection and applications. The course also covers calculations for fluid flow systems and their classes.

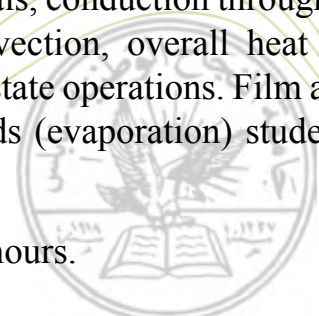
### **CHE064232 Heat Transfer**

Credit Hours: (3-3-0)

Prerequisite Courses: 064231

This course is a study of thermal properties of materials, conduction through simple shape and composite materials free and forced convection, overall heat transfer coefficient, dimensional analysis, steady and unsteady state operations. Film and drop wise condensation, nucleate and film boiling of liquids (evaporation) students also learn heat exchangers types and design.

\*(a-b-c): a- credit hours, b- theoretical hours, c- lab hours.





## CHE064338 Fluid Mechanics Laboratory

Credit Hours: (1-0-3)

Prerequisite Courses: 064231

This lab introduces students to fluid properties under different practical conditions. This includes practical experiments on stickiness. Students also learn types of flow, its measurement, speed curves, drop of pressure; this is in addition to the study of some equipment, namely pumps and turbines.

## CHE064251 Numerical Analysis for Engineers

Credit Hours: (3-3-0)

Prerequisite Courses: 066111, 21202

The course aims to clarify the basic skills of numerical methods such as: error calculations, solving linear and non-linear equations and their systems, numerical differentiation and integration, solving ordinary differential equations and their systems, curve fitting and interpolation. Students will be practiced on some special software related to numerical methods.

## CHE064314 Polymer Science

Credit Hours: (3-3-0)

Prerequisite Courses: 23231

The course contains the definition of polymers, their classifications and properties, molecular weight calculations in addition to the theories of polymerization and their formation reactions as addition and condensation and also includes the definition of copolymers and their types.

## CHE064318 Material Properties and Corrosion Laboratory

Credit Hours: (1-0-3)

Prerequisite Courses: 064213

This course aims to introduce students into the practical aspects they studied in the course of material properties and corrosion, including: materials and failure identifications, examining the mechanical properties, studying the microstructure of metals and the preparation of metallic samples, and to teach students different methods of heat treatment and surface hardening for ferrous and non-ferrous alloys in addition to some tests to determine the corrosion rate of some metals.

## CHE064320 Chemical Reaction Engineering

Credit Hours: (3-3-0)

Prerequisite Courses: 064335

This course aims at making students acquire sufficient knowledge about chemical reactions. This is to be accomplished by studying fundamentals of thermodynamics and kinetics chemistry of chemical reaction kinetic for homogeneous reactions, speed of reactions, single-stage reactors, continuous-stirred tank reactor, pipe reactor, time of its stay and measurements. Reactor performance in terms of input various such as temp and pressure is covered through the course. The selectivity and yield of multiple reactions is covered as well.

## CHE064335 Thermodynamics (I)

Credit Hours: (3-3-0)

Prerequisite Courses: 23102

This course covers the principles of thermal sciences and presents the calculations of work, heat for ideal gas and real gases at constant pressure or volume, the calculations of heat capacities, latent heats, and changes of enthalpy and entropy are covered as well. The first, second and third law of thermodynamics are investigated. The uses of tables and diagrams and the calculations of different types of heat reactions and residual properties are considered and covered in this course as well; the calculations of the efficiency of different cycles, turbines, expanders, and compressors are part of this course.

## CHE064336 Thermodynamics (II)

Credit Hours: (3-3-0)

Prerequisite Courses: 064335

The objective of this course is to cover the other side of thermodynamics; therefore, this course covers the partial properties, chemical potential, all types of fugacities, which form the criteria of equilibrium. The property changes of mixing (heat of solutions, change of volumes) are covered with details. The calculation models of activity coefficient, phi/gamma formula, Gibbs/Duhem equation, flash point, azeotrope point calculation and VLE calculations are covered as well in this course. This course gives the theoretical basic to all thermal separation processes. Binary and multi component systems are investigated.

## CHE064339 Heat Transfer Laboratory

Credit Hours: (1-0-3)

Prerequisite Courses: 064232

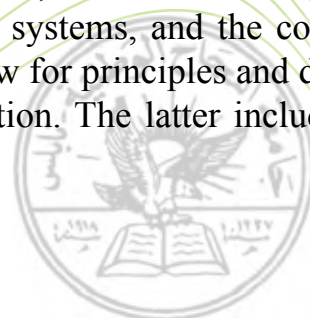
This lab aims at showing students the practical processes of heat transfer. Experiments include process of conductors, thermal exchanges, and heat transfer in fluid layers, evaporation, condensation, boiling, air conditioning system and drying.

## CHE064361 Mass transfer

Credit Hours: (3-3-0)

Prerequisite Courses: 064232

In this course, the student will learn the basic principles of mass transfer and its analogy to heat and momentum transfer. Key mass transfer concepts are covered, such as diffusion in liquids, gases, and porous material, mass transfer coefficient theory and calculations in both laminar and turbulent systems, and the concept of equilibrium stage. The course also provides an overview for principles and design of two mass transfer operations, absorption and evaporation. The latter includes both single and multiple-effect evaporators.



## CHE064362 Unit operations

Credit Hours: (3-3-0)

Prerequisite Courses: 064361

This course covers the equilibrium principles and design calculations of several mass transfer-based chemical operations, such as distillation, solvent extraction, adsorption, crystallization, and humidification and cooling towers. Both single- and multiple-stage operations of these systems are studied.

## CHE064381 Safety Engineering

Credit Hours: (3-3-0)

Prerequisite Courses: 064335

This course teaches students the basic principles of engineering safety including the proper ways of handling chemical, hazardous and poison materials in the lab or an industrial plant. Basics of inflammation, fires, and explosions, ways of protection from fires and explosions as well as relevant legislation concerning occupational safety will be covered in this course. At the end of the course, students will learn how to investigate accidents in an attempt to avoid such accidents in future.

## CHE064428 Chemical Reaction Laboratory

Credit Hours: (1-0-3)

Prerequisite Courses: 064320, 23215

This lab acquaints the student with characteristics of the most common chemical reactors such as CSTR, plug flow and batch reactors. Experimental measurements of the conversion out the mentioned three type reactors will be carried out. Mixing effect on the conversion of batch reactor is illustrated in lab. Effect of impeller type, position and speed is demonstrated in this lab by carrying out experiments with viscous and non viscous fluids. Mixing intensity is measured using spectrophotometer machine.

## CHE064441 Reactor Design

Credit Hours: (3-3-0)

Prerequisite Courses: 064320

This course capitalizes on student's knowledge acquired from the prerequisite courses. Topics covers the fundamentals tools and factors affecting reactor's design, analysis of performance, yields, selectivity of batch, plug flow and continuous flow of stirred tank reactors operating different types of reactions. The concept of non-ideal reaction analysis, including residence time distributions, back-mixing and dispersion models, mass and energy limitations in heterogeneous reaction systems, catalyst effectiveness, reactor stability and sensitivity to operating parameters will all be covered.

## CHE064444 Computer Aided Equipment Design

Credit Hours: (4-3-2)

Prerequisite Courses: 064362

As the title indicates, the course provides the student with the basic principles of equipment design followed by application of well known chemical engineering computer design software such as ChemCAD and HYSIS. Topics to be covered include chemical storage tank design with a focus on high pressure vessels, cylindrical vessels, spherical methods of fabrication, and materials of construction, and reasons for vessels' failure. A second design on Heat Exchanger (HE) will be followed. Students will learn how to determine the design parameter, how to calculate the heat exchanger area, optimum design of pipes in the heat exchanger with their layout, calculation of the pressure drop of the HE. Finally the course will be ended with the design of a multi-component distillation column. Mass and Hydrodynamic

## CHE064445 Plant Design

Credit Hours: (3-3-0)

Prerequisite Courses: 064444, 065301

Students in this course acquire basic skills necessary for the design of chemical plants. Topics cover construction materials used in chemical plant building, erosion, mechanical properties, handling of materials and their selection, equipment symbols (codes) and drawings, ancillary services for unit operations, plant site and planning. Further, students learn about types of industrial waste and its control, industrial safety, maintenance, machine selections, precise machine plans, and piping. The course ends with an introduction to optimal selection for processes, compound and single variables, ways of exploration, linear and dynamic programming as well as different computer applications. Students are to submit a design report that includes capital and running cost of the plant as well as carrying out a sensitive analysis of the designed plant.

## CHE064452 Process Modeling in Chemical Engineering

Credit Hours: (3-3-0)

Prerequisite Courses: 064251, 064361

This course is a review of physical laws considered the foundation of mathematical modeling used in physical systems. The course also looks at mathematized modeling of important chemical engineering systems, solving differential equations characterizing chemical processes through analysis by using numerical and analytical methods and computer software.

## CHE064453 Process Control

Credit Hours: (3-3-0)

Prerequisite Courses: 064452

This course helps students to acquire the necessary knowledge in chemical process control. Topics covered include: review of process modeling, Laplace transformations



and transfer functions, dynamic response of first and second order process, dynamic response of closed loop feedback loops, open-loop and closed-loop stability analysis using different techniques.

### CHE064458 Process Control Laboratory

Credit Hours: (1-0-3)

Prerequisite Courses: 064453

In this lab course, students learn practically how to control industrial processes. Experiments conducted in lab include control of distillation columns using reboiler and reflux methods, pressure control, control of gas and liquid flow, temperature control, control of liquid level, control of pH degree, control of stirred tank and tanks in series.

### CHE064465 Membrane Separations

Credit Hours: (3-3-0)

In this course, the student will be exposed to separation processes that are not usually covered in the mass transfer and unit operation courses. The primary focus will be on separation using membranes from a theory and application standpoints, mainly in water desalination. The students will also be introduced to membrane types, synthesis, transfer theories, applications, as well as the various desalination technologies.

### CHE064468 Unit Operations Laboratory

Credit Hours: (1-0-3)

Prerequisite Courses: 064362

This Lab course aims at helping students acquire practical knowledge of industrial unit operations. Experiments conducted include distillation, absorption, stripping, falling film evaporative separation, extraction, and spray drying.

### CHE064473 Fine Chemical Industries

Credit Hours: (3-2-2)

The main objective of this course is to teach students the definition of fine chemicals products and to how distinguish between it and the commercial chemical industry. Course covers all reactors used in fine chemical industry concentrates mainly on batch reactors. Waste minimization and the environmental impact of a fine chemical product will be covered. Student will learn how to write a recipe for producing a fine chemical and scale it up to a production scale.

### CHE064475 Soap and Detergent Manufacturing

Credit Hours: (2-1-2)

Prerequisite Courses: 064321

This is an industrial related course where students can learn more on how to manufacture soap and detergents. The course will also equip students with the chemistry behind soap, detergent and cosmetic emulsion manufacturing. Students will learn more about surfactants used in manufacturing soap and detergents. Household

cleaning and disinfection products will be discussed in this course. The last topic to be discussed in this course is the mixing roles in soap and detergent manufacturing. All safety issues related to soap and detergent manufacturing steps will be covered. During the course, students will be asked to make visits to local chemical industry. Several assignments will be based on such visits

### CHE064483 Environmental Engineering and its applications

Credit hour (3-3-0)

Prerequisite Courses: 064362

The objective of this course is to deal with different types of pollutants, control and reduce them at least. Different topics are covered in this course, In the first one introduction to environmental chemistry (hardness, alkalinity, COD, BOD...) and basis of microbiology are covered. The purifications and clarifications of drinking water from groundwater and surface water, all treatment processes are investigated (pretreatment, primary treatment and secondary treatment) in this topic. Waste water treatment processes are also considered at the third topic. Air Pollutions problems, dust removal, green house effect, introduction to solid wastes and hazardous wastes are covered as well.

### CHE064577 Biochemical Technology

Credit Hours: (3-3-0)

The objective of the course is to introduce fundamental biochemical engineering concepts primarily to chemical engineers. The course does not assume any biological background or any prior course in biology or microbiology, although it certainly does not to hurt to have some. To accommodate those who do not have the biological background, the course will first survey the basics ideas from microbiology, biochemistry, and the central dogma of biology. Subsequently, the emphasis will be application of the following core chemical engineering concepts to biological problems.

### 064554 Design and Analysis of Experiments

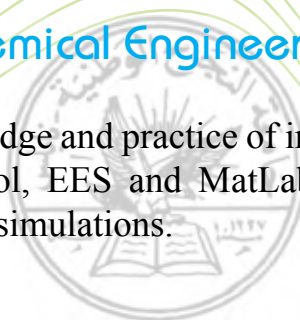
Credit Hours: (3-3-0)

In this course the student learn the most effective approach to design, conduct, and analyze experiments that optimize performance in products and processes. They learn also how to use statistically designed experiments to obtain information for characterization and optimization of systems, improve manufacturing processes, and design and develop new processes and products. Evaluate material alternatives in product design, improve the field performance, reliability, and manufacturing aspects of products, and conduct experiments effectively and efficiently.

### CHE064555 Computer Application in Chemical Engineering

Credit Hours: (3-2-2)

This course is designed to increase the student knowledge and practice of important computer software such as ChemCad, Hysys, ComSol, EES and MatLab. These software can be used in chemical processes design and simulations.



## CHE064363 Petroleum Refining

Credit hours: (2-2-0)

Perquisite Courses: 064362

In this course students will be introduced into the petroleum origin, its constituents and properties as basic raw materials for petroleum refineries and also to its fractional components and their different uses. Also students will study the different refining processes as distillation, catalytic cracking, catalytic hydrocracking, catalytic reforming of gasoline and blending of the refinery products and product treatment methods in addition to the tests carried out for the crude oil and petroleum products.

## CHE064566 Separation Processes

Credit Hours: (3-3-0)

In this course, the student will be exposed to a number of separation processes that are not usually covered in the mass transfer and unit operation courses. These include humidification, de-humidification, drying, and leaching. The course will cover separation processes for solid materials, such as filtration, sieving, flotation, sedimentation, etc. It will also discuss the use of separation techniques in instrumentation for chemical analysis.

## CHE064571 Food Treatment Technology

Credit Hours: (3-3-0)

This course aims to define to the students the different food groups and their nutrition, and including the different methods used in food processing and preservation such as: pasteurization, drying, blanching, commercial sterilizations, cooling and freezing and the different techniques used in food packaging.

## CHE064572 Polymer Technology

Credit Hours: (3-3-0)

In this course students will be introduced to the processes used in polymer industry such as: extrusion, injection molding, blow molding, etc., in addition to the technology of polymer blending and plastic recycling.

## CHE064574 Mining

Credit Hours: (3-3-0)

This course aims to introduce students into metals and their ores, application of thermodynamics and chemical kinetics on mining, heat methods used in producing metals from their ores, industrial applications for producing ferrous and non-ferrous metals including the theories and application of blast furnace used in producing pig iron and the modern methods used in reducing iron from its familiar ores, and also to introduce students into the industrial methods used in producing copper, aluminum, manganese, magnesium, ..., etc. and in addition to ferrous and non-ferrous alloys designation codes.

## CHE064575 Petrochemical Technology

Credit Hours: (3-3-0)

In this course students will be introduced into the preliminary raw materials used in producing petrochemicals such as natural gas and crude oil in addition to the physical properties of these materials and also to the principal derivatives as methane, ethane, propane, ... etc. and their uses in petrochemical industry

## CHE064576 Industrial Chemical Technology

Credit hour (3-3-0)

Prerequisite 23235, 064362

The objective of this course is to deal with different manufacturing processes. The selected topics cover the national industry and some international industries. The processes are mainly organic but inorganic processes are covered as well. So that, the chemical engineer will have strong basis in surface coating industry, food and additives, adhesives, leather, gelatin, agrochemicals, fragrances, fermentations, pharmaceuticals, cement, and Sodium and Calcium salts.

## CHE064584 Water and Wastewater Treatment

Credit Hours: (3-3-0)

In this course we will cover the following topics: Introduction to water types and sources, physical and chemical treatment processes, which include pre-treatment processes, basic treatment steps, coagulation, flocculation, and sedimentation processes, filtration, disinfection, adsorption systems (carbon and ion exchange), membrane desalination, and softening

## CHE064585 Solid Waste

Credit Hours: (3-3-0)

This course will provide the student with an overview of the basic principles of solid waste management issues, such as sources of solid waste, types and contents of solid waste, chemical, physical, and biological properties of solid waste. The course also discusses the stages of solid waste handling, such as storage, collection, transportation, and containment. The course will also discuss the reuse, recycle, and disposal-related aspects of solid waste, such as incineration, which also include waste burning for energy generation, and landfills.

## CHE064587 Environmental Impact Assessment

Credit Hours: (3-3-0)

This course will introduce students to the theory and practice of environmental impact assessment (EIA), the systematic identification and evaluation of the potential effects on the physical, biological, cultural, and socioeconomic components of the environment of proposed actions—projects, plans, programs, legislation. The objective of EIA is to encourage consideration of the environment in the planning and decision-making process to arrive at actions that avoid or minimize adverse impacts on the environment. Students will be divided into several groups to handle a new engineering project of which EIA is needed



## CHE64591 Graduation Project I

Credit Hours: (2-3-6)

In this course, a student undertakes an independent project for the design and development of an industrial process, either experimental, theoretical or both, in any area of chemical engineering under the supervision of a faculty advisor. The objective of the project is to show the student how to apply his/her knowledge of chemical engineering principles to a problem and in doing so to demonstrate his/her skills and creativity. The problem may be tackled by a group of students but contributions should be individually assessed. At the end of the term, the student must give an oral presentation of his/her project and submit a hard copy report.

## CHE064594 Graduation Project II

Credit Hours: (3-1-9)

In this project, the student applies what he/she has found in the Graduation Project I. He/she will make visits to Palestinian plants and design a piece of equipment in the college labs. At the end of the term, the student must give an oral presentation of his/her project and submit a hard copy report.

# DEPARTMENT OF COMPUTER ENGINEERING

## Curriculum for the Bachelor Degree in Computer Engineering

### Admission Requirements:

To be admitted in the Computer Engineering program, the student must fulfill the following conditions:

- 1-Fulfillment of the specialization conditions in the engineering faculty
- 2-Passing the courses: Calculus 1 (21101), Calculus 2 (21102), Physics1 (22101), and Physics 2 (22102).
3. Passing the Programming Language course (66111) with a minimum grade of 70%.

The students accepted in the program will compete according to their grade in 66111 and their GPA.

### Graduation Requirements for the B.Sc. Degree in Computer Engineering:

To earn the B.Sc. degree in Computer Engineering, the student must complete 173 credit hours divided as follows:

University requirements	26 Credit
Faculty requirements	21 Credit
Practical training	3 Credit
Department requirements	123 Credit
Total	173 Credit



## Curriculum:

University requirements (26 credits)

Mandatory Courses (20 credits)

Course No.	Course Title	Credits
10101	Islamic culture	3
10105	Palestinian studies	3
10102	Arabic language 1	3
10103	English language 1	3
10322	English language 2	3
10117	Communication skills	1
10108	Community Service	1
10100	Introduction to Computers	3
Total		20

Elective courses (6 credits)

Faculty requirements (21 credits)

Course No.	Course Title	Credits
21101	Calculus 1	3
21102	Calculus 2	3
22101	Physics 1	3
22102	Physics 2	3
22115	Physics lab	1
66111	Computer Programming	3
67100	Engineering workshop 1	1
62102	Engineering drawing	2
64100	Introduction to engineering	1
64300	Research and communication skills	1
32101	English at workplace	0
Total		21

## Department requirements (123 credits)

### Mandatory courses (105 credits)

Course No.	Course Title	Credits	Prerequisite
21201	Calculus 3	3	21102
21202	Engineering Mathematics	3	21201
21230	Statistical Methods & Probabilities For Engineers	3	---
63211	Electrical Circuits 1	3	22102
63212	Electrical Circuits 2	3	63211
63214	Electronic Circuits 1	3	63211
63215	Electrical Circuits lab	1	63211
63270	Electromagnetic Theory	3	63211
63313	Electronic Circuits 2	3	63214
63314	Electronic Circuits lab	1	63260
63343	Control Systems	3	63341
63373	Systems & Signal Analysis	3	63212
63441	Control Systems lab	1	63341
66211	Data Structure an algorithms	3	66111
66212	Object Oriented Programming	3	66211
66221	Digital Circuit Design I	3	---
66291	Digital Circuits Design I Lab	1	66221
66304	Practical Training	3	—
66312	Software Engineering	3	66212
66315	Database Systems	3	66211
66316	Web programming	3	66212
66321	Digital Circuit Design II	3	66221
66322	Microprocessors	3	66221
66323	Computer Architecture I	3	66322
66332	Digital Electronic Circuits	3	66321, 63311
66391	Digital Circuit Design II Lab	1	66321
66392	Microprocessors lab	1	66322
66418	Computer Graphics	3	66212
66422	Advanced Microprocessors	3	66322
66423	Computer Architecture II	3	66323
66426	Microcontrollers	3	66321
66451	Operating Systems	3	66323
66454	Computer Networks I	3	66323
66455	Computer Networks II	3	66454
66475	IT Business Management	3	-----
66493	Computer Design Lab	1	66323
66496	Microcontroller Lab	1	66426
66521	Computer Components and Interfacing	3	66323
66581	Graduation Project I	3	-----
66582	Graduation Project II	3	-----
66594	Network Lab	1	66454
69371	Communications and Signal Processing	3	63212
Total		105	

### *Elective courses (18 credits)*

Course No.	Course Title	Credits
66314	Algorithms and Computational Complexity	3
66415	Advanced Database Systems	3
66416	Compiler Construction	3
66417	Artificial Intelligence and Machine Learning	3
66419	Neural Networks and Fuzzy Systems	3
66464	Special Topics I	3
66518	Digital Image Processing	3
66523	Parallel Processing	3
66524	Advanced Networks	3
66525	Real-time Systems	3
66526	Fault Tolerant Computing	3
66551	Advanced Operating Systems	3
66554	Special Topics in networks	3
66563	Multimedia Applications	3
66564	Special Topics II	3
66568	VLSI	3

Practical training for eight weeks after finishing the fourth year (3 credits)

## **Computer Engineering Courses Description:**

### **66111 Computer Programming**

Basic programming concepts. Writing, executing, and debugging programs. Concepts of modularity and encapsulation, focusing on modules and abstract data types. Covers some basic data structures.

### **66211 Data Structure & Algorithm**

Data types and structures. Dynamic storage allocation. Linked lists. Binary tree representations and traversals. General trees. Searching and Sorting. Queues and Stacks. Hashing. Graphs, depth-first algorithms, Breadth-first search.

### **66212 Object Oriented Programming**

Object oriented programming concepts. Concept of classes. Single and multiple Inheritance. Polymorphism. Writing programs using objected oriented language such as C++ and Java.

### **66221 Digital Circuit Design I**

Boolean algebra, Number System , logic gates, Simplification, combinational logic circuit design. Combinational circuits, Sequential Circuits, flip-flops, counters, registers (serial, parallel, shift), state machines design. Synchronous and asynchronous systems.

### **66312 Software Engineering**

Specification, implementation, and testing of large software systems. Information hiding, abstraction, software development environments, and formal specifications. Software design and evolution. Software and system safety, reverse engineering, real-time software, programming environments, verification and validation.

### **66291 Digital Circuits Design I Lab**

Introduction to TTL and CMOS circuits. IC characteristics. Boolean Function design and implementation. Seven segment display. Decoders, Shift registers, ROM, RAM, Monostable and astable multi-vibrators, and 555 timing timer. Sequential circuits design.

### **66314 Algorithms and Computational Complexity**

Design and analysis of algorithms and data structures. Techniques for design of efficient algorithms. Methods for showing lower bounds on computational complexity Efficient algorithms for manipulating graphs. Time and space complexity. NP-complete problems.

### **66315 Database Systems**

Fundamental concepts, system organization, and implementation of database systems. Relational, hierarchical, and network data models; file organizations and data structures; query languages; query optimization; database design; concurrency control; security; issues involving distributed database systems.

## 66321 Digital Circuits Design II

Algorithm State Machine Design. Asynchronous Circuits. Analog to Digital and Digital to Analog conversion. Internal structure of digital elements at the transistor and layout levels. PLDs, CPLDs, FPGAs and their applications. Hardware Description languages: VHDL and Verilog. Clock generators and timing circuits.

## 66332 Digital Electronic Circuits

Logic Families: RTL, DTL, TTL, I<sup>2</sup>L, MOS, CMOS, hybrid technologies and GaAs. Voltage transfer characteristics and switching times. Electronic sensors, optical sensors. Power supplies. Practical Applications of Operational and Instrumentation Amplifiers. Interfacing Analog signals to Digital circuits. Circuit Simulation using SPICE CAD. An introduction to Layout design rules is also presented in this course.

## 66322 Microprocessors

Microprocessors systems, Microprocessor Architecture The 8088/8086 microprocessor, addressing Modes, the Instruction Set and assembly programming of the 8088/8086 Hardware Specifications, Memory interface, Input/output Interface and Interrupts.

## 66323 Computer Architecture I

Computer Components, The Hardware / Software Interface, Historical Overview, Computer Performance, Instruction Set, Arithmetic, Datapath and Control Design (The Processor), Pipelining, The Memory System, Input/output, Introduction to Parallel Processing.

## 66316 Web programming

Topics typically offered include XML, Web programming languages such as XSLT, JavaScript, JSP, PHP, MYSQL, ASP, server side programming and designing interactive content using Web tools. Content subject to changes.

## 66371 Communications and Signal Processing

AM Modulation. Frequency Modulation. Sampling Theory. Pulse Code modulation. Digital Modulation Techniques. Coding. Discrete signals. Z-Transform. Digital Filters.

## 66391 Digital Circuit Design II Lab

Clock generator, oscillators, Asynchronous Circuits and VHDL experiments.

## 66416 Compiler Construction

Fundamentals of compilers and interpreters for symbol tables; lexical analysis, syntax analysis, semantic analysis, code generation, and optimizations for general purpose programming languages

## 66417 Artificial Intelligence and Machine Learning

Introduction, what is AI, intelligent agents, problem solving by searching, genetic algorithms, constraint satisfaction problems, games, knowledge and reasoning, first order logic, uncertainty and probabilistic reasoning, learning and neural networks.

## 66418 Computer Graphics

Basic elements of a computer graphics rendering pipeline; architecture of modern graphics display devices; geometrical transformations (rotation, scaling, translation, and their matrix representations); homogeneous coordinates, projective and perspective transformations; algorithms for clipping, hidden surface removal, rasterization, and anti-aliasing; scan-line based and ray-based rendering algorithms; lighting models for reflection, refraction, and transparency; graphics libraries and tools such as OpenGL, and 3D-MAX modeling tools.

## 66422 Advanced Microprocessors

Architecture of 32 bit and 64 bit microprocessors. Assembly and high level programming of advanced microprocessor systems. Study of a family of microprocessors such as 80x86, Pentium, PII, ...etc. Comparative study of different families of microprocessors. Dynamic memory and input/output interfacing

## 66423 Computer Architecture II

Instruction Set Architectures, Instruction Set Examples, Memory Hierarchy. High performance computer architectures. Pipelining, Vector Machines, Distributed and Parallel Processing.

## 66426 Microcontrollers

Micro-controller architectures and peripherals embedded operating systems and device drivers, compilers and debuggers, timer and interrupt systems, interfacing of devices, communications. Emphasis on practical application of development platforms. The course includes building a practical project using a popular embedded controller.

## 66451 Operating Systems

Principles of operating systems. Process management, memory management, auxiliary storage management, resource allocation. Operating system design and construction techniques. Concurrent programming, operating system kernels, deadlock, protection, transaction processing.

## 66454 Computer Networks

Computer network architectures, protocol layers. Internet protocols. Transmission media, encoding systems, error detection, switching. Data link, multiple access channel protocols. Network layer, network routing, congestion control, flow control. End-to-end transport services, protocols. Network security, privacy. Applications including electronic mail, virtual terminals, file transfer, and Internet applications.



## 66464 Special Topics I

Current trends in Computer Engineering.

## 66521 Computer Components and Interfacing

Structure and components of hardware and software systems. Machine organization, including central processor and input-output architectures; operating systems, including process, memory, storage, and file management. Drives and Drivers; Floppy and hard disks, CD-ROMs. Interface cards.

## 66523 Parallel Processing

Parallel processing concepts. SIMD and MIMD machines. Shared memory and message passing machines. Parallel programming. Special-purpose parallel machines. Array processors. Data flow machines.

## 66525 Real-Time Systems

Principles of Real time systems. Design and construction of software for real-time computer systems. Software architectures. Requirements and specification methods. Scheduling algorithms and timing analysis. Real-time operating systems. Real-time programming languages.

## 66526 Fault Tolerant Computing

Faults and their manifestation, issues, theory, and techniques of reliable systems design, testing, design for testability, self-checking and fail-safe circuits, coding techniques, system-level fault diagnosis, fault-tolerant communication, reliable software design, and evaluation criteria. Prerequisite: basic knowledge of digital systems design or permission of instructor.

## 66551 Advanced Operating System

An in-depth examination of the principles of distributed systems in general, and distributed operating systems in particular. Covered topics include processes and threads, concurrent programming, distributed inter-process communication, distributed process scheduling, naming, event ordering, fault tolerance, data replication and consistency and distributed file systems.

## 66455 Computer Networks II

The Design and configuration of high speed LANS. Wireless networks. WANS overview: Frame-relay, ISDN, leased lines, ATM and other Wan topologies. Rerouting protocols and Access Lists. Network management: SNMP. Router and level 3 switch configuration. The course includes a practical project.

## 66563 Multimedia Applications

Developing multimedia applications. Computer Animation. Using multimedia applications using tools. Emphasis on student project to develop a practical application using multimedia tools.

## 66415 Advanced Database Systems

Object-oriented/object-relational databases, data warehousing, on-line analytic processing (OLAP), database mining and knowledge discovery, Information integration and mediation, query optimization, databases and the WWW, continuous query processing, distributed databases, heterogeneous databases and data integration.

## 66518 Digital Image Processing

Introduction to digital image processing, digital image fundamentals, image enhancement, color image processing, image compression, morphological image processing and object recognition.

## 66475 IT Business Management

Topics include management of IT systems, software and hardware, e-commerce, and network management. The course also emphasizes how to start and manage IT business feasibility study.

## 66419 Neural Networks and Fuzzy Systems

basic concepts of neural networks and fuzzy logic systems, perceptron, classification of neural networks, feed-forward networks, single- and multilayer perceptron, feedback networks, Hopfield networks, unsupervised learning, fuzzy groups, fuzzy logic, fuzzy numbers, fuzzy relations, fuzzy graphs, entropy, fuzzy logic system design, co-operation of neural networks and fuzzy systems,

## 66568 VLSI

CMOS logic, CMOS fabrication and layout, MOS transistor theory, performance evaluation, CMOS families, sequential circuit design, data-path subsystems, array logic and memory, input and output pads.

## 66564 Special Topics II

Current trends in Computer Engineering.

## 66581 Graduation Project I

The student will design and implement a practical software package.

## 66582 Graduation Project II

The student will design and implement the hardware and software for a practical system.



## ***Courses offered to other departments:***

### **66374 Microprocessor for Mechatronics I**

Prerequisite (66111)

History and development of The 80X86 microprocessors. The 80X86 architecture. The central processing unit. Memory addressing and data formats. Address/data and control buses. The CPU /Memory interface. The Instruction set, and addressing modes. Assembly language programming.

### **66474 Microprocessor for Mechatronics II**

Prerequisite (66374)

Clock and timing of control signals, bus operations, memory interfacing. I/O interface and peripheral devices. Interrupts. Serial and parallel port interface. Configurable I/O ICs. I/O Assembly Programming.

### **66476 Microprocessor for Mechatronics Lab**

Prerequisite (66474)

Introduction to Programming of the 8088/ 8086 kit. Writing practical assembly language programs. Interfacing experiments on peripherals with applications to DAC, RS232 communication, LED Matrix, LCD, ADC, DC motor, and step-motor. Practical project in the field of microprocessor interfacing.

## DEPARTMENT STAFF:

### *Doctors:*

Luai Malhis, Ph.D: Computer and Electrical Engineering  
University of Arizona, USA 1996

Raed Alqadi, Ph.D: Computer and Electrical Engineering  
University of Wisconsin-Madison 1995

Aladdin Masri, Ph.D: Computer and Electrical Engineering  
Ecole Centrale de Lille, 2009

Hanal Abu Zant, Ph.D: Computer and Electrical Engineering  
Ecole Centrale de Lille, 2009

### *Instructors:*

Muhannad Aljabi, M.Eng.: Master in Computer Engineering  
Jordan University of Science and Technology - 2005

Haya Samaneh, M.Eng.: Master in Computer Engineering  
Jordan University of Science and Technology - 2006

Anas Tomeh, M.Eng.: Master in Computer Engineering  
Jordan University of Science and Technology - 2008



# **BUILDING ENGINEERING DEPARTMENT**

*Academic Program for B.Sc.  
for Students admitted 2008 and after May 2009  
Building Engineering*

## **ACADEMIC PROGRAM (2008 AND AFTER)**

The Building Engineering Department is the eighth department in the Faculty of Engineering. The department was established in 2002, and its first class graduated in 2006. This department can be recognized as a link between architecture, planning, and the environment on one side, and the various engineering sciences related to construction such as civil engineering, mechanical engineering, electrical engineering, and computer engineering on the other side. The focus is on the process of integrating the various engineering aspects of the building to achieve its optimal design of the building that is characterized by durability and safety, as well as comfort and preservation of energy.

The significance of this specialization is stipulated from the need to pursue the rapid technical development in the various aspects of construction industry. This industry is still experiencing steady progress over time and utilizing recent discoveries in construction for the convenience and comfort of human beings. This all takes into consideration the growing interest in environmental aspects in building designs including the design of green buildings, earthquake-resistant, and according to the strategic planning for sustainable development.

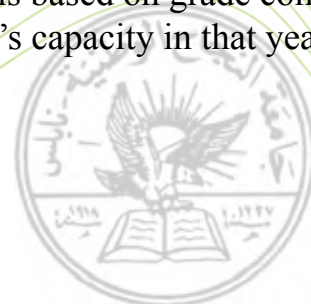
The program emphasizes on three aspects: structures, environmental systems in architecture, and project management and construction methods. The program includes 166 credit hours, and applies to students admitted to the college of engineering in 2008 only.

### ***Terms of specialization:***

The student must successfully complete the following courses, and must attain a minimum grade average of 70% for these course:

21101	Calculus 1	21102	Calculus 2
22101	Physics 1	22101	Physics 2

Students wishing to specialize in Building Engineering may be admitted to the department after fulfilling the above terms. Admission is based on grade competition in the above four courses, and based on the department's capacity in that year.



## Requirements for a B. Sc. in Building Engineering (for students admitted 2008 and after)

(Dept. code #8)

The Department of Building Engineering offers a single specialization in Building Engineering. All students wishing to obtain a B.Sc. must complete 166 credits, which include university, college and department compulsory and elective courses as shown in the following table:

Number	Course type	Compulsory	Elective	Total
1	University	20	6	26
2	College	21	-	21
3	Department	110	9	119
Total credit hours		151	15	166

### First : University requirements (total 26 credits)

#### a- compulsory university courses (20 credits as follows):

Course number	Course name	Credit hours	Prerequisite
10100	Introduction to computer science	3	-
10101	Islamic Culture	3	-
10102	Arabic Language	3	-
10103	English Language (1)	3	-
10105	Palestinian Studies	3	-
10108	Public Service	1	-
10117	Leadership And communication skills	1	-
10322	English Language (2)	3	-
Total		20	

b- elective university courses (6 credit hours) as follows: three different courses, each one 2 credit hours. These courses are offered from other colleges. The student is allowed to take one course only from any college. Engineering students are not allowed to take any course from the Engineering College.

### Second : College requirements (total 21 credits)

Course number	Course name	Credit hours	Prerequisite
21101	Calculus I	3	
21102	Calculus II	3	21101
22101	General Physics I	3	
22102	General Physics II	3	22101
22115	General Physics Lab for Engineering	1	22102
60100	Introduction to Engineering & Profession ethics		
60300	Principles of Scientific Research & Technical writing	1	10322
62102	Engineering Drawing	2	
66111	Computer Programming	3	
67100	Engineering workshops	1	
32101	Engineering in work place	0	Graduation Semester
Total		21	

### Third :Department requirements (Total 119 credits)

A: Department Compulsory courses (110 credits)

A-1 Courses offered from other departments (54 credits)

Course #	Course title	Credit hrs	Prerequisite
61110	Statics	3	22101,21101
62110	Descriptive Geometry	2	62100
21201	Calculus III	3	21102
64251	Numerical Analysis for engineers	3	66111,21202
61205	Construction Materials	2	
61206	Construction Materials Lab	1	With 61205
67210	Dynamics	3	61110
61207	Mechanics of Materials	3	61110, 21102
61208	Mechanics of Materials Lab	1	With 61207
61315	Structural Analysis I	3	61207
61317	Structural Analysis II	2	61315
61318	Structural Analysis II Lab	1	With 61317
61390	Concrete Structures Design I	3	61315
61412	Concrete Structures Design II	2	61317 & 61390
61413	Concrete Structures Design II Lab	1	With 61312
61420	Steel Structures	3	61317
61470	Specifications and Quantities	3	(61304 & 65301) or (68350 65301 و)
61513	Concrete Structures Design III	3	61318 & 61410
61472	Engineering Management	3	61470
65301	Economy and Engineering Management	3	21101 & 3rd yr or after
21230	Probability and Statistics for Engineers	3	21102
21202	Mathematics for engineers	3	21201
Total		54	



## A-2 Courses offered from Building Engineering department (56 credits)

Course #	Course title	Credit Hrs	Prerequisite
68200	Surveying	2	21230
68209	Surveying Lab	1	With 68200
68260	Principals or Architectural Design	3	62110
68300	Geology and Soil Mechanics	3	61201
68301	Fluid and Thermal Sciences	3	67210
68307	Geology and Soil Mechanics Lab	1	With 68300
68308	Fluid and Thermal Sciences Lab	1	With 68301
68320	CADD Applications for Buildings	3	68260
68330	Environmental Systems 1 - Illumination	3	
68331	Environmental Systems 2 – Thermal Systems	3	
68333	Fundamentals of Building Core Systems	3	4th year
68341	HVAC System	3	68331
68342	Electrical and Illumination Systems For Buildings	3	61330
68350	Building Construction Engineering	2	61202,61410
68351	Building Construction Engineering	2	68350
68400	Practical Training	3	4th yr or after
68411	Earthquake resistant buildings design	3	61412
68432	Solar Energy Building System Design	3	68331
68431	Environmental Systems 3- Acoustics	3	
68460	Integration of Building Systems	3	5th yr
68590	Project I	2	Department Approval
68591	Project II	3	68590
Total		56	

## B: Department Electives (9 credits)

Students may select any three courses of the following courses offered by the department or other engineering departments:

Course #	Course Title	Credit Hrs.	Prerequisite
61519	Dynamic Analysis of structures	3	61317
61516	Stone buildings	3	68350,61315
68510	Modern structural systems	3	61317
68520	Advanced principals of Architectural design	3	68260
68521	GIS Applications	3	68200
68530	Advanced Architectural Illumination	3	68330
68531	Advanced Architectural Acoustics	3	68431
68541	Advanced HVAC Systems	3	68341
68532	Computer Aided Illumination Design	3	68330
68533	Computer Aided Acoustical Design	3	68431
68534	Computer Aided Thermal Systems Design	3	68331
68550	Professional Practices	3	5th yr
61585	Advanced construction management	3	61472
61582	Project Management and Monitoring	3	61472
61583	Improving Worker Productivity and Quality Control	3	61472
61584	Site Management & Safety measures	3	61472
68560	Special topics in building engineering	3	Dept. Approval



## ***Course description***

### **COE 65303 Numerical Methods for Engineers**

Students in this course are introduced to errors in computations, roots of equations, system of linear algebraic equations including eigenvalue problems, interpolations and curve fitting, numerical integration and differentiation, ordinary differential equations including boundary and initial value problems, Student also learn about numerical solution of partial differential equations.

### **COE68301 Fluid and Thermal Sciences**

This course begins with an introduction to properties of fluids, fluid statics and fluid dynamics applications of conservation of energy to fluid systems. Then it moves to first and second laws of thermodynamics, irreversibility and availability with application to pure substances and Ideal gases, one dimensional conduction, convection heat transfer.

### **COE 61110 Statics**

Topics covered are fundamental concepts, vectors, equilibrium of force system for particles and rigid bodies, application of principles of statics to structures, axial, shear, and bending moments, friction, centroid, and moment of inertia.

### **COE 67210 Dynamics**

Students learn about kinematics and kinetics of particles and rigid bodies, energy and momentum, impulse principles and applications.

### **COE 61205 Construction Materials**

Students receive instruction on origins, properties and behavior of engineering and building materials including cement, concrete, bituminous concrete, metals, timber, plastics, and composite materials, standard specifications and testing methods. The course ends with quality control and protection procedures, and construction methods.

### **COE 61207 Mechanics of Materials**

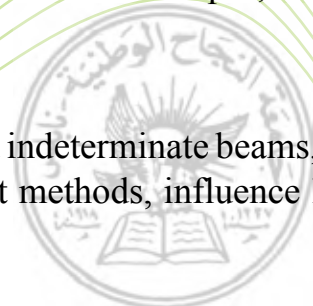
This course covers several topics: Elementary theories of stress and strain, mechanical properties, torsion, shear and bending moment diagrams, flexural and compound stresses, principal stresses and Mohr's circle, deflection of beams, stability of columns. The course ends with a look at statically indeterminate members.

### **COE 68200 Surveying**

This is a study of distances, angles, elevations, and coordinates, boundary survey leveling, topographic mapping and earth computations. The use of tapes, levels, and transits are also studied.

### **COE 61315 Structural Analysis I**

This course is an analysis of statically determinate and indeterminate beams, trusses, and rigid frames, deflections computations by different methods, influence lines for determinate elements.



### COE 61317 Structural Analysis II

This course is an analysis of statically indeterminate structures, energy theorems, influence lines for indeterminate elements, Matrix methods. The course ends with an introduction to structural dynamics

### COE 68320 CADD Application for Buildings

This course is an application of microcomputer based CADD systems to architectural engineering problems including graphics, system customization, and AI programming techniques.

### COE 68330 Environmental Systems 1 - Illumination

Topics covered are theory, application of lighting in buildings; electric light sources, related requirement circuitry, illumination design procedures; daylighting.

### COE 68341 Fundamentals of Heating, Ventilating, and Air Conditioning (HVAC Systems)

Students learn about fundamental principles and engineering procedures for the design of heating ventilating, and air conditioning systems, including energy utilization and constraints.

### COE 65301 Economy & Engineering Management

Topics covered are concepts, methods and justifications for the economic decisions made by the engineer regarding short and long term engineering projects, developing skills in the timing of cash-flow and in the calculation of the present and future values.

### COE 68431 Environmental Systems 3- Acoustics

This course focuses on acoustical design for good hearing conditions and noise control: construction details, materials, acoustical properties of room shapes; sound absorption, transmission.

### COE 61390 Structural Design of Buildings I

This course is an application of principles of engineering mechanics to layout, analysis, design and detailing of structural elements in wood and steel of simple buildings.

### COE 61412 Structural Design of Buildings II

Topics covered plain and reinforced concrete; design analysis and detail of beams, slabs, columns, and walls.

### COE 61513 Structural Design of Buildings III

This course is a continuation of COE68401. It is an advanced analysis, design and detail of the structural elements in wood and steel.

### COE 68510 Modern Structural Systems

This course covers analysis and design of building structures of unusual types.

### COE68460 Integration of Architectural Engineering Systems

This course includes analysis and synthesis of systems- structural, mechanical, electrical, sanitary, construction- considering interrelationship in performance, economics of total systems, computer programs.

### **COE 68531 Advanced Heating, Ventilating, and Air Conditioning**

Students are introduced to engineering design and performance analysis procedures for complex commercial building systems, including energy conservation techniques; design project.

### **COE 68432 Solar Energy Building System Design**

Topics covered are solar radiation, collectors, and thermal storage ; design and analysis of a heating system using system simulation computer program.

### **COE 68531 Advanced Architectural Acoustics**

This course covers advanced consideration of noise control in buildings, ventilating system noise and vibration; acoustic design variables.

### **COE 68530 Advanced Architectural Illumination**

Students are introduced to advanced work in daylighting, light distributions, interreflections, vision, and color; application of theory of operation of motors, transformers, and associated devices.

### **COE 68532 Computer Aided Lighting Design and Analysis**

This course focuses on design and analysis of lighting for outdoor, sports, floodlighting; and interior applications; economic analysis, modeling algorithms; design criteria.

### **COE 68350 Building Construction I**

This course highlights performance characteristics and special problems associated with assembly erection procedures for building construction materials and components; case studies of failures.

### **COE 68351 Building Construction II**

This course examines components of building industry, related responsibilities; building trades relationships; building construction contracts and bidding procedures; building construction sequences; industrialization; projects.



## DEPARTMENT STAFF

Dr. Mutasem F. Ba'ba  
(Head of Department)

Ph.D Electrical Engineering,  
Virginia State University. USA, 1987 M.Sc.  
in Building Engineering, Pennsylvania State  
University, USA, 1985

Dr. Jalal N. Dabbeek (Associate Professor)

PhD in Building Engineering, University of  
Technology, Romania, 1989  
Director of Earth Sciences & Seismic  
Engineering Center

Dr. Shaker S.Bitar

PhD in Structural Engineering, University of  
Manchester, UK, 1995  
MSc. Structural Engineering, Ohio state  
University, USA, 1985.

Eng. Narmeen R. Barq (Lecturer)

M.Sc. in Structural Engineering, An- Najah  
National University, Palestine, 1998

Eng. Ahmad M. Haj Saleh (scholarship leave for Ph.D - Malaysia)

M.Sc. in Architectural Engineering,  
An-Najah National University Palestine, 2006

Eng. Munther Dweikat (scholarship leave for Ph.D - USA)

M.Sc. in Civil Engineering, UK, 2005.

Eng Muayed A. Salhab (on leave)

M.Sc. in Architectural Engineering, University  
of Starthclyde, UK, 2002

Eng. Muhannad J. Haj Hussain (scholarship leave for Ph.D - France)

M.Sc. in Architectural Sciences Architectural  
& Techniques, Bordeaux1University, France, 2005

Fadi A. Fatayer

B.Sc in Building Engineering, An-Najah  
National University, 2006

# DEPARTMENT OF TELECOMMUNICATION ENGINEERING

## 1) Study Plan

The program consists of 165 credit hours distributed as shown below

### 1.1) Admission Requirements:

1. Fulfillment of the specialization conditions in the engineering faculty.
2. Passing the courses: 21101, 21102, 22101, 22102, 66111 and based on the competitive average in these courses until the fulfillment of the capacity of the program.

### 1.2) Graduation Requirements

- 1- University requirements (26 credits)

#### a) Mandatory courses (20credits)

Credits	Course title	Course No.
3	Islamic Culture	10101
3	Palestinians studies	10105
3	Arabic language 1	10102
3	English language 1	10103
3	English language2	10104
1	Leadership and communication skills	10117
1	Community service	10108
3	Introduction to computer	10100

#### b) Elective courses (6 credits)

- 2- Faculty requirements (21 credits)

Credits	Course title	Course No.
3	calculus I	21101
3	calculus II	21102
3	general physics I	22101
1	General Eng.Physics lab.	22107
3	general physics II	22102
3	Programming Languages	66111
2	Engineering drawing	62102
1	Engineering workshop	67100
1	Introduction to Eng. Ethics	064100
1	Principles of Research	064300
	English at work	32101



### 3- Department requirements (118 credits)

#### a) Mandatory courses (103 credits)

Pre- requisit	C.H.	Course Name	Course No.
21102	3	Calculus III	21201
21201	3	Engineering Mathematics	21202
22102	3	Electrical Circuits I	63211
63211	3	Electrical Circuits II	63212
63211	3	Electronic Circuits I	63214
63211	1	Electrical Circuits lab	63215
63211	3	Electromagnetic I	63270
63214	3	Electronic Circuits II	63313
63214	1	Electronic Circuits Lab	63314
63212	3	Electrical Instruments & Sensors	63315
69230	3	Control Systems	63343
63270	3	Electromagnetic II	63374
Co-63343	1	Control lab	63441
21202+66111	3	Engineering Numerical Analysis	64251
21102	3	Engineering Economics and Management	65301
22102	3	Digital electronic Circuits	66222
66111	3	Advanced Programming	66411
66222	3	Microprocessors and Microcontrollers	66428
66428	1	Microprocessor and Microcontroller Lab	66498
21102, 22102	3	Engineering mechanics	67219
63211	3	Systems & Signal Analysis	69230
69230	3	Random Variables and Probability	69233
69230	3	Communication principles	69322
69322	1	Communication Lab	69328
69342	3	Modeling and simulation of Telecom Eng. systems	69334
69233,69322	3	Digital Communications	69342
Agreement	3	Internship	69404
69342	3	Multimedia Communication	69430
69230	3	Digital signal processing	69441
63374+69342	3	Fiber optics communication	69442
69441	1	DSP Lab	69443
69342	3	Telecommunication networks	69444
69441	3	Speech Processing and Acoustics	69451
69342+69233	3	Information and coding theory	69461
63374	3	Antenna	69470
69442,69470	1	Advance Communication Lab.	69529
69342	3	Cellular Communication systems	69538
69444	1	Telecom. Networking Lab	69540
Agreement	2	G. Project I	69589
Agreement	3	G.Project II	69590

#### b) Elective courses (15 credits)

Pre-Requisit	C.H.	Course Title	Course No.
69342	3	Network and Data Transfere	66555
69342	3	Satellite communication	69541
Agreement	3	Selected topics in Telecommunications	69544
69441	3	Introduction to Image processing	69552
63374	3	Microwave	69561
69441	3	Filters	69564
69342	3	Telephony System	69572
69441	3	Artificial Intelligence in Comm.	69574
63441	3	Digital control system	69575
63374	3	Radar systems	69581
63313	3	Electronics of Communication	69592

### Courses offered for non Telecom students

C.H..	Course title		Course No.
3	Communications and DSP		69371



## Course Description

### 21201 Calculus III

Parametric equations and polar coordinates, vectors in  $R^2$  and  $R^3$  and surfaces, vector valued functions, partial differential with applications and multiple integration, vector calculus and its aspects

### 21202 Engineering Mathematics

Classification and solution of first order equation with application, higher order and solution, power series and solution also the student will learn the fundamental of partial differential equation, method of solution of first and second order nonlinear partial differential equation

### 63211 Electrical Circuits I

Circuit variables & elements. Simple resistive circuits, techniques of circuit analysis. Inductance & capacitance. Natural & step response of RL, RC, RLC circuits, Sinusoidal steady state analysis

### 63212 Electrical Circuits II

Power calculations. Three phase circuits, series & parallel resonance, Laplace transform in circuit analysis, two port network, Laplace transformation, filters

### 63214 Electronic Circuits I

Electronic materials, device and principles, P-N junction diode & applications, Zener diodes & other 2 terminal devices, Bipolar (NPN –PNP) & FET (Junction, Enhancement and Depletion MOSFETs) transistors constructions and theory of operations, Transistor biasing circuits and graphical (load line) analysis, Introduction to Op-amp circuits and applications, Introduction to small signal models for diodes & transistor

### 63215 Electrical Circuits lab

Introduction to Lab Instruments, Ohm's law, Network Theorem, Voltage Source, Characteristics in AC, Capacitors and Inductors, RLC Series and parallel, Resonance, Three phase

### 63270 Electromagnetic I

Vector algebra; orthogonal coordinate systems, static Electric fields produced by discrete and continuous charge distributions; Gauss's law; Divergence and Divergence theorem; Electrostatic potential and potential difference; Gradient and conservative fields; Energy stored in electrostatic fields; Current and current density; Continuity of current; Conductors and their properties; Conductor-free space interface, method of images; Dielectrics; Dielectric-Dielectric interface, Dielectric-Conductor interface; Resistance and capacitance; Laplace's and Poissons equations, separation of variables; Biot-suuart law; Amper's law; Curl and Stocke's theorem. Magnetic flux and Magnetic flux density; Vector magnetic potential; Magnetic materials; Magnetostatic Boundary conditions; Inductance and mutual inductance; Maxwell's equations for static fields in differential and integral forms.



### 63313 Electronic Circuits II

Large signals amplifiers designs and analysis, small signal models for BJT, and amplifier analysis under various configurations : CE, CC and CB, small signal analysis for FET amplifier analysis for CS, CD and CG configurations, Multistage and Composite amplifiers, Current Sources and Current Mirrors, Differential amplifiers and their analysis, Power amplifiers ( classes A, B, AB and C ) and power calculations. Advanced op-amp circuits

### 63314 Electronic Circuits Lab

Types of Diodes, Rectifier diode, Half wave rectifier, Bridge rectifier, On state and off state characteristic of zener diode, Testing the layering and rectifying of bipolar transistor, Characteristic of the transistor, Depletion layer Fets, Characteristic of the Fets, Multistage amplifier, Differential amplifier, Push pull output amplifier, Operational amplifier, Static behavior of operational amplifier, Dynamic behavior of the OP-AMP

### 63315 Electrical Instruments & Sensors

Measurement and error, System of units and standards of measurements, Electromechanical indicating Instruments Bridge measurements, Watthourmeters, Oscilloscopes, Sensors and transducers, Data acquisitions systems. Design and applications of various measuring which includes, AVO - meters, wattmeter, oscilloscopes, chart recorders. Types and application of sensors

### 63343 Control Systems

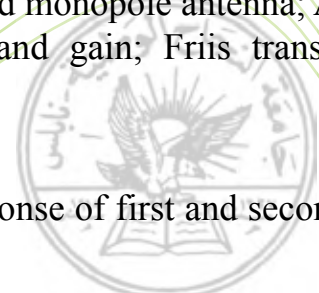
Laplace transformation, System representation. Frequency response, Bode Plots, Polar Plots. Root-Locus compensation, Cascade and Feedback compensation, Frequency-Response plots. State-space Trajectories and State Variable feedback into modern control, development of the Solution- Time criterion, use of Quadratic Performance Index. Computer applications in control systems

### 63374 Electromagnetic II

Faraday's law; Displacement current; Maxwell's equations for time-varying fields; Constitutive properties; Boundary conditions for time-varying fields; Power flow and the Poynting vector; The sinusoidal steady state; The wave equation; Uniform plane waves in lossless and lossy media; Conductors and dielectrics; Polarization of uniform plane waves; Group velocity and dispersion; Normal and oblique incidence of uniform plane wave on plane boundaries; perpendicular and parallel polarization, TEM waves on lossless TL; Frequency-domain analysis of lossless transmission lines; TL matching; Power flow on TL's; Elemental electric and magnetic dipole antennas; Radiation patterns of elemental dipoles; long dipole and monopole antenna; Antenna array's, pattern multiplication; Antenna directivity and gain; Friis transmission equation

### 63441 Control lab

Fundamentals of Controlling, characteristic and response of first and second order



system. Open and closed loop systems. Different types of controllers, effect of controllers on different systems, basic principles of PLC, basic principles of pneumatic systems, machine drive controlling using Contractors and Timers

### **64251 Numerical Analysis**

Numerical analysis is concerned with finding numerical solutions to problems, especially those for which analytical solutions do not exist or are not readily obtainable. This course unit provides an introduction to the subject and treats the topics of solving nonlinear equations, both in one variable and in many variables, solving linear systems of equations and of approximating functions by polynomials. These topics are of great practical importance in science, engineering and finance, for example, and also have intrinsic mathematical interest. The course unit concentrates on theoretical analysis and on the development of practical algorithms

### **65301 Engineering Economics and Management**

This course will cover the following topic, costing and pricing, budgets, break even, costing factors of production, estimating, tendering and pricing, investment decision, economic and accounting profits, appraisal of public investment projects, principles and practice of project managements, PERT, resource chart, cost chart, S- curves and performance ratio construction law, constructing management and forms of engineering contracts

### **66111 Computer Programming**

This course introduces students to basic programming concepts, with writing, executing and debugging programs, concepts of modularity and encapsulation. The course also focuses on modules and abstract data types. The course also covers basic data structures.

### **66222 Digital electronic Circuits**

Boolean algebra, logic gates, combinational network design, flip-flops, sequential networks, synchronous and asynchronous systems

### **66411 Advanced Programming**

Students are supposed to learn an advanced programming language and tools as needed like; Data Structures Using Java.

### **66428 Microcontroller**

Introduction to designing microcontroller based embedded computer system using assembly and C programs, examination of real time operating system and their impact on performance and its applications in Telecommunication engineering and sensors.

### **66498 Microprocessor and Microcontroller Lab**

Formularization with the digital and microcontroller equipments, logic 0 and 1, TTL and COMOS, Combinational logic design, decoders and counters. Programming the boot loader, writing a keypad driver, using ADC of the PIC and LCD display, writing a driver to write alphanumeric data and draw images

## 66555 Networks and Data Transfer

Applications of Networks, Wide Area Networks, Network Protocols, Standardization, and The OSI model, TCP/IP Model Connection Oriented and Connectionless Services, The Physical Layer, Medium Access Sublayer, The Data Link Layer, The Network Layer, The Transport Layer, The Application Layer, X.25, ATM, ALOHA, Ethernet, Synchronous/ Asynchronous transmission. DTE-DCE interface, Ethernet, Token ring, Switching.

## 67219 Engineering mechanics

This course introduce the students to the fundamental concepts of vectors, equilibrium of force system for particles , rigid bodies and looks at the application of static's principles. Also the students study the energy and the influence of forces on particles and rigid bodies examining kinematics, kinetics and momentum as well as their impulse and applications on rigid bodies.

## 69230 Systems & Signal Analysis

Continuous-time signals and systems, Continuous-time linear time-invariant systems, impulse response, convolution, system properties, relation to differential equations, Fourier series, Fourier transform, Applications involving the Fourier transform, Sampling, Discrete-time signals and systems, Discrete-time linear time-invariant systems, Fourier analysis of discrete-time signals/systems, DTFT, correlation and power spectral density properties

## 69233 Random Variables and Probability

This course gives an introduction to probability and statistics for engineers including; probability, combinatorics, random variables, functions of random variables, moments, inequalities and limit theorems, statistics, regression and estimation theory, autocorrelation and cross correlation of analogue and discrete data, hypothesis testing, system reliability, and computer usage in solving problems involving probability and statistics.

## 69322 Communication principles

General introduction to Communication Systems. Representation of Signals. Bandwidth. Amplitude modulation, Ordinary AM, DSB-SC, SSB, VSB, Frequency translation, Phase Modulation and Frequency Modulation. Narrow Band FM, Wide Band FM. Transmission of Information. Noise Sources and their effects in Communications Systems. Filters and Demodulation Devices. Frequency division Multiplexing, Sampling theorem and TDM, Analog pulse Modulation (PAM, PDM, PPM)

## 69328 Communication lab

Signal source, resonance circuits, AM, DSB-SC, SSB-SC, FM, different kind of demodulation for AM and FM, Sampling, Kinds of framing, DM, sigma delta modulation, PCM and noise in Digital systems, digital modulation techniques

### 69334 Modeling and simulation of Telecom Eng. systems

Students are supposed to learn modeling and simulation software packages in Telecommunication engineering systems and applications.

### 69342 Digital Communications

Digital Pulse Modulation, Principles of PCM, DM, SDM, ADM, Linear & non-linear Quantization, quantization noise, different kinds of signaling, TDM, Matched filter, equalization. Bit Error Rate, error probability analysis for coherent and non-coherent detection, different kinds of Digital Modulation techniques (PSK, FSK, ASK), Linear prediction, power spectra of digital signals, ISI.

### 69404 Internship

Each student is expected to spend eight weeks of training and work in a recognized engineering company and is required to prepare a detailed report summarizing the practical work experience both office and field work

### 69430 Multimedia Communication

Introduction to Multimedia, Design Concepts, Typefaces, Preproduction, Production Planning and Design, User Interface Design, Hypermedia Authoring Concepts, Presentation Graphics Design, Multimedia Sound, File Compression, Video Production, Digital Video, Animation, HTML & Web-Based Multimedia, Designing Web-based Multimedia, Producing Multimedia, Content & Legal Considerations for Multimedia, Multimedia Distribution, Networking Multimedia

### 69441 Digital signal processing

Sampling as a modulation process; aliasing; the sampling theorem; the Z-transform and discrete-time system analysis; direct and computer-aided design of recursive and nonrecursive digital filters; IIR and FIR, Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT); digital filtering using the FFT; analog-to-digital and digital-to-analog conversion; effects of quantization and finite-word-length arithmetic

### 69442 Fiber optics communication

Students will study the properties of optical fibers which include refractive index, attenuation, chromatic dispersion, and laser and LED optical repeater design. Fiber optic networks also will be examined, as well as long haul communications systems, local distribution, LANs, and inter- and intra-building applications. Fiber optic systems management including security, fault detection and repair issues are discussed

### 69443 DSP Lab

DSP Lab is equipped with complete set of Hardware and Software to perform DSP experiments. Real -Time DSP to understand the real-time DSP systems principles and Real-world applications. It also includes; Sampling & Waveform Generation, Quantization, PCM Encoding, Delta Modulation, Digital Modulation Schemes (ASK, PSK, FSK), Error Correcting Codes, Read Write from CODEC, Fast Fourier Transform, FIR Filter implementation (Low Pass, High Pass Band Stop), IIR Filter implementation Linear Convolution Auto Correlation, Power Spectral Density

## 69444 Telecommunication networks

Network Goals. The electrical interface and signal types. Baseband and modems with public carrier circuit. Link layer protocols. Theory of transmission systems. Integrated services of digital networks-ISDN. XDSL technology Asynchronous transfer mode-ATM. Wireless and mobile networks. Digital wireless systems Bluetooth and WiFi. Routing in mobile networks.

## 69451 Speech Processing and Acoustics

The human vocal and auditory systems. Characteristics of speech signals: phonemes, prosody, IPA notation. Lossless tube model of speech production. Time and frequency domain representations of speech; window characteristics and time/frequency resolution tradeoffs. Properties of digital filters: mean log response, resonance gain and bandwidth relations, bandwidth expansion transformation, all-pass filter characteristics. Autocorrelation and covariance linear prediction of speech; optimality criteria in time and frequency domains; alternate LPC parameterization. Some speech coding like: PCM, ADPCM, CELP. Speech synthesis: language processing, prosody, diaphone and formant synthesis; time domain pitch and speech modification. Speech recognition: hidden Markov models and associated recognition and training algorithms. Dynamic Programming. Language modeling. Large vocabulary recognition. Acoustic preprocessing for speech recognition

## 69461 Information and coding theory

Entropy and Information theory, types of data, source coding, channel coding, secrecy coding. Channel capacity, error control coding, detection and correction methods

## 69470 Antenna

Definition of antenna parameters, Antenna equivalent circuits and antenna theorems, Antenna mutual coupling, Horn antennas, Reflector and lens antennas, Microstrip patch antennas and arrays, Waveguide slot antennas and arrays, Analysis of near field antenna measurements, and antenna diagnostics

## 69526 Microwaves

Electromagnetic Wave and Transmission Line Theory, Smith Chart, Impedance matching, TM and TE modes. Optical Fibers, Wave Guides and Waveguide devices, S-parameters, Magic T, attenuators, Microwave Components, Microwave Measurements. Microwave links

## 69529 Advance Communication Lab.

This lab will give some advance experiments on topics like fiber optics, TV circuit, antenna and transmission lines. Characteristics of the fibers (structure, method of propagation, numerical aperture, modal and chromatic dispersion, attenuation, bandwidth), optical sources and detectors (LED, Laser diodes, photo diodes, optical connectors and coupling system, transmission and reception with TDM, attenuation in optical fiber, SWR.

## 69538 Cellular Communication systems

Wireless Generations and Standards, Cellular Concept and Cellular System Fundamentals, Trunking Cell Splitting and Sectoring, Mobile Radio signal propagation, path loss and channel models, Large Scale Path Loss, Small Scale Path Loss-Rayleigh and Rician Fading, Analog Modulation Schemes for Wireless Communication AM/FM, Digital Modulation Techniques for Wireless Communication, Preliminaries, Baseband Modulation Schemes: Matched Filter and Detection Theory, Bandpass Modulation Techniques, Fading Counteraction–Diversity, Coding and Interleaving, Source and Channel Coding, Speech Coding for Wireless Communications, Adaptive Equalization, Multipath Propagation, Doppler, Multiplexing and Multiple Access techniques. Introduction to GSM architecture

## 69540 Networking Lab

This lab examines certain Telecommunication networks like; fixed telephony networks, cellular communication networks, microwave networks and microwave networks. It also includes computer networks and data communication including Network services and applications.

## 69541 Satellite communication

This course covers the most relevant aspects of satellite communications, with emphasis on the most recent applications and developments. The course begins with a review on the background and basic concepts of satellite communications. Next it covers the orbital aspects, with emphasis on the geostationary orbit. Frequency assignments and propagation aspects that affect the satellite link are then discussed. The design of a digital satellite link is discussed in detail, including link budgets, modulation, error control coding, baseband signaling theory, and multiple access methods. Next, the satellite subsystem, launching methods, and on-board processing are discussed. Antennas and earth station technology are presented, including the design of very small aperture terminals (VSATs). The course then covers non-geosynchronous orbits and their applications. Specific applications of satellites are also explored, including the global positioning system (GPS), satellites for mobile communication, and satellite for internet

## 69544 Selected topics in Telecommunications

Emphasizing on current trends in telecommunication engineering and new topics to be discussed

## 69552 Introduction to Image processing

Overview, Computer imaging systems ,Human visual system, image model, Image enhancement, gray scale modes, histogram mod ,Discrete transforms, Fourier discrete cosine, walsh-hadamard, Haar, PCT, filtering, wavelet transform, pseudocolor, Image enhancement, sharpening ,smoothing Image restoration, overview, system model, noise, : noise removal, degradation model, inverse filter, Freq. filters, geometric transforms, image compression: system model, lossless methods, lossy methods

## 69564 Filters

Understand filter definition and applications, specification and response of Butterworth, Chebyshev and elliptic filters, frequency transformation LP to LP, LP to HP, LP to BP, design analog filters using passive and active elements, digital filters, capacitor filters, develop digital IIR filter structure and realization using software and hardware.

## 69572 Telephony System

Development of public switch telephone networks, human voice characteristics and certain channel characteristics including twisted pair channels, DTMF signaling, central office switching, trunk circuits, Erlang capacity and blocking probabilities, multiplexing and private branch exchange. Digital telephony, call switching, echo suppression, modems, T1 and E1 trunks, integrated services digital networks (ISDN), digital subscriber lines (xDSL) and VoIP switched networks. Switching techniques. Traffic theory. Signaling and SS7 call control protocol, switching networks and Digital switching techniques

## 69574 Artificial Intelligence in Comm.

An overview of the main thrusts in artificial intelligence, starting with the historically symbolic, logic-based approaches to knowledge representation, planning, reasoning and learning, leading into more recent directions of statistics-based probabilistic approaches (such as Bayesian approaches, belief nets, probabilistic reasoning, etc.). The course also touches on more recent developments in natural language processing, visual processing, robotics, machine learning, and philosophical foundations

## 69575 Digital control system

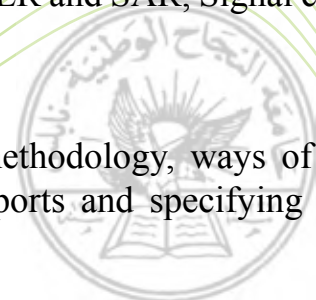
In this course, we will develop an understanding of the basic principles of classical digital control theory, with emphasis on frequency domain methods. This theory will be applied to case studies from several engineering disciplines. The course will cover the following topics: Introduction to Digital Control ,Discrete Time Systems and the z-Transform ,Sampling and Reconstruction ,Open-Loop Discrete-Time Systems ,Closed-Loop Discrete-Time Systems, Time Response Characteristics, Stability Analysis of Discrete-Time Linear Systems , Digital Controller Design ,Introduction to State-Space Methods

## 69581 Radar systems

Radar equation and definition of RCS, Analysis of SNR, Detection theory Antennas as technology, Range and range ambiguity , Doppler and velocity measurements ,Images from range-Doppler mapping , Imaging with SLR and SAR, Signal coding in imaging , Ambiguity function

## 69589 Graduation Project I

The course provides an introduction to research methodology, ways of making literature review, the manner of writing technical reports and specifying topic of graduation project



## 69590 Graduation Project II

This course is mainly a study and analysis of a specific problem in a field determined jointly by the student and the supervisor

## 69592 Electronics of Communication

An overview, Impedance matching and transformations, Oscillators types and circuits, Loop gain analysis, VCO, PLL, Mixers and applications, Conversion loss, Power amplifier, AGC circuit, Low Noise amplifier.



# DEPARTMENT OF MECHANICAL AND MECHATRONICS ENGINEERING (MECHATRONICS ENGINEERING STUDY PROGRAM)

## *Introduction:*

Mechatronics was first used in terms of the computer control of electric motors by an engineer at Japan's Yaskawa Electric Co. in the late 1960s. The word has remained popular in Japan, and has been in general use in Europe for many years. Mechatronics has been slow to gain industrial and academic acceptance as a field of study and practice in Great Britain and the United States. Worldwide, its increasingly prominent place is shown by the growing number of undergraduate and postgraduate Mechatronics Engineering courses that are now being offered. In the 1970s, Mechatronics Engineering was developed from being just a training course at the Japanese industry where was concerned mostly with servo technology used in products such as automatic door openers, vending machines, and auto-focus cameras to the field of teaching and specialization at the Japanese University. In the 1980s, as information technology was introduced, engineers began to embed microprocessors in mechanical systems to improve their performance. Numerically controlled machines and robots became more compact, while automotive applications such as electronic engine controls and antilock-braking systems became widespread.

By the 1990s, communications technology was added to the mix, yielding products that could be connected in large networks. This development made functions such as the remote operation of robotic manipulator arms possible. At the same time, new, smaller-even micro-scale-sensor and actuator technologies are being used increasingly in new products. As significant as these developments may seem, a good deal of skepticism remains about the idea of codifying them in an engineering field called Mechatronics. "It's certainly a catchy word," but it's an evolutionary, rather than revolutionary, development. Mechatronics is really the familiarity with all the other technologies-computers, software, advanced controls, sensors, actuators, and so forth-that make the advanced products possible. Mechatronics is not a single area; Mechatronics is mixture of technologies and techniques that together help in industrial developments. So that Mechatronics Engineering can be defined as synergistic combination of Mechanical, Electronics, Control, and Computer Engineering all are integrated horizontally and vertically through the design processes and manufacturing.

Mechatronics is mixture of technologies and techniques that together help in industrial developments, Mechatronics Engineering compromises well with the needs of the national, regional and international work markets. The diagram on the right defines Mechatronics Engineering

(see the intersect circles) and presents the structure of the academic study plan, and also the general work fields (Automotive, Aerospace, Xerography, Defense systems, Consumer products, Manufacturing and Material processing) that may get

an advantage or support from Mechatronics Engineers. Looking in depth inside the general work areas where Mechatronics Engineers may obtain job opportunities, one can notice, that these work areas include all the needs of a developed society, so that Mechatronics Engineers have a very wide range of job opportunities in the local, regional, and international markets. In the other hand, the diversity in the job opportunities makes the unemployment among Mechatronics Engineers negligibly small or even no any unemployed Mechatronics Engineer.

Definition, structure, and related general work fields of Mechatronics Engineering.

### **Program's Justifications**

From the above introduction about Mechatronics Engineering, the following justifications of establishing a Mechatronics Engineering Program at An-Najah National University may be summarized and listed as:

- An-Najah National University and its Engineering Faculty have a rich educational background and new-modern infrastructure that makes the Engineering Faculty Capable to establish and run the new Mechatronics Engineering Program.
- The Four Pillars of Mechatronics (Mechanical, Electronics, Computer and Control) are existing in the Engineering Departments of Mechanical Engineering, Electrical Engineering, and Computer Engineering, that makes it easy for running the Mechatronics Engineering Program due to the availability of the suitable teaching staff, laboratories, and library that are all necessary for the success of the program.
- The University Mission indicates clearly that An-Najah National University has a great responsibility in the development of the local society. The Mechatronics Engineering Program will provide an extra support for the university achieving the university national goals by providing a new technological method of development by means of developing the local industry that will enhance the development of the local economy as well as the Palestinian society.
- Establishing New engineering programs, such as Mechatronics Engineering, in the Palestinian Universities is a national necessity due to:
  - Developing and raising the Palestinian society to the international levels.
  - Education is one of the best investments in Palestine as a developing country.
  - Mechatronics Engineering will develop the national economy by providing local education for the Palestinian students, and providing the Arab world with well educated and trained Mechatronics Engineers.
  - The Palestinian market and the regional market are in need for well qualified Mechatronics Engineers.
  - Based on the above information about the university and the proposed program (Mechatronics Engineering Program), it can be seen that this program goes in line with the general policies set by the Palestinian Ministry of Education and Higher Education.

## **Program Objectives**

**Program vision:** The vision of the Mechatronics Engineering Program of An-Najah National University can be stated by:

We will educate engineers who can blend all types of modern technology and provide it to the society to have a respective enhancement in the development.

**Program Mission:** The mission of the Mechatronics Engineering Program is focused in three dimensions, locally, regionally and internationally, and it is based and compromises well with the missions of both the Engineering Faculty and the University. Mechatronics program is established to take an advanced-important position in the development of the local society, by providing the local and regional work-market with well educated and trained Mechatronics Engineers taking into account the international standards in education and training.

**Program's General Objectives:** The general objectives of the Mechatronics Program compromises well with both program's vision and mission, and may be listed as follows:

Supporting the economical development of the Palestinian society by providing local education in Mechatronics Engineering within the international standards to the Palestinian students, instead of getting their education in regional universities.

Enhancing the development of the country by developing the local industry.

Providing the local and regional work markets with well educated and trained Mechatronics Engineers.

Graduates of The Mechatronics Engineering Program should be able to blend different types of modern technology and provide it to the Palestinian society.

**Program's special Objectives:** The special objectives of the Mechatronics Program may be listed as follows:

**Establishing Center of Excellence in Mechatronics:** The main objectives of the center may be listed as:

Providing the local industry with training courses for their workers in the field of Mechatronics.

Providing specialized consultation to the local industry.

Driving and steering the development of the local industry.

Initiating new theoretical and practical research in the fields of Mechatronics Engineering.



## Admission Requirements

Students are admitted to the Mechatronics Engineering Department according to the following criteria:

A student must fulfill the Engineering Faculty specialization requirements.

A student must successfully complete Calculus I (21101), Calculus II (21102), General Physics I (22101), and General Physics II (22102) with an average score of at least 70% to enter a competition for the Mechatronics Engineering specialization.

## Graduation Requirements

The Bachelor degree in Mechatronics Engineering requires a minimum of 163 credit hours of course work. A detailed distribution of the minimum credit hours required for obtaining the Bachelor Degree in Mechatronics Engineering are shown below:

	Credit Hours		
	Compulsory	Elective	Total
University Requirements	20	6	26
Faculty Requirements	21	-	21
Department Requirements	107	9	116
Total =	148	15	163

Indications of the course subject's digits:

The numbering system consists of 7 digits, the indication of each digit from left to right as follows:

The first and second digits indicate the faculty: the number 06 indicates Engineering.

The third and fourth digits indicate the study program: the number 71 indicates Mechatronics.

The fifth digit indicates the academic level: numbers in the range 1 to 5.

The sixth digit indicates the field number of each course such as shown in the following table:

field Number	Specialization
6	Mechanical and Hydraulic Systems
7	Control Systems, Computer and Software
8	Mechatronics Systems
9	Electrical and Electronic Systems

The seventh digit indicates a serial number for the course within the field and academic level.

### Example:

The number of the Robotics Course is 0671582

0671582		Robotics				
2	8	5	1	7	6	0
Sequence	Field	Level	Mechatronics		Engineering	

## University requirements (26)

### 1-Mandatory: (20) credit hours, as follows: -

Course Number	Course Title	Credit Hours	Prerequisite
32100	Remedial English	0	-
10100	Introduction to Computer Science	3	-
10101	Islamic Culture	3	-
10102	Arabic Language	3	-
10103	English Language I	3	32100
10105	Palestinian Studies	3	-
10108	Community Service	1	-
10117	Leadership and communication skills	1	-
10322	English Language -II	3	10103

### 2-Elective (6) credit hours, as follows: -

Course Number	Course Title	Credit hours
10111	Household Gardening	2
10112	Farm Animals Husbandry	2
10115	Democracy, H. Rights & International H. Rights	2
10125	Public Health	2
10131	Geography of Palestine	2
10135	History of Jerusalem	2
10137	Population Communications	2
10142	Family System in Islam	2
10143	Principles of Religious Observances	2
10144	Fiqh of Siyra	2
10151	General Principles of Management	2
10152	Accounting & Book Keeping	2
10155	Poisons and its prevention	2
10156	Investment Principles	2
10181	Introduction to Music	2
10189	Palestinian Folk Arts	2
10251	Animal & Human Health	2
10710	Psychological Culture in Our Recent Life	2
10713	Education in Palestine	2



## Faculty Requirements

Twenty one (21) credit hours of core coursework are required to fulfill the faculty requirements:

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
21101	Calculus I	3	3	-	-
21102	Calculus II	3	3	-	21101
22101	General Physics I	3	3	-	-
22102	General Physics II	3	3	-	22101
22115	General Physics Lab. For Engineering	1	-	3	22102
064100	Introduction to Engineering	1	1	-	-
064300	Principles of Technical Writing and Scientific Research	1	1	-	10322
062102	Engineering Drawing	2	1	3	-
066111	Programming Language	3	3	-	-
0670100	Engineering Workshop (1)	1	1	2	-
Total =		21	19	8	

## Department Requirements Compulsory

Hundred and seven (107) credit hours of engineering coursework are required to fulfill the department compulsory requirements:

### Compulsory from the Faculty of Science (Departments of Mathematics and Chemistry)

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
21201	Calculus (3)	3	3	-	21102
21202	Engineering Mathematics	3	3	-	21102
21230	Probability and Statistics for Engineers	3	3	-	21102
23101	General Chemistry (1)	3	3	-	-
Total		12	12	-	

### Compulsory from the Department of Civil Engineering

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
061110	Statics	3	3	-	21101 + 22101
061207	Mechanics of Materials	3	3	-	21102 + 061110
Total		6	6	-	

### Compulsory from the Department of Electrical Engineering

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
063292	Electrical Circuits	3	3	-	22102
063293	Electronics	3	3	-	063292
063294	Electrical Circuits and Electronics Lab.	1	-	3	063293
063391	Electrical Machines	3	3	-	063292
063392	Electrical Machines Lab	1	-	3	063391
063411	Power Electronics	3	3	-	063293
Total		14	12	6	

### Compulsory from the Department of Industrial Engineering

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
065301	Engineering Economy and Management	3	3	-	21102
065332	Engineering Materials and Metallurgy	3	3	-	23101
065321	Engineering Materials and Metallurgy Lab.	1	-	3	065332
065340	Manufacturing processes	3	3	-	065332
Total		10	9	3	

### Compulsory from the Department of Computer Engineering

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
066221	Digital Circuits Design (1)	3	3	-	063293
066291	Digital Circuits Design (1) Lab.	1	-	3	066221
066374	Microprocessor for Mechatronics (1)	3	3	-	066221
066474	Microprocessor for Mechatronics (2)	3	3	-	066374
066476	Lab of Microprocessor for Mechatronics	1	-	3	066374
Total		11	9	6	

### Compulsory from the Mechanical Engineering Program

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
0670200	Engineering Workshop II	1	1	2	0670100
0670210	Dynamics	3	3	-	061110
0670213	Mechanical Drawing	2	1	3	062102
0670310	Theory of Machines	3	3	-	0670210
0670414	Mechanical Vibrations	3	3	-	21202 + 0670210
0670416	Mechanics of machines and vibrations Lab.	1	-	3	0670310 + 0670414
Total		13	11	8	

## Compulsory from the Mechatronics Engineering Program

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
0671261	Principles of Thermo-fluids and heat transfer	3	3	-	23101 + 061110
0671371	Introduction to Mechatronics software	2	1	3	21202 + 066111
0671461	Thermo-fluids and heat transfer Lab.	1	-	3	0671261
0671462	Machine Element Design	3	3	-	061207 + 0670310
0671471	Control Systems I	3	3	-	0670414 + 063292
0671481	Transducers and Interfacing	3	3	-	061207 + 063391
0671482	Transducers and Interfacing Lab.	1	-	3	0671481
0671483	Hydraulic and Pneumatic systems	3	3	-	0670310 + 0671261
0671484	Practical Training	3	-	-	Dep. Consent
0671571	Control Systems Lab.	1	-	3	0671471
0671572	Programmable Logic Controllers	3	3	-	0671681
0671681	Automation and Production Systems	3	3	-	065332 + 066474
0671682	Robotics	3	3	-	0670310 + 0671471
0671683	Robotics and Automation Lab	1	-	3	0671682
0671684	Design of Mechatronics Systems	3	3	-	0671471 + 0671481
0671585	Graduation Project I	2	-	6	Dep. Consent
0671686	Graduation Project II	3	-	9	0671585
Total		41	28	30	

### Electives:

A minimum of nine (9) credit hours of engineering coursework are required. A minimum of three (3) credit hours from each group of course.

#### A. Electives: Three (3) credit hours from the following list

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
064251	Engineering Numerical Methods	3	3	-	21202 + 0606111
0671464	Finite Element Methods	3	3	-	21202 - 0606111

#### B. Electives: Three (3) credit hours from the following list

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
063591	Electric Drive	3	3	-	063391 + 063411
0671573	CAD/CAM Systems	3	3	-	065340 + 0671462
0671574	Control System II	3	3	-	0671471



**C. Electives: Three (3) credit hours from the following list**

Course No.	Course Title	Credit Hours	Detailed Distribution of Cr. Hr.		Prerequisite
			Lecture	Practical	
0671575	Fuzzy Logic Control	3	3	-	0671471
0671687	Mobile Robots	3	3	-	0671682
0671688	Special topics in Mechatronics	3	-	-	Dept. consent

A practical training of 8 weeks period in an engineering institute approved by the department is a must. The student should register for the course upon finishing the fourth year of study that is equivalent to successful completion of 128 credit hours of program's compulsory and electives requirements.



## Course Description

Note: Within the following list, the code (a,b,c) is used to indicate: a = credit hours, b = practical hours, and c = lectures (theoretical hours), respectively.

### Course Description of the Programs' Compulsory Requirements

#### 21202 Engineering Math (3,0,3)

Prerequisite (21102)

The course consists mainly of two topics: Linear Algebra and ordinary differential equations. The part of linear algebra deals with matrix operations, linear equations and their solution, vector space and linear transformation, and eigen values and eigen vectors. The part of differential equations deals with partial differential equations, solution of 1st order, and 2nd linear and nonlinear ordinary differential equations. Fourier series and transform, and Laplace transform.

#### 21230 Engineering Probability and Statistics (3,0,3)

Prerequisite (21102)

Set theory, relative frequency and probability; joint probability and independent events. Random variables, distribution functions, density functions, and Gaussian random variables. Multiple-random variables, joint-distribution functions, joint-density functions, conditional distribution functions, and central limit theorem. Random processes, stationary, and independence. Correlation functions, covariance, and Gaussian random processes. Random processes spectral characteristics, power density spectrum, cross-power spectrum, relation between correlation functions and power density spectra.

#### 061110 Statics (3,0,3)

Prerequisite (21101 + 22101)

The main topics of this course include the application of vector algebra (2- and 3-dimensions) in engineering problems, the mechanics and equilibrium of rigid bodies, developing a free-body diagram, calculation of center of gravity and center of areas and bodies, a simple analysis of trusses and frames, calculation of external forces and their equilibrium in beams, and drawing the shear forces and bending moment diagrams. Introduction to the concept of friction.

#### 061207 Mechanics of Materials (3,0,3)

Prerequisite (21102 + 061110)

Introduction to mechanics of deformable bodies; concepts of stress and strain, classification of materials behavior, stress-strain relations and generalized Hook's law. Applications engineering problems involving members under axial loads, torsion of circular rods and tubes, bending and shear stresses in beams, combined stresses in beams and stress transformation. Deformation of loaded beams and buckling.

## 063292 Electrical Circuits (3,0,3)

Prerequisite (22102)

Introduction, units, definitions, independent source, dependent source, Ohm's law, Kirchoff's laws, and division rule. Nodal analysis, Mesh Analysis, Linearity and superposition, Thevenin's and Norton's theorems. Inductance and capacitance. Source free RL and RC circuits. The unit-step forcing function. RLC circuits. The sinusoidal steady-state response. The phase concept, and introduction to alternating current circuits, and single and three phase circuit analysis.

## 063293 Electronics (3,0,3)

Prerequisite (063292)

Semiconductor materials. pn junction. pn junction diode. DC analysis and models. Zener diodes, Schottky diodes. Diode circuits: Rectifiers, regulators, clippers, clampers, and multiple diode circuits. BJT transistors: Basics, DC analysis, Biasing, and applications. BJT Amplifiers and its Characteristics: Common Collector, Common Base, and Common Emitter. The field-effect transistor: MOSFET and its DC analysis with applications.

## 063294 Electrical and Electronics Circuits Lab. (1,3,0)

Prerequisite (063293)

Laboratory equipment. Ohm's law, series-parallel resistances, Kirchoff's laws, voltage and current divider rules, delta-wye transformations, Thevenin's and Norton equivalents, superposition and reciprocal theorems, maximum power transfer. Three-phase circuits.

## 063391 Electrical Machines (3,0,3)

Prerequisite (063292)

Review of magnetic fields and circuits. Single and three phase transformers. Electromechanical energy conversion. DC-machines: DC-generators and DC-motors. Starting DC-motors and speed control. AC-machines: Single and three phase induction motors. Three phase synchronous machines.

## 063392 Electrical Machines Lab. (1,3,0)

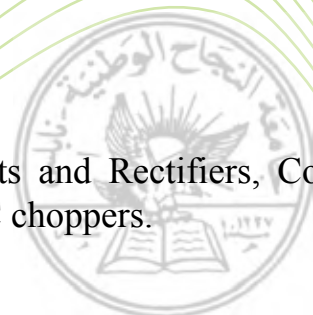
Prerequisite (063391)

Laboratory experiments on single and three phase transformers. Electromechanical energy conversion, DC-machines: DC-generators and DC-motors, starting DC-motors and speed control, AC-machines: single and three phase induction motors. Three phase synchronous machines.

## 063411 Power Electronics (3,0,3)

Prerequisite (063293)

Thyristor, Power Electronics circuits, Diode circuits and Rectifiers, Controlled Rectifiers, Static switches, AC- voltage controllers, DC choppers.



## 065332 Engineering Materials and Metallurgy (3,0,3)

Prerequisite (23101)

Structure of engineering materials: metals, ceramics and plastics. Imperfections and dislocations of crystal, ferrous and non-ferrous alloys. Phase diagrams, heat treatments and introduction to corrosion.

## 065325 Engineering Materials and Metallurgy Lab. (1,3,0)

Prerequisite (065332)

Hardness, tensile, compression, impact, torsion, creep and fatigue tests. Macro-and micro-examination of metals. Experiments in casting, forming, machining, welding, heat treatment and plastic manufacturing.

## 065340 Manufacturing Processes (3,0,3)

Prerequisite (065332)

Production of ferrous and non-ferrous materials. Casting, powder metallurgy and bulk deformation processes. Machining, sheet metal work, Joining processes, and shaping of plastics.

## 066111 Programming Language (3,0,3)

Prerequisite (-)

This course introduces students to basic programming concepts, with writing, executing and debugging programs, concepts of modularity and encapsulation. The course also focuses on modules and abstract data types. The course also covers basic data structures

## 066221 Digital Circuits Design (1) (3,0,3)

Prerequisite (063293)

Boolean algebra, Number System, logic gates, Simplification, combinational logic circuit design. Combinational circuits, Sequential Circuits, flip-flops, counters, registers (serial, parallel, shift), state machines design. Synchronous and asynchronous systems.

## 066291 Digital Circuits Design (1) Lab (1,3,0)

Prerequisite (066221)

Introduction to integrated circuits, introduction to TTL and CMOS circuits IC characteristics. Boolean Function design and implementation. Seven segment display. Decoders, Shift registers, ROM, RAM, Monostable and astable multi-vibrators, and 555 timing timer. Sequential circuits design.

## 066374 Microprocessor for Mechatronics (1) (3,0,3)

Prerequisite (066221)

History and development of The 80X86 microprocessors. The 80X86 architecture. The central processing unit. Memory addressing and data formats. Address/data and control buses. The CPU /Memory interface. The Instruction set, and addressing modes. Assembly language programming.

## 066474 Microprocessor for Mechatronics (2) (3,0,3)

Prerequisite (066374)

Clock and timing of control signals, bus operations, memory interfacing. I/O interface and peripheral devices. Interrupts. Serial and parallel port interface. Configurable I/O ICs. I/O Assembly Programming.

## 066476 Microprocessor for Mechatronics Lab. (1,3,0)

Prerequisite (066474)

Introduction to Programming of the 8088/ 8086 kit. Writing practical assembly language programs. Interfacing experiments on peripherals with applications to DAC, RS232 communication, LED Matrix, LCD, ADC, DC motor, and step-motor. Practical project in the field of microprocessor interfacing.

## 0670200 Engineering Workshop II (1,2,1)

Prerequisite (0670100)

Theoretical and practical development of basic skills in fields of sheet metal fabrication, metal machining, measurements, metal forming, sand casting, and welding, and household electric circuits.

## 0670210 Dynamics (3,0,3)

Prerequisite (061110)

Dynamics of particles, two and three dimensional dynamics of rigid bodies. Force and acceleration, work and energy, impulse and momentum.

## 0670213 Mechanical Drawing (2,3,1)

Prerequisite (062102)

Drawing of typical mechanical pieces, surface finish, tolerance and allowance, fits of assembled bodies, dimensioning, assembly drawings, development and intersections, drawing using CAD software.

## 0670310 Theory of Machines (3,0,3)

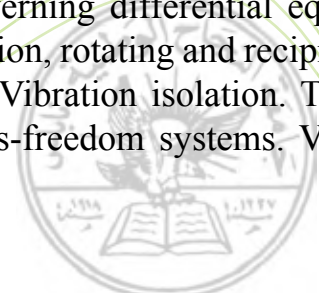
Prerequisite (0670210)

Mechanisms and applications, mobility and linkages, cams, gears, velocity and acceleration analysis of mechanisms, inertia forces and principles of balance in rotating and reciprocating masses.

## 0670414 Mechanical Vibrations (3,0,3)

Prerequisite (21202 + 0670210)

Properties of oscillatory motion. Derivation of governing differential equations. Free and damped vibrations. Harmonically excited motion, rotating and reciprocating unbalance, support motion. Vibration measurements. Vibration isolation. Transient vibration. Free and forced vibrations in multi-degrees-of-freedom systems. Vibration absorbers. Introduction to continuous systems.



**0670416 Mechanics of Machines and Vibration Lab. (1,0,3)**

Prerequisite (0670310 + 0670414)

Practical experiments related to the given topics in the courses of theory of machines and vibrations.

**0671261 Principles of Thermo-Fluids and Heat Transfer (3,0,3)**

Prerequisite (23101 + 061110)

Basic principles concepts and definitions of thermodynamics, properties of pure substances, 1st and 2nd laws of thermodynamics, fluid mechanics and heat transfer, basic principles of fluid dynamics, conservation law, dimensional analysis and external and internal flow in pipes.

**0671371 Introduction to Mechatronics Software (2,3,1)**

Prerequisite(21202 + 066111)

The course introduces the most popular used software (MAT LAB and SIMULINK software) for matrix operations, and solution of linear equations. Programming methods in MATLAB software (m-files) and the software library of m-defined functions. Graphical representation of data structures and analysis of Mechatronics systems using SIMULINK Software.

**0671461 Thermo-Fluids and Heat Transfer Lab. (1,3,0)**

Prerequisite (0671261)

Experiments applied to heat transfer, thermodynamics and fluid mechanics.

**0671462 Machine Element Design (3,0,3)**

Prerequisite (061207+ 0670310)

Transmission mechanisms and kinematics, types of joints, pulleys and belts, gears and gear trains, cams, clutches, brakes flywheels, bolts, shafts, bearings, keys and springs.

**0671471 Control Systems (1) (3,0,3)**

Prerequisite (063292 + 0670414)

Open and closed loops (feedback) control systems. Modeling of physical systems: electrical, Mechanical, hydraulic and pneumatic systems. Linearization of nonlinear systems. System representations: System block diagrams and signal flow graphs. State variable models. Feedback control system characteristics. Performance of feedback control systems. Routh-Hurwitz stability. Steady state error coefficient. Routh locus Method. Introduction to frequency response.

**0671481 Transducers and Interfacing (3,0,3)**

Prerequisite (061207 + 063391)

Static, dynamic and statistical characteristics of measurement system elements. Loading effects in measurement systems. Sensing elements: Resistive, capacitive, inductive, electromagnetic, thermoelectric, elastic, piezoelectric and electrochemical sensing elements. Optical and ultrasonic measurement systems. Signal conditioning elements: Deflection bridges and amplifiers. Signal processing elements: Analogue to digital (A/D) conversion.

## 0671482 Transducers and Interfacing Lab. (1,3,0)

Prerequisite (0671481)

Experiments on transducers and their construction. Experimental identification of static characteristics of sensing elements: Ideal straight line, non-linearity, sensitivity, hysteresis, resolution, and error bands. Experiments on loading effects in measurement systems. Experiments on deflection bridges and amplifiers. Analogue to digital conversion and data acquisition.

## 0671483 Hydraulic and Pneumatic Systems (3,0,3)

Prerequisite (0670310 + 0671261)

Introduction to fluid power systems design and operation. Characteristics of hydraulic fluids and standard tests. Characteristics and selection of positive and non-positive displacement pumps. Characteristics and standards of filters. Linear and rotary hydraulic Actuators. Characteristics and design of hydraulic and pneumatic distribution systems. Hydraulic and pneumatic control valves. Design, sizing and analysis of hydraulic and pneumatic circuits.

## 0671484 Practical Training (3,0,0)

Prerequisite (Successful completion of 128 credit hours)

A practical training of continuous 8 weeks period in an engineering institute approved by the department is a must. The student should register for the course upon finishing the fourth year of study, that is equivalent to successful completion of 128 credit hours of program's compulsory and electives requirements.

## 0671571 Control Systems Lab. (1,3,0)

Prerequisite (0671471)

Open and closed loop control systems with applications to level and flow of fluids, and electrical, electromechanical, and thermal systems. Position and speed Control. Principles of controlling servomechanisms and stability tests. System performance under the action of proportional (P), integral (I), derivative (D) compensation controllers. Time and frequency response measurements. Computer simulation of control systems using MATLAB and SIMULINK software.

## 0671572 Programmable Logic Controllers (3,0,3)

Prerequisite (0671681)

Principles and application of programmable logic controllers (PLC). Hardware components and construction of PLCs. General PLC programming procedures. Programming ON-OFF inputs to produce ON-OFF outputs. Creating Ladder diagrams from process control descriptions. PLC timer and counter functions. Intermediate functions: Arithmetic, number comparison, skip and master control relay functions, and data systems. Advanced functions: Utilizing digital bits, sequencer and matrix functions. Alternate programming languages. Analog PLC operation. Networking PLCs.

### 0671681 Automation and Production Systems (3,0,3)

Prerequisite (065332 + 066474)

Introduction to industrial automation. Manufacturing operations, material handling and identification technologies (Material handling, material transport systems, storage systems, and automatic data capture). Manufacturing systems include: single station manufacturing cells, group technology and cellular manufacturing, flexible manufacturing systems, manual assembly lines, transfer lines and similar automated manufacturing systems, and automated assembly systems.

### 0671682 Robotics (3,0,3)

Prerequisite (0670310 + 0671471)

Robot fundamentals. Robot kinematics: position analysis. Differential motions and velocities (Jacobian and inverse Jacobian). Dynamic analysis and forces. Trajectory planning. Actuators and Sensors of robotic systems.

### 0671683 Robotics and Automation Lab. (1,3,0)

Prerequisite (0671682)

Programming and simulation of robot industrial operations. Programming with practical applications of the CNC-Lathe and CNC milling machines. Simulation of industrial processes using a standard PLCs. Practical experiments on industrial automation with applications to assembly stations and product sorting laboratory equipments.

### 0671684 Design of Mechatronics Systems (3,0,3)

Prerequisite (0671471 + 0671481)

Background on Mechatronics systems design. Mathematical modeling and computer simulation of Mechatronics systems. Performance and analysis of Mechatronics System. Exercises and/ Comprehensive projects including combinations of electrical, mechanical and computer technologies to produce functional Mechatronics systems.

### 0671585 Graduation Project (1) (2,6,0)

Prerequisite (Department Consent)

Literature review of the selected project topic and preparation of the work out line of the project's practical implementation.

### 0671686 Graduation Project (2) (3,9,0)

Prerequisite (0671585)

Practical implementation of theoretical and experimental knowledge gained from graduation project I. Formal and scientific written report of the work done in parts I and II, and presentation with public defense of the graduation project.



## **Course Description of the Programs' Elective Requirements**

### **063591 Electric Drive (3,0,3)**

Prerequisite (063391 + 063411)

Introduction to electric drive of AC and DC electrical machines. Sizing, selection and performance of AC and DC machines. Starting circuits and smooth start of electric machines. Analog, digital, and pulse width modulation (PWM) of speed control of ac and dc electrical machines.

### **064251 Engineering Numerical Methods (3,0,3)**

Prerequisite (21202 + 066111)

Basic principles of numerical analysis and methods for solving different engineering problems: computer precision, loss of significance, error propagation, solution of linear and nonlinear systems of algebraic equations, interpolation polynomials, numerical differentiation and integration, numerical solutions with application to initial-boundary and characteristic-value problems.

### **0671464 Finite Element Methods (3,0,3)**

Prerequisite (21202 + 066111)

Introduction to finite element methods. Integral formulation and variation methods. Modeling principles and mesh specification of one dimensional problems: derivation of element equations, assembly of element equations, imposition of boundary conditions, solution of equations, and error analysis. Introduction to two dimensional problems. Computer simulation for solving engineering problems.

### **0671573 CAD/ CAM Systems (3,0,3)**

Prerequisite (065340 + 0671462)

Principles of computer aided design and manufacturing. Computer aided design: Transformation and manipulation of objects, description of curves and surfaces, solid modeling, and optimization techniques. Implementation of finite element method techniques for analysis of trusses, heat conduction, and dynamics. Computer integrated manufacturing and implementation of a CAD/ CAM system.

### **0671574 Control Systems (2) (3,0,3)**

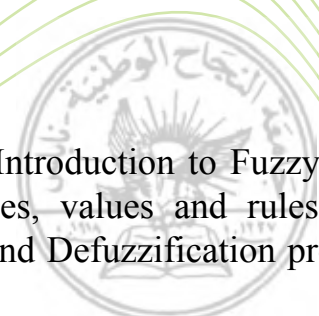
Prerequisite (0671471)

Frequency response methods. Stability in frequency domain. Design of feedback control systems. Design of state variable feedback systems. Introduction to digital control. Computer exercises using MATLAB software.

### **0671675 Fuzzy Logic Control (3,0,3)**

Prerequisite (0671471)

Overview of conventional control systems design. Introduction to Fuzzy control systems. General Fuzzy systems: Linguistic variables, values and rules. Fuzzy Sets, Fuzzy Logic and the Rule-Base. Fuzzification, and Defuzzification processes.



Mathematical representation of Fuzzy systems. Takagi-Sugeno Fuzzy systems. Simulation and case studies of fuzzy control systems. Introduction to Fuzzy identification and estimation.

### **0671687 Mobile Robots (3,0,3)**

Prerequisite (0671682)

Introduction to mobile robots with applications. Mobile robots hardware. Sensing: Visual and non-visual sensors and algorithms. Control of mobile robots. Computational methods of reasoning and reasoning about space. Operating environment. Path following and obstacles avoidance algorithms. Navigation in known and unknown environments. Implementations of Fuzzy logic control to mobile robot navigation.

### **0671688 Special Topics in Mechatronics (3,0,3)**

Prerequisite (Department Consent)

Current trends and developments in the field of Mechatronics Engineering.

# FACULTY OF EDUCATIONAL SCIENCES



# FACULTY OF EDUCATIONAL SCIENCES

## Background

Since its establishment in 1977, An-Najah National University has sought to develop the college of Educational Sciences in line with a cultural perception that achieve the university's goals of community outreach, establishing close links among all colleges, and creating interactive involvement among students in research and other activities.

## College Academic Programs

The college of Educational Sciences offers a number of academic programs leading to a B.A. degree in four majors: Psychology, and Counseling Methods of Teaching, Physical Education, and Elementary Education. In addition, the college has an M.A. Program in four fields: Methods of English Language Teaching, Methods of Science Teaching, Methods of Mathematics Teaching, Curriculum and Instruction, and Educational Administration.

### 1. Undergraduate Degree: Study Plan

The college has study plans leading to B.A. degrees in four academic fields: Psychology and counseling (Dept. code # 1 and 5); Methods of Teaching (Dept. code #2); Elementary Education (Dept. code #3); Physical Education (Dept. code #4).

In their freshman year, students sign up for general courses offered by the college. Students must successfully complete 30 credit hours distribution as follows:

### College Compulsory Courses (21 credit hours)

Courses #	Courses Title	Credit hrs.	Prerequisite
71112	Introduction to psychology	3	-
71113	Introduction to Education	3	-
71114	Descriptive Statistics	3	-
71115	Developmental Psychology	3	71112
71123	Learning and Thinking Skills	3	-
72111	Introduction to Curriculum	3	71113
72115	Computer in Education	3	71114

### II. College Elective Courses (Students may choose 9 credit hours)

Courses #	Courses Title	Credit hrs.	Prerequisite
71254	Educational Psychology	3	71113,71112
71128	Library Skills and Research	3	-
72264	Educational Technology	3	72115
72265	Educational Readings in English	3	7112,71113
72317	classroom Management	3	72111, 71112,7113
72352	Evaluation in Schools	3	72111,71113
73126	Education and learning in Palestinian Society	3	

## **College Course Descriptions: Compulsory Courses**

### **PSY 71112 Introduction to Psychology:**

Topics covered in this course include the nature of psychology, development, learning, motivations, intelligence, perception, schools of psychology, areas of psychology, its branches, personality, mental disability, psychological tests. The course also focuses on foundations, Principles and areas of psychology, its mental and educational applications.

### **EDU 71113 Introduction to Education**

This courses covers the following topics: concepts, functions, goals, types and nature of education; development of educational thought throughout the ages; culture and education, education and society, role of education in changing the learner, the educational process, curriculum, the teacher, and means of education.

### **EDU 71114 Descriptive Statistics**

This course introduces students to nature of statistics, areas of its employment, statistical methods, samples, classification, tabulation and representation of data in graphs, frequency distribution, central tendency and dispersion measures, chi square, correlation, probability and equal distribution.

### **PSY 71115 Developmental Psychology (prerequisites : 71112)**

This courses examines the concept of growth and development in its physical, mental and emotional dimensions. It also looks at principles of growth and developments, extents, extent to which developmental characteristics and traits are influenced by genetic, family and social factors. The course also explains important relationship between development of growth aspects, and processes of family, environment and school formation through different stages of life.

### **EDU 72115 Computer in Education (prerequisites: 71114)**

Computer generations, elements and usage in schools as on audio-visual aid-using the internet in teaching and leaning situations-using e-mail, using the internet at the university level-Arab experiences in using computer and internet in teaching and learning situations.

### **EDU 71123 Learning and Thinking Skills**

This course focus on thinking definition types and criteria – critical thinking skills (induction, education, comparing, distinguishing, sequencing, prioritizing, cause and effect), -Creative thinking skills (originality, flexibility, fluency and elaboration) Gathering information skills (remembering paying attention, observation, listening and note-taking) Presenting information skills (description, classifying, asking questions and presenting data graphically) Problem solving skills (presenting and testing hypotheses, evaluating the evidence, proposing solutions, generalizing and predicting).

## ***Elective Courses***

### **Psy71254 (E) Educational Psychology (prerequisites: 71113,71112)**

The topics: include Nature of educational psychology and its relationship with general psychology; application of concepts of behavioral and perceptive schools in the teaching process, facilitating the learning process; children's learning difficulties—talented and disabled children—potentials required for completion; measurement of learning progress and requirements for the learning progress and requirements for the learning and teaching process.

### **EDU 71128 Library and Research Skills**

Writing research papers and reports and summarizing and note-taking skills-reading comprehension- library types- traditional and electronic resources classification and indexing systems- using computer in libraries and scientific centers using internet in libraries and computer.

### **EDU72264 Educational Technology**

This course introduces students to technological educational aids, their characteristics and advantages, technological tools, resources of educational aids, computer and its educational uses, educational equipment and its resources, and curriculum and teaching aids.

### **EDU73126 Education and Learning in Palestinian Society**

Introducing students to the role of education in development of the Palestinian people, the course investigates the history of education in Palestine starting from the Islamic conquest to the Turkish Ottoman era, during British colonialism and then the Zionist occupation, and finally the role of education during the present Palestinian National Authority era.

# DEPARTMENT OF PSYCHOLOGY/ PSYCHOLOGICAL COUNSELING

## Admission Requirements

To join the Department of psychology and counseling, (Dept. code #1( Psychology,5 counseling), a student must successfully complete

- » Introduction to psychology 71112;
- » Counseling Psychology 75210;
- » Developmental Psychology 71115
- » With an average of 70%.

## Undergraduate Degree in Psychology Counseling

Requirements for a B.A. degree in Psychology/ Counseling

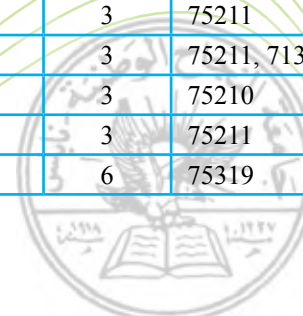
The Department of psychology and counseling offers a single specialization leading to a B.A. in psychology and counseling. Students wishing to obtain an undergraduate degree in psychology and counseling must complete 140 credit hours chosen from university, college and department compulsory and elective courses.

### I. Compulsory Courses in Psychology/ counseling (36 credit hours )

Courses #	Courses Title	Credit hrs.	Prerequisite
71210	Methods of Statistics and Computer Analysis	3	71114
71211	Physiological psychology	3	71112, 71115
71215	Introduction to Special Education	3	71112
71212	Experimental psychology	3	71114, 72115
71312	Principles of Mental Health	3	71112, 71115
71314	Social Psychology	3	71215
71319	Principles of psychological and Educational Measurements	3	71210, 71114, 72115
71213	Abnormal psychology	3	71112
71317	Research Methodology in psychology and Education	3	71210, 71114
71313	Psychology of Personality	3	71112, 71115
71414	Field Training in applied psychology	3	71114, 71210

### I. Compulsory Courses counseling (24 credit hours )

71410	Clinical psychology	3	71213, 71312
75210	Guidance and Counseling psychology	3	71112
75211	Theoretical Trends in Counseling psychology	3	71112
75318	Communication in Counseling psychology	3	75211
75319	Methods of Diagnosis and Treatment in Counseling	3	75211, 71315
75418	Principles of Group Counseling	3	75210
75322	School Counseling	3	75211
75420	Practicum in School Counseling	6	75319



## Elective Courses (15 Credits hours) for psychology

Courses #	Courses Title	Credit hrs.	Prerequisite
71214	Psychology of Learning Theories	3	71212
71262	Linguistic Psychology	3	71115
71255	Children hood and Adolescence psychology	3	71115
71252	Psychology of Play	3	71112
71321	Psychological Stress	3	71115
71328	Organizational psychology	3	71312
71351	Diferential psychology	3	71114
71352	Motivation and Emotion psychology	3	71115
71355	Criminal psychology	3	71115
71451	Psychology of Rumor	3	71352

## Elective Courses (12 Credits hours) for Counseling

75209	Ethics in Counseling	3	-
75318	Methods of expressions in Counseling	3	75210
75325	Family Counseling	3	75210
75427	Language and Articulation Disorder	3	75427
75428	Students Problems and Methods of Solving them	3	75210
75429	Reading Counseling in English	3	75210
75430	Rehabilitation and vocational Counseling	3	71213, 75210

## I. Course Description of Compulsory Courses (36 Credits hours)

### PSY 71210 Methods of Statistics and Computer Analysis

(prerequisites: 71114)

Topics covered in this course are sample population, statistical evidence, hypothesis testing percentage, arithmetic means, analysis of Variance, F – test, T –test, Chi-square test, correlation, regression analysis and other type of tests and their statistical application by using the computer in the above process.

### PSY 71211 Physiological Psychology

(prerequisites: 71115)

This course is an explanation of the different functions of various body organs and their relationships with behavior. These organs are the nervous system, both the central and de-central, representing the brain, the spinal cord, and the sensory respectively. The course also covers endocrine glands and their roles in influencing emotional and psychological state of a living creature. The course ends with a full explanation of the other organs of the body namely the sensory organs: sights, hearing, taste, smell, skin feeling, balance and psychological stress.

### PSY71212 Experimental Psychology

(prerequisites: 71114,7215)

This course considers methods of psychological experimentation, both lab and field, in all areas of psychology. The course also looks at the basic elements of the



psychological experiment. Students will receive training exercises, in psychological experimentation, on seeing, hearing, physical consistency, learning, memory, retrieval... The course also introduces contributions of pioneers in experimental psychology.

### **PSY 71215 introduction Special Education**

(prerequisites: 71112)

Students in this course, are introduced to exceptional groups with emphasis on disability categories, nature and forms of disabilities, in terms Of causes and characteristics. Emphasis will be placed on methods and means of diagnosis, intervention and evaluation of services provided to these categories or groups.

### **PSY71312 Principles of Mental Health**

(prerequisites: 71112,71115)

This course begins with a definition of mental health, its aspects and status. It also focuses on theories of mental health adjustment, normal and abnormal behavior, personality, structure consciousness and unconsciousness, forms of mental and psychological disorders such as: frustration, depression, anxiety fear, Schizophrenia and other psychological disorders, Also it focuses on social behavior, and forms of mental health in public life and schools.

### **PSY 71213 Abnormal Psychology**

(prerequisites: 71112)

Dealing with abnormal behavior, identifying possible genetic causal and behavioral factors, the course also provides an evaluation of abnormal behavior on the basis of nervous and mental systems. Also it introduces students to problems of adjustment, psychological and mental disorders, their diagnosis and treatments.

### **PSY 71313 Psychology of Personality**

(prerequisites: 71112,71115)

This course investigates a number of theories: psychoanalysis, existentialism behaviourism and Gestalt... The course will highlight supporters' and opponents' stands to wards Freud's psychoanalysis theory, namely, Jung, Adler, Flugel and Cruze. Existentialists introduced include Kirk, Jark, Nietzsche and Sartre. Gestalts and their followers are Levin, Allport, Murray and Cattle.

### **PSY71314 Social Psychology**

(prerequisites: 71215)

Topics covered in this course are goals, fields and methods of research in social Psychology, social upbringing, development of trends and their change, attraction, violence, aggression, loyalty, compliance, deviation, social influence and environment psychological effects and Educational.

### **PSY71317 Research Methodology in Psychology and Education**

(prerequisites: 71114,71210)

The aim of this course is to train students on how to conduct research in education and psychology. To this end, the students will learn about methods and tools of research.

Emphasis is placed on longitudinal and latitudinal techniques, descriptive method, experimental method and other methods such as observation, deduction and induction.

### **PS Y71319 principales of Psychological Measurement**

Topics covered in this course include principles and concepts pertinent to tests and their construction; psychological measurements, validity and reliability of tests, effectiveness of items and criteria, ways of their derivation and factors influencing their administration. The course also teaches students the how-of getting results of these tests, ways of test standardization and conditions for their application.

### **PSY 71410 Clinical psychology**

(prerequisites: 71213,71312)

This course discusses the nature of clinical psychology, history of its development, its place in modern times, methods of diagnosis through interviews, tests, and observations. The course also highlights most important techniques used in providing psychiatric treatment to patients, their families and their communities inside and outside mental health facilities.

### **PSY 71414 Field Training in Psychology**

(Prerequisite: 71312, 71213)

These course aims at introducing students to basic concepts related to mental illnesses and disorders and methods of their treatment of diagnosis. Students will also learn how to report, in writing, on mental disorder cases particularly after visiting government, and non-government institutions in charge of mental health. The course ends with a look at the practical and theoretical aspects of psychotherapy and methods of diagnosis and treatment.

## ***2. Course Description of Compulsory Courses in Counseling(24 Credits hours)***

### **PSY 75210 Guidance and Counseling Psychology**

(prerequisites: 71112)

This course begins with an explanation of counselling concept, orientation, counselling process, and counsellor's moral principles. It also explains models and theories of psychological counselling, educational and psychological methods and techniques. The course also dwells on problems facing individuals and the need for counselling in some courses. Emphasis is also given to educational counsellor's methods, role, commitment, academic and educational efficiency and the how-of making an orientation and, counselling program

### **PSY 75211 Theoretical Trends in Counselling Psychology**

(prerequisites: 71112)

This course deals with the modern and current issues in psychological counselling, example: Lazarus multidimensional model, Glaser reality counselling, Elise rational emotive therapy, stimulation and, theory of creativity in counselling.

## PSY 75318 Communication in Counselling

(prerequisites: 75211)

This course is a training course on the interview techniques, it covers several areas including; verbal and nonverbal behavioural patterns in counselling process, listening, paraphrasing behavioural analyses for some adjustment and/or emotional problems, and using technical diagnostic skills for identifying the behavioural problems, and building the counselling relationship. It includes also, related topics to self-discovery, reaching out and facing realities. Introducing the student with the communication detrimental factors in counselling process, the techniques of discussion within the groups, conflict and problem resolutions.

## PSY 75319 Methods of Diagnosis and Treatment

(Prerequisites: 75211 & 71315)

This course focuses on the diagnosis and treatment of psychological disorders. The diagnosis procedures, history, and development of treatment of psychological disorders: from organ – based treatments, to psychoanalysis, behaviour therapy, cognitive psychoanalysis therapies; the theoretical bases of different therapies include Interview, case study report, using DSMIV and I CD.

## PSY 75418 Principles of Group Counselling

(Prerequisites: 75241 & 75231)

This course introduces the student with the a general historical perspective of the group counselling development, the rational of its foundation, objectives, and utilities and usability, the formation of group counselling, it's organisation, stage sequencing, and how the counsellor deals with each of theses stages, general principles of selecting a group counsellor especially for counselling in elementary and secondary schools: group guidance, selecting counselling members, deciding the number of counsellors, the number of counselling sessions and its duration and time table distribution.

## PSY 75322 School Counselling

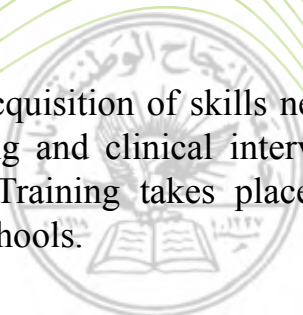
(Prerequisite: 75210)

This course prepares students for practical experiences in counselling through role playing and supervised training, The course involves: guidance and counselling programs in school, counselling process, counselling team, roles of counsellors and teachers, counsellor's duties in school, counselling process files, developmental needs of students, developmental counselling and guidance, group counselling, individual counselling, consultation to parents and teachers, counselling strategies and their applications in school.

## PSY 75420 Practicum in Counselling

(Prerequisites: 75322)

The goals of this course is to train the students in acquisition of skills needed in psychological service delivery; Training in counselling and clinical interviewing, testing, case study, preparing counselling program. Training takes place in the counselling centre, and in preparatory and secondary schools.



## **II. Elective Courses in psychology (15 Credits hours)**

### **PSY 71214 Theories of Learning (prerequisites: 71112)**

Introduces students to major theories of learning, behavioral and knowledge correlation theories in particular. Studies Pavlov's, Thorndike's and Skinner's contributions and achievements, in addition to contributions of Piaget and Koehler, Kurt, Levin, Ausubel and Gagne. Concerning Skinner, the course will highlight his programmed learning.

### **PSY 71262 Psychology of Linguistics'**

(prerequisites: 71115)

This course focuses on the process of thinking and language development and factors affecting them. Also it deals with theories, principles and problems of mental and language disorder and how to diagnose and treat them.

### **PSY 71255 Psychology of Childhood and Adolescence**

(prerequisites: 71115)

The course investigates childhood, and prominent child psychology theories such as: Freud, Adler, Piaget, and Erickson...etc. The course introduces students to stages of development before and after birth, early, middle and late childhood, and characteristics of each stage. Also it investigates the significance of adolescence physical, emotional, mental and sexual changes teenagers experience.

### **PSY 71321 Psychological Stress:**

(Prerequisites: 71115)

This course is aimed to investigate the concepts of stress, theories, principles, and its biological, mental, and environmental factors, also it focuses on adjustment, mental health, mind function, body mind interaction and methods of dealing with stress. Such as: relaxation, breathing, nutrition, meditation, imagination coping skills training, time management and refuting irrational ideas.

### **PSY 71328 Administration and Organisational Psychology**

(Prerequisite: 71312)

The study of organizations and organizational behavior and the theories of administration and behavior and Human behavior in organization settings, beliefs and attitudes towards work, interpersonal relationships, group dynamics and its effect on problem solving and its effect on problem solving and decision making, socio – organization socialization leadership, supervision, and organizational structure.

### **PSY 71351 Differential Psychology**

(Prerequisites: 71114, 71210)

This course begins by defining individual differences and showing their importance. Then the course moves to historical development of this branch of psychology. The course also emphasizes on the impact of the environment and genetics in revealing individual differences and the how-of making use of these differences educationally and scientifically for the sake of securing educational process success.

## PSY71352 Motivations and Emotions

This course covers topics such as definitions principals of emotion and motivation, skills needed to improve learning and motivation processes, theoretical approaches of emotion and motivation and their role in psychology, educational implications, and strategies and special programs to enhance learning and improve students motivation and emotion; also focuses on the relationship between needs, motivation, motivation, emotions values and behaviour and personality structure.

## PSY71355 Psychology of Crime

(Prerequisites: 71115)

This course studies psychological, biological, social and environmental factors that lead to criminal behaviour. It also studies the judge's psyche as well as the psyches of attorney general, investigator, defendant, lawyer, witness, and victim. The course looks at modern techniques used in investigation, imbalances in instincts particularly sexual and mental instincts. The course also sheds light on mental and psychological disabilities and their relationship with criminal behaviour and the effect of illnesses and Psychiatric diseases in criminal responsibilities.

## PSY71451 (€) Psychology of Rumour

This course aims at introducing students to psychological war in terms of its bases, aims characteristics and uses; the difference between real war and psychological war; fields of psychological war, brainwashing, intelligence wars; rumours and their fabrication, dissemination, follow-up and purposes.

## PSY71252 (€) Psychology of Play

This course explains the nature of playing, its historical development and the educators' interest in its educational significance. Of these educators, the course will introduce Froebel and Murray. The course also dwells on behaviour of playing from a psychological perspective as interpreted by Freud, Piaget, Erickson, and Brunner. Emphasis is also given to importance of playing in kindergartens and its consideration as the centre of child's early education before school.



## **Elective courses in Counseling (12 Credits hours)**

### **PSY 75209 Ethical Issues in Counselling**

(prerequisites: 75210)

This course deals with ethical issues in individual and group counselling in different organisations such as family counselling, schools, special education institutions, research and psychological students testing. Also this course helps students in developing positive attitudes towards senior citizens and helping senior citizens to adjust to the new changes in their life's and helping their families to deal with them.

### **PSY75323: Counselling Skills and Expression**

(Prerequisites: 75210)

This course is a training course on the interview techniques, it covers several areas including; verbal and non-verbal behavioural patterns in counselling process, listening, Paraphrasing behavioural analyses for some adjustment and/or emotional problems, and using technical diagnostic skills for and identifying the behavioural problems, and building the counselling relationship. It includes also, related topics to self-discovery, reaching out and facing realities. Introducing the student with the communication detrimental factors in counselling process, the techniques of discussion within the group, conflict and problem resolutions

### **PSY 75325 Family Counselling**

(Prerequisites: 75210)

This course introduces the student with the concept of psychological counselling of the family and it's nature, it's significance, models of dealing with the issues in family counselling, methods of training family counsellors, social concerns in marriage and it's relatedness with family counselling, husband-wife relationships on one hand and between parents and their children on the other hand and how these relationships develop, and the need for family counselling especially when the family undergoes varied psychological problems.

### **PSY 75427 Speech and Language Disorder**

(Prerequisite 71316)

The course deals with speech and language disorders such as: articulation, voice, stuttering, cluttering blocking and neurogenic speech disorder such as: Dysecreteria, Apraxia, Aphasia, and Dyslexia. Also this course focuses on the psychological, neurogenical, mental, environmental factors of language and speech disorder, and methods of diagnosis and treatment.

### **PSY 75428 Students Problems and Their Counselling**

(Prerequisites: 75210)

This course aims at introducing the students with the skills and processes of identifying emotional, psychological and social problems of students at the elementary and secondary levels of their schooling life, as well as the skills and processes of diagnostic these problems, and the related techniques of psychological treatments to these problems, and the various ways of interventions

## PSY 75429 Counselling Texts in English Language

(Prerequisites: 75210)

This course aims at teaching students English language for the purpose of reading the counselling texts in its English references, and training the students to express themselves in speaking about counselling, or researching topics in its original texts, with the general aim at introducing the students with the counselling terminology, and its usability, the course material covers various areas including; counselling glossary, counselling goals, counselling theories, effective techniques and professionalism in counselling and psychotherapy

## PSY 75430 Rehabilitation and Vocational Counselling

(Prerequisite 71212, 75210)

This course illustrates Rehabilitation counselling and its Psychological, social and vocational importance to people of special needs, alcohol and drug addicts, elderly and individuals with severe psychological disturbances. The course emphasises the role of the counsellor in creating preferable changes in schools and homes of people of special needs. The course also asserts the importance of vocational rehabilitation and its methods as well as improving the physical and social conditions of people with special needs in and out of schools



# STUDY PLAN FOR COLLEGE OF EDUCATIONAL SCIENCE

The College of Educational Sciences provides study plans aims at providing Bachelor degree in the following academic programs:

- 1- Psychology and Counseling.
- 2- Methods of Teaching.
- 3- Elementary Education.

1- The student/Studies in the first year of registering the College general courses offered by the college (30) credit hours distributed as follows.

## **College Requirements ( 7) courses (21 credit hours).**

Course No	Course title	Credits	Prerequisites
71112	Introduction to Psychology	3	--
71113	Introduction to Education	3	--
71114	Descriptive Psychology	3	--
71115	Developmental Psychology	3	71112
71123	Learning Critical Thinking	3	--
72111	Introduction to Curriculum	3	--
72115	Computer in Education	3	--

## **2- College Elective Courses: (4 courses) (12 credit hours). Students choose from the following courses:**

Course No	Course title	Credits	Prerequisites
71254	Educational Psychology	3	71112 or 71113
72264	Educational Technology	3	72115
72265	Educational Reading in English	3	--
72352	Evaluation in School	3	72111 or 71112
73126	Education and Teaching in Palestine	3	--
71128	Research and Library Skills	3	--
72317	Classroom Management	3	71113
21101	Calculus I	3	--
31111	Introduction to Literary appreciation	3	--
32111	English College I	3	--
33111	History of Modern Thoughts	3	--
22101	General Physics I	3	--



### **3- Course description:**

#### **71112 Introduction to Psychology:**

Topics covered in this course are nature of psychology, development, learning, motivations, intelligence, perception, schools of Psychology, areas of Psychology, its branches, personality, mental disability, Psychology tests ... The course also dwells on foundations, principles and areas of Psychology. Its mental and educational applications.

#### **71113 Introduction to Education:**

This course covers the following topics: concept, functions, goals, types and nature of education, development of educational thought throughout the ages; culture and education, education and society, role of education in changing the learner, and the educational process, curriculum, the teacher and means of education.

#### **71114 Descriptive Psychology:**

This course introduces students to nature of statistics, areas of its employment, statistical methods samples classification, tabulation and representation of data in graphs, frequency distribution, central tendency and dispersion measures, regression, correlation, probability and equal distributions.

#### **71115 Developmental Psychology:**

This course examines the concept of growth and development in its physical, mental, social and emotional dimensions. It also looks of principles of growth and developments, extent to which developmental characteristics and traits are influenced by genetic, family and social upbringing factors. The course also explains important relationships between development of growth aspects, and processes of family, environment and school formation through different stages of life.

#### **71123 Learning Critical Thinking:**

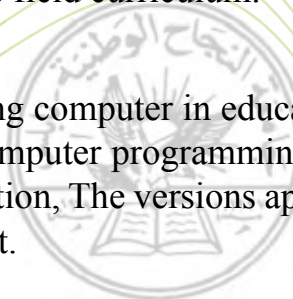
This course presents creative thinking skills, critical thinking, problem solving, remembering, putting priorities, Decision making, sequencing, classifying, raising questions, generalization, taking responsibility, designing listening, predicting, time management.

#### **72111 Introduction to Curriculum:**

The course includes. The development of the curriculum concepts, the elements of curriculum, curriculum foundation, curriculum designs, planning, implementation the educational philosophies and educational theories in the field curriculum.

#### **72115 Computer in Education:**

The course describes the history development of using computer in education, the World experiments in using computers, the different computer programming used in Education. The advantages of using computer in Education, The versions application of computers in the fields of education and management.



## ***Elective courses in the Educational Sciences:***

### **71254 Educational Psychology**

The course presents educational psychology and its relation to general psychology and How to apply the concepts of behaviorist and cognitive schools in teaching which facilitate learning. It also includes appropriate classroom environment for learning including slow learners and handicapped and gifted. This involves the required ablating to complete learning and evaluating it in addition to improving teaching learning process.

### **72264 Educational Technology:**

The course aims at describing the various, educational technology. How to use, strategies of e-learning, the role of technology in changing the classroom environment and teachers' tasks in the area of Technology development.

### **72265 Educational Reading in English;**

The course presents different kinds of current issues in educational fields in education and psychology. The reading involve primary educational concepts. The students are supposed to analyze, apply, generalize in an attempt to build educational meaningful vocabulary.

### **72352 Evaluation in School:**

Students in this course learn about evaluation, development, goals and various tools of evaluation and measurements. This includes types of tests, techniques of their construction and analysis as well as the approaches of evaluating students' academic achievement.

### **73126 Education and Teaching in Palestine:**

The course aims studying the role of education in people and societies in general and the people of Palestine in Particular especially in the history movement of education in Palestine starting from the Islamic country and up to now. The political, Social, economic elements which influence the educational system in Palestine.

### **71128 Research and Library Skills:**

The course involves the study skills related to reading, writing, Library, active reading, its types and purposes, writing summering assays. Conducting research. It also includes using library information resources to.

### **72317 Classroom Management:**

This course aims at acquainting students with the scientific foundations of School management from all aspects. Emphasis is placed particularly on scientific and practical aspects.

### **21101 Calculus I:**

Topics covered in this course include analytic geometry, continuity, limits, definite and indefinite integration, applications of integration and differentiation.

### 31111 Introduction to Literary Appreciation:

This course introduces student to the artistic, intellectual and psychological dimensions of the literary text, improves their reading abilities, thus establishing an affective relationship between and the text, on the one hand and with text and its social environment and values on the other.

### 32111 English College I:

The course focuses on key comprehension skills, such as locating main ideas and supporting details understanding vocabulary in context making inferences. Finding transitions distinguishing literal and non-literal interpretations, and summarizing. The writing part of the course emphasizes organizing vocabulary lists, taking notes, writing summaries filling in tables, and writing advertisements. The grammar part of the course focuses on tenses ( present and perfect), markers word forms conditionals and question forms.

### 33111 Current Thought history:

The purpose of this courses is to study the modern ( European) intellectual friends and Arabic intellectual friends in particular. The course begins with an examination of factors behind European Renaissance from the 16th-19th centuries. The courses looks closely of the factors behind intellectual renaissance in the Arab World namely, study and analysis of religious trends and movements, such as salafiyah (Islamic reform movement) and modernism, political trends such as the Islamic League, Ottoman league, the national regional and pan-Arabism movements, social factors, underdevelopment and its underlying causes, social justice, freedom, equality, emancipation of women: it also examines scientific factors.

### 22101 General Physics I:

In this course, the following subjects are introduced: vectors, laws of two-dimensional motion, linear motion, quantity gravitation, conservation of mechanical energy, rotational kinematics, waves, thermal dynamics, Newton's mechanics, simple harmonic motion.



# STUDY PLAN FOR BACHELOR PROGRAM IN DEPARTMENT OF TEACHER OF UPPER BASIC LEVEL - TEACHING ARABIC

## Specialization Conditions:

To complete successfully the following two course, A minimum of to must be obtained

31111 Introduction to Literary Appreciation

31211 Morphology

The compiling acuirements for Bachelor in Methods of Teaching Arabic.

The department of the Methods of teaching offers a single Arabic Language . All students should for finish 140 Credit hours including university requirements, College requirements Compensatory and elective and departments requirements Compassing and electives.

## Department Compulsory:

Course No	Course title	Credits	Prerequisites
72275	Methods of teaching Arabic Language I	3	--
72380	Methods of teaching Arabic Language II	3	72275
72316	Design and production of educational aides for Teaching Arabic	3	72275
72485	Current Issues and trends in Teaching language	3	72275- 72380
72397	Practical training in Arabic Language	3	72275- 72380
72411	Research Methodology	3	--

## Departments elective requirements Students Chooses (9 Credit hours):

Course No	Course title	Credits	Prerequisites
71312	Principles of Mental Health	3	--
72366	Educational Supervision	3	--
72299	Active Learning	3	--
72313	Educational Sociology	3	--
72415	Teaching Skills Designing	3	--
72286	Educational Planning	3	--
75210	Educational Counselling	3	--
71214	Learning Theories	3	--

## **Specialization Requirements for Methods of Teaching Arabic (57 Credit hours):**

Course No	Course title	Credits	Prerequisites
31211	Morphology	3	--
31212	Syntax A	3	--
31213	Arabic Rhetoric I	3	--
31214	History of Pre- Islamic Literary Texts	3	--
31218	History of Islamic Umayyas Literary Texts	3	31214
31312	Syntax B	3	31212
31319	Abassi Literature and Poetry	3	31218
31412	Syntax C	3	31312
31314	Phonetics	3	--
31316	History of Arabic Literary Criticism	3	--
31351	Prosody and Rhyme	3	--
31358	General Language Science	3	--
31414	Arabic Philology	3	--
31453	Modern Palestinian Literature	3	--
31217	Arabic Rhetoric II	3	--
31317	Abassi Literature Prose	3	31218
31357	Arabic Dictionary	3	--
31459	Folklore Arabic Literature	3	--
31416	Methods of Modern Literary Criticism Schools	3	--

## **Course Description for Methods of Teaching Arabic:**

### **72275 Methods of teaching Arabic Language I:**

This course introduces students to principles, functions and goals of teaching Arabic. The course also introduces recent methods used in preparation of instructional material. The course ends with a look at ways for teacher preparation and qualities of a good teacher.

### **72380 Methods of teaching Arabic Language II:**

Topics covered in this course are the following: detailed study of methods used in teaching Arabic and instructional aids used to reinforce these methods students are also given an opportunity to apply these methods well also learn about evaluation of pupils Learning.

### **72316 Design and Production of education Arts for Teaching Arabic:**

This course covers a number of topics: concept of instructional orals, their aments and characteristics; curricule, educational charts, aquatinted and resources.

### **72485 Current Issues in Teaching Arabic:**

The course discusses issues that are related to teaching Arabic such as cooperative teaching, its definitions, goals, foundations elements, procedures, patterns, strategies and Methods. It also compares, cooperative learning and competitive and individual learning, also role of teacher in cooperative learning, cooperative skills and how to teach it and apply it in teaching Arabic.

### 72397 Practical Training in Arabic Language:

The course includes Methods of training in real teaching, lesson planning and its application in a complete technological way using Microteaching. Teacher who supervise the training presents videos for teaching cases which students criticize – student chooses a lesson and presents to his peer students supervised by the teacher of the course. Teacher and students clarify points about presented lesson after primary and secondary.

The lesson would be taped and the students would see it later to find out areas of strength and weaknesses.

### 72411 Research Methodology:

This aims at introducing students to scientific research methodology and helping him/her to develop his abilities in understanding research and procedures in conducting it and to know concepts, foundation and methods that research carries and helping students to choose a problem for his research and gather the data and analysis methods and explaining the data to solve the problem.

Course Description for courses in Methods of Teaching:

### 71312 Principles of Mental Health:

The course introduces the definition of mental health its aspects and status. It also focuses on adjustment, normal behavior, personality, consciousness and unconsciousness, forms of front brain, frustration, epilepsy axially, psychological disorders, social behavior and forms of mental health in public life.

### 72366 Educational Supervision:

The course involves the concept of educational supervision, its various definitions, the historical development for the process of educational supervision and its foundation, the importance of educational supervision and factors influencing it. The role of the principals school supervisor, Types of supervisors, authoritarian, Democratic, Cooperative etc. methods of Supervising ( class visits, illustrative lessons, Microteaching)..

### 72299 Arabic Learning:

The course presents the concepts of active learning, its definitions and foundation, characteristics, importance elements, classroom environment for active learning, strategic of active learning and its pollens ( purposeful lecturing, Discovery etc. Role of teacher.

### 72313 Educational Sociology:

Studies the concepts of Educational sociology, the effects of culture on educational intuitions, home, school and media and indirect educational elements such as geneses ( inheritance, environment elements and culture.

### **72415 Designing Teaching Skills:**

The course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals- students will also be able to determine activities, methods and evaluation. The course ends with an introduction to tasks teachers are changed within the designing of instruction and planning.

### **72286 Educational Planning:**

Studies educational planning, its importance, characteristics, range planning and its relation with change. It also covers reasons of success, difficulties, challenges, procedures of educational planning. Introducing educational detailed plan with its application in the Palestinian educational environment.

### **75210 Educational Counseling:**

The course includes guidance and counseling, goals, approaches, principles, theories, fields and approaches, data gathering methods, The process of counseling psychological counseling in schools and some students problems in schools and methods to save them.

### **71214 Learning Theories:**

The course introduces students to major theories of learning, behavioral and cognitive. Studies pallor's, Thorndike's and stunner's contributions and achievements, in addition to contributions of Koehler, Kurt, Levin, Amusable and Gagne, concerning skinner, the course will highlight this programmed learning.

## ***Course Description for Compulsory Courses for Methods of Teaching Specialization From the Art Faculty:***

### **31211 Morphology:**

This course starts with a definition of morphology and its place in linguistic analysis. After this, the course moves to cover a number of morphological topics: morphological derivatives, dualism, I'lal (defectiveness), ibdal (appositional substantive). This is coupled with application in the form of exercises.

### **31212 Syntax A:**

This course covers basic syntactic topics such as "kana" (was) and its "sisters", voice, subject and predicate and the disintentionally inflective. It also reinforces students' knowledge of the basics of syntax to make use of them in spoken and written Arabic.

### **31213 Arabic Rhetoric I:**

This course traces the emergence of Arabic rhetoric in ancient poetry and the environments which contributed to development of rhetoric as a field of study. Students will be introduced to the main forms of rhetoric: science/art of metaphors and good style, and science of rhetoric and their application in ancient and modern poetry or prose. This will help the student develop his/her appreciation and make him/her discover aspects of aesthetics in rhetorical images (metaphors/similes).

### 31214 History of Pre- Islamic Literary Texts:

This course begins by introducing pre-Islamic literature, through Jahili poetry, identifying artistic values in this poetry and dwelling on its idioms based on the most documented sources. The course will touch on the political, social and economic life of this age through selected poetry readings. The course also tackles some literary issues and phenomena such as plagiarism, making poetry a means of living and the utterly destitute (sa'alik) poetry

### 31218 History of Islamic Umayyad Literary Texts:

This is a study of the most important environments of the Arab poetry at the time: Hijaz, Bedouin, Greater Syria, Iraq, and Kharassan. The course aims at illustrating poetic specialty during the era and drawing a picture, a general one, through literary texts.

### 31312 Syntax B:

Main topics covered in this syntax course are doer of action, transitive and intransitive verbs, objects, prepositions and exceptions. There will be grammatical applications to reinforce these topics.

### 31319 A bassi Literature and Poetry:

This is a course designed to study literary life and trends in general and then the new poetry trends in particular. There is also an analytical study of selected poetry texts by prominent Abbassid poets.

### 31412 Syntax C:

This course covers a number of topics including prepositions, addition, vocative, present tense in the accusative or subjunctive cases, appositives, and the indeclinable. A grasp of language rules will greatly increase students' reading and writing capabilities

### 31314 Phonetics:

Beginning by defining phonology, the course includes works of classical Arab scholars in the field, casts light on development of phonology by Western linguists, and moves on to study the articulatory system, the manner and rules of sound production. There is also a comprehensive study of silent sound and harkat (vowels) in Arabic, affixes and their types and some phonological phenomena and laws

### 31316 History of Arabic Literary Criticism

This course is a study of the history of Arabic literary criticism in its early ages; there will be case studies of Ben Salam, Ben Qutaiba, al-Jahith, al-Qadi al-Jirjani in terms of their contributions to literary criticism.



### **31351 Prosody and Rhyme;**

Students are introduced to prosody, its content, and reasons for devising it. They will also learn the ten meters generated for different reasons coupled with roots, divisions of poetic verse and divisions of poetry schemes, poetry necessities, study of the modernization movement in Arabic poetry, particularly concerning the form of the modern Arab poem whether it be classical or free verse.

### **31358 General Language Science:**

This course covers a number of topics: Meaning and purpose of linguistics; difference between linguistics and philology, and history of this science among the Arabs and Europeans in the past and in modern times. Branches of this science include phonology, semiotics, morphology, syntax, and semantics. In addition, the course will cover other issues: definitions of language by ancient philologists and modern linguists, theories on writing systems, and origins of language.

### **31414 Arabic Philology:**

Topics covered in this course include development of the Arabic language, its phonemes, structures, morphemes; study of ancient Arabic dialects and their features; historical relationship between Arabic and other languages, and semitic languages in particular. There will also be a study of some linguistic phenomena such as a synonyms, antonyms, homonyms.

### **31453 Modern Palestinian Literature:**

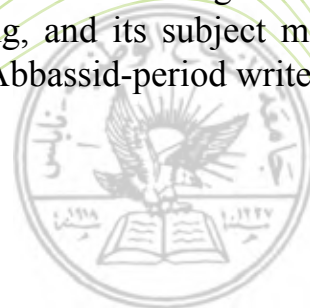
Specific themes, common in Palestinian literature, such as land, resistance literature, exile literature, poetry of the Nakba (disaster of 1948) are examined. An artistic feature, such as symbolism in Palestinian literature, structure of novel or language in narrative prose, may be included. A study of a Palestinian writer such as Ghassan Kanafani, Jabra I. Jabra, Emil Habibi, Mahmoud Darwish or Samih al-Qassim, may highlight this course.

### **31217 Arabic Rhetoric II:**

This course is a continuation of topics covered in Arabic Rhetoric I. In this course, focus is on the study of semantics coupled with an attempt to link ancient subjects, such as methods of composition, brevity, verbosity, putting forward and putting back, methods of abbreviation, with criticisms and modern rhetorical studies.

### **31317 Abassi Literature Prose:**

This course is a general study of literary and intellectual life during the Abbassid era. The emergence and development of prose writing, and its subject matter are examined, coupled with a literary analysis of texts of Abbassid-period writers



### 31357 Arabic Dictionary:

This course begins with a historical study of invention of the dictionary by ancient peoples, including the Arabs. Then the course will move to study the first beginnings of an Arabic dictionary, early endeavors in this respect, major Arabic dictionary schools: phonetics schools pioneered by al-Khalil Ben Ahmad in his book Al-‘Ayn, Al-Qafiyya School by al-Jawhari in al-Sahah Dictionary; Al-Ibtathiyaa School or al-Haditha School by al-Zamakhshari in Asass al-Balagha Dictionary. The course will conclude with an introduction to the state of modern Arabic dictionary, its needs, and endeavors made by linguistic conclaves to amend it.

### 31459 Folklore Arabic Literature:

This course begins with an introduction to popular literature in general and then moves to Palestinian popular literature, in terms of its genres, elements, characteristics, themes and extension across time and place. This kind of literature is a literary art closely related to the environment in which it came into being. The course also raises the question of why we study Palestinian popular literature in particular and its association with the people’s sentiments. The course also sheds light on leading lights of this literature and models from their literature

### 31416 Methods of Modern Literary Criticism Schools:

An outstanding topic in modern Arab literature, such as East and West in the Arabic novel, image of the Jew in Arabic literature, Arab heritage symbols in contemporary Arabic poetry will be embraced. Also introduced will be poetry, novel or short story celebrity writers such as Najib Mahfouz, Amal Dankal, and Abdel Wahab al-Bayyati, Abdel-Rahman Munif or Yousef Idris. Students may find contemporary Arab Feminist literature, or the influence of European poetry on contemporary Arabic poetry of interest

# STUDY PLAN FOR BACHELOR PROGRAM IN DEPARTMENT OF TEACHER OF UPPER BASIC LEVEL - TEACHING ENGLISH

## *Specialization Requirements:*

The students should finish the following with Average 70% and above:

- 32111 College English I
- 32112 College English II
- 72265 Educational Readings in English

The basic Requirements for Bachelor Degree in Methods of Teaching English.

The department offers a single specialization for a bachelor in Methods of Teaching English. Students wish to specialize in Methods of teaching English should complete (140) credit hours including university requirements, faculty compulsory and electives, requirements departments compulsory and electives requirements.

## *Departments compulsory Requirements (18) credit hours*

Course No	Course title	Credits	Prerequisites
72314	Methods of teaching English Language I	3	--
72315	Methods of teaching English Language II	3	72222
72316	Design and production of educational aides for Teaching English	3	72222
72483	Current Issues and trends in Teaching English language	3	72222- 72223
72395	Practical training in English Language	3	72222- 72223
72411	Research Methodology	3	--

## *Departments elective requirements Students Chooses (9 Credit hours):*

Course No	Course title	Credits	Prerequisites
71312	Principles of Mental Health	3	--
72366	Educational Supervision	3	--
72299	Active Learning	3	--
72313	Educational Sociology	3	--
72415	Teaching Skills Designing	3	--
72286	Educational Planning	3	--
75210	Educational Counselling	3	--
71214	Learning Theories	3	--



## Specialization Requirements for Methods of Teaching English (57 Credit hours):

Course No	Course title	Credits	Prerequisites
32112	College English II	3	32098-23100
32200	Conversation and Aural Comprehension		32111
32202	Advanced Grammar		10323
32203	Writing and Research		32112
32220	Oral Communication		32200
32234	Introduction to Linguistics	3	--
32236	Phonetics and Phonology		32234
32260	Introduction to Literature	3	--
32261	The Novel and Short Story		32260
32386	Contrastive Linguistics		32236+32340
32303	Advanced Writing		32203
32340	Syntax and Syntactic Theory		32234
32343	Semantics		32234
32350	Advanced Linguistics		32340
32262	Poetry		32260
32459	Literary Criticism		32262
32323	Morphology		32236
32442	Psycholinguistics		32343-32340
32360	Drama		32260

### Course Description for Methods of Teaching English:

#### 72314 Methods of teaching English Language I:

This course introduces students to principles, functions and goals of teaching English. The course also introduces recent methods used in preparation of instructional material. It also in clods methods of teacher preparation and qualities of a good teacher.

#### 72315 Methods of teaching English Language II:

Topics covered in this course are the following: details study of methods used in teaching English and instructional aids used to reinforce these methods students are given an opportunity to apply these methods and learn about evaluation of pupils Learning.

#### 72316 Design and Production of educational aids for teaching English:

This course covers a number of topics: concept of instructional aids, their themes and characteristics; curricula, educational charts, Methods of designing and prouder schools, teaching aids from raw material .

#### 72485 Current Issues in Teaching English:

The course discusses issues that are related to teaching English such as cooperative teaching, its definitions, goals, foundations elements, procedures, patterns, strategies and methods. It also compares, cooperative learning and competitive and individual learning, also role of teacher in cooperative learning, cooperative skills and how to

teach it and apply it in teaching English.

### **72395 Practical Training in English Language:**

The course includes methods of training in real teaching, lesson planning and its application in a complete technological way using microteaching. Teacher who supervises the training presents videos for teaching cases which students criticize – the student chooses a lesson and presents to his peer students supervised by the teacher of the course. Teacher and students clarify points about presented lesson.

The lesson would be taped and the students would see it later to find out areas of strength, and weaknesses.

### **72411 Research Methodology:**

This aims at introducing students to scientific research methodology and helping him/her to develop his abilities in understanding research and procedures in conducting it and to know concepts, foundation and methods that research carries and help students to choose a problem for his research and gather the data and analysis methods and explain the data to solve the problem.

### ***Course Description for courses in Methods of Teaching:***

#### **71312 Principles of Mental Health:**

The course introduces the definition of mental health its aspects and status. It also focuses on adjustment, normal behavior, personality, consciousness and unconsciousness, psychological disorders, social behavior and forms of mental health in public life.

#### **72366 Educational Supervision:**

The course involves the concept of educational supervision, its various definitions, the historical development for the process of educational supervision and its foundation, the importance of educational supervision and factors influencing it.

#### **72299 Active Learning:**

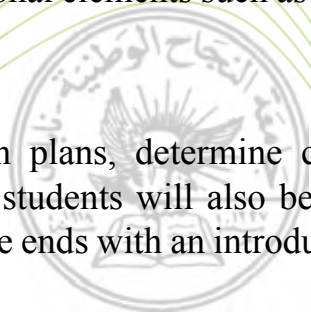
The course presents the concepts of active learning, its definitions and foundation, characteristics, elements, classroom environment for active learning, strategic of active learning and its pollens ( purposeful lecturing, brain storming Discovery etc. Role of teacher.

#### **72313 Educational Sociology:**

Studies the concepts of Educational sociology, the effects of culture on educational intuitions, home, school and media and indirect educational elements such as geneses ( inheritance, environment elements and culture.

#### **72415 Teaching Skills Designing:**

The course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals- students will also be able to determine activities, methods and evaluation. The course ends with an introduction to



tasks teachers are changed within the designing of instruction and planning.

### **72286 Educational Planning:**

Studies educational planning, its importance, characteristics, planning and its relation with change. It also covers reasons for success, difficulties, challenges, procedures of educational planning. Introducing educational detailed plans with application to the Palestinian educational environment.

### **75210 Educational Counseling:**

The course includes guidance and counseling, goals, approaches, principles, theories, fields and approaches, data gathering methods, The process of counseling psychological counseling in schools and some students problems in schools and methods to save them.

### **71214 Learning Theories:**

The course introduces students to major theories of learning, behavioral and cognitive. Studies Thorndike's and skimmers contributions and achievements, in addition to contributions of Koehler, Kurt, Levin, Amusable and Gagne, concerning Skinner, The course highlight ths programmed learning.

## ***Course Description for Compulsory Courses for Methods of Teaching Specialization From the Art Faculty:***

### **32112 College English II:**

This course begins with a review of effective sentences, then focuses on the paragraph. Students will be taught to develop topic sentences into unified and coherent paragraphs using different methods of paragraph development. They will also learn how to fill out application forms, write cover letters, and draft CVs. A grammar review is an essential part of this course. The essay will be introduced briefly towards the end of the semester

### **32200 Conversation and Aural Comprehension:**

This course aims at improving the students' speaking and listening skills, increasing their vocabulary, and training them in the functions and notions of language. Students practice using formal and informal English in a variety of situations. The aims of the course are to be achieved through organizing group activities, discussions, role-playing, and listening to cassette tapes, among other things.

### **32202 Advanced Grammar:**

This course employs an eclectic approach to the study of grammar. It introduces students to advanced and complex grammatical structures and systematically relates these structures to meanings, uses, and situations

### **32203 Writing and Research:**

This course begins with a review of the paragraph before it focuses on the expository

essay. Students will read different kinds of expository essays (description, comparison/contrast, process, classification, definition, persuasion) and will learn how to write them. Emphasis will be put on writing effective thesis statements, introductions, and conclusions, and on developing generally unified and coherent essays. Students will also be taught how to edit their work. They will practice answering essay questions and writing about literature. The course will briefly introduce the research paper.

### **32220 Oral Communication:**

This course emphasizes higher level skills such as debating, giving presentations, inferencing, defending ideas, using telephone skills, etc. English for work and real-world situations is emphasized through exposing students to listening activities and through speaking.

### **32234 Introduction to Linguistics:**

This course is an introduction to the study of language, including branches of linguistics and the relationship of linguistics to other fields.

### **32236 Phonetics and Phonology:**

The Phonetics part of the course trains the students in Linear Transcription System and in production and perception of speech sounds. It provides students with the description of sounds (place and manner of articulation) and their classification into consonants, vowels and diphthongs. The Phonology part of the course is concerned with the distribution and relations of sounds. It also provides the students with the various phonological processes and rules.

### **32260 Introduction to Literature:**

This course introduces students to different theories of the meaning of literature. Through the study of representative literary texts, students learn the basic principles of literary interpretation and the elements of different literary forms such as the short story, novel, drama, and poetry.

### **32261 The Novel and The Short Story:**

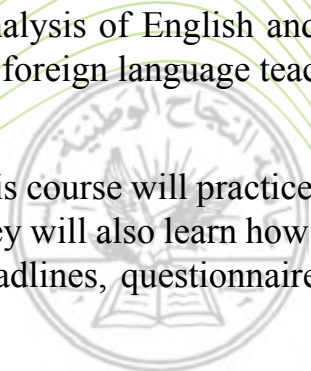
This course trains students in the analysis of fiction, particularly the structure of novels and short stories, by studying representative English and American specimens of these genres.

### **32386 Contrastive Linguistics:**

This course focuses on theory and practice in the analysis of English and Arabic contrasts, errors made by learners, and implications for foreign language teaching

### **32303 Advanced Writing:**

Through in and out of class writing, the students in this course will practice various modes of expressive, literary, and technical writing. They will also learn how to write letters, advertisements, abstracts, CV's, newspaper headlines, questionnaires, book reviews and reports, proposals, and articles



### 32340 Syntax and Syntactic Theory:

This course focuses on theory and practice in the analysis and description of modern English, emphasizing syntax

### 32343 Semantics:

This course introduces students to the basic concepts in Semantics such as Reference and Sense, Sense Relations, Word Meaning, Sentence Meaning and Utterance Meaning (Pragmatics), and Propositions. Students will also be introduced to the nature of Logic and Interpersonal Meaning.

### 32350 Advanced Linguistics:

The course aims at improving and locking after what students, students have learned in Introduction to linguistics, phonates and phonology, syntax, morphology, semantic with special emphases on morphology and syntax.

### 32262 Poetry:

Through the study of a wide-ranging selection of works by well-known British and American poets, this course provides a close analysis of the language and stylistic features of poetry. The poetry features studied include structure, diction, prosody and the various sound devices used by the poets in the creation of images. The course also introduces various poetic forms: narrative poetry (epic, ballad, dramatic monologue, etc.), lyric poetry (sonnet, elegy, ode etc.), and modern free verse.

### 32459 Literary Criticism:

This course maps literary criticism from Plato to the modern age with a focus on modern critical theory. Students will closely read texts that “represent” Classical, Neo-Classical, Romantic, Modern and post-modern theory. Students will also study various modern and post-modernist critical theories, such as Mythical and Archetypal approaches, Structuralism, Deconstruction, Psychoanalysis, Marxism, Feminism, and postcolonialism. Critical theories will also be applied to literary texts

### 32323 Morphology:

One branch of linguistics and interial text of word formation uncluding terminology, compound words, d- focuses basically on the of English language and unclodes recent development and theories related and theories related particularly to English language and generally to other international languages.

### 32442 Psycholinguistics:

This course studies the relationship between language and the mind, dealing with perception, processing, and learning of language, and language acquisition universals

### 32360 Drama:

This course studies masterpieces of dramatic works from the Greek period through present times, for the purpose of understanding a dramatic structure and the social function of the dramatic art. Writers studied include Sophocles, Shakespeare, Shaw,



Beckett, and Pinter, among others.

## **STUDY PLAN FOR BACHELOR PROGRAM IN DEPARTMENT OF TEACHER OF UPPER BASIC LEVEL - TEACHING SOCIAL STUDIES**

### **Specialization Requirements:**

The students should complete the following courses with Average 70% and above:

- 33111 History of Modern Thoughts
- 34111 Geography of Palestine

The basic Requirements for Bachelor Degree in Methods of Teaching Social Sciences.

The department of teaching methods offers single specialization for a bachelor in Methods of Teaching Social. Students wish to specialize in Methods of teaching Social Sciences should complete (140) credit hours including University Requirements faculty compulsory and Requirements compulsory and electives. Departments Requirements compulsory and electives.

### **Departments compulsory Requirements (18) credit hours:**

Course No	Course title	Credits	Prerequisites
72270	Methods of teaching Social Sciences I	3	--
72370	Methods of teaching Social Sciences II	3	72270
72316	Design and production of educational aids for Teaching Social Sciences	3	72270
72484	Current Issues in Teaching Social Sciences	3	72370- 72270
72396	Practical Training in Social Sciences	3	72370- 72270
72411	Research Methodology	3	--

### **Departments elective requirements Students Chooses (9 Credit hours):**

Course No	Course title	Credits	Prerequisites
71312	Principles of Mental Health	3	--
72366	Educational Supervision	3	--
72299	Active Learning	3	--
72313	Educational Sociology	3	--
72415	Teaching Skills Designing	3	--
72286	Educational Planning	3	--
75210	Educational Counselling	3	--
71214	Learning Theories	3	--



## Specialization Requirements for Methods of Teaching Social Sciences (57 Credit hours):

Course No	Course title	Credits	Prerequisites
33211	History of Ancient East	3	33311
33213	History of Early Islam (the Prophet's and Guided Caliphs' Era)	3	--
33214	History of Umayyad Caliphate	3	--
33215	History of Abbassid Caliphate	3	33311
33414	Contemporary World History	3	33311
33412	History of Modern Arabs	3	33311
33413	History of Modern Palestine	3	33311
33212	Pre-Islamic History of Arabian Peninsula	3	--
33313	History of Europe in the Medieval Ages	3	--
34111	Geography of Palestine	3	--
34112	Human Geography	3	--
34113	Principals to (physical Geography Natural	3	--
34210	Principles of Maps and Surveying	3	34113
34312	Principles of Demography	3	34113
34213	Principles of Climate	3	--
34421	Population Geography	3	--
34230	Introduction to Aerial Photoanalysis	3	--
34315	Urban Geography	3	--
34314	Water Resources Geography	3	34213

## Course Descriptions for Methods of Teaching Social Sciences:

### 72270 Methods of teaching Social Sciences I:

This course introduces students to principles, functions and goals of teaching English. The course also introduces recent methods used in preparation of instructional material. The course ends with a look at ways for teacher preparation and qualities of a good teacher.

### 72370 Methods of teaching Social Sciences II:

Topics covered in this course are the following: detailed study of methods used in teaching English and instructional aids used to reinforce these methods students are also given an opportunity to apply these methods well also learn about evaluation of pupils Learning.

### 72316 Design and Production of educational aids for teaching English:

This course covers a number of topics: concept of instructional aids, their themes and characteristics; curricula, educational charts, Methods of designing and prouder

schools, teaching aids from raw material .

### **72484 Current Issues in Teaching English:**

The course discusses issues that are related to teaching English such as cooperative teaching, its definitions, goals, foundations elements, procedures, patterns, strategies and Methods. It also compares, cooperative learning and competitive and individual learning, also role of teacher in cooperative learning, cooperative skills and how to teach it and apply it in teaching English.

### **72396 Practical Training in English Language:**

The course includes Methods of training in real teaching, lesson planning and its application in a complete technological way using Microteaching. Teacher who supervise the training presents videos for teaching cases which students criticize – student chooses a lesson and presents to his peer students supervised by the teacher of the course. Teacher and students clarify points about presented lesson after primary and secondary.

The lesson would be taped and the students would see it later to find out areas of strength and weaknesses.

### **72411 Research Methodology:**

This aims at introducing students to scientific research methodology and helping him/her to develop his abilities in understanding research and procedures in conducting it and to know concepts, foundation and methods that research carries and helping students to choose a problem for his research and gather the data and analysis methods and explaining the data to solve the problem.

### ***Course Description for courses in Methods of Teaching:***

#### **71312 Principles of elactive Health:**

The course introduces the definition of mental health its aspects and status. It also focuses on adjustment, normal behavior, personality, consciousness and unconsciousness, forms of front brain, frustration, epilepsy axially, psychological disorders, social behavior and forms of mental health in public life.

#### **72366 Educational Supervision:**

The course involves the concept of educational supervision, its various definitions, the historical development for the process of educational supervision and its foundation, the importance of educational supervision and factors influencing it. The role of the principals school supervisor, Types of supervisors, authoritarian, Democratic, Cooperative etc. methods of Supervising ( class visits, illustrative lessons, Microteaching)..

#### **72299 Active Learning:**

The course presents the concepts of active learning, its definitions and foundation, characteristics, importance elements, classroom environment for active learning, strategic

of active learning and its pollens ( purposeful lecturing, Discovery etc. Role of teacher.

### **72313 Educational Sociology:**

Studies the concepts of Educational sociology, the effects of culture on educational intuitions, home, school and media and indirect educational elements such as geneses ( inheritance, environment elements and culture.

### **72415 Designing Teaching Skills:**

The course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals- students will also be able to determine activities, methods and evaluation. The course ends with an introduction to tasks teachers are changed within the designing of instruction and planning.

### **72286 Educational Planning:**

Studies educational planning, its importance, characteristics, range planning and its relation with change. It also covers reasons of success, difficulties, challenges, procedures of educational planning. Introducing educational detailed plan with its application in the Palestinian educational environment.

### **75210 Educational Counseling:**

The course includes guidance and counseling, goals, approaches, principles, theories, fields and approaches, data gathering methods, The process of counseling psychological counseling in schools and some students problems in schools and methods to save them.

### **71214 Learning Theories:**

The course introduces students to major theories of learning, behavioral and cognitive. Studies pallor's, Thorndike's and stunner's contributions and achievements, in addition to contributions of Koehler, Kurt, Levin, Amusable and Gagne, concerning skinner, the course will highlight this programmed learning.

## ***Course Description for Compulsory Courses for Methods of Teaching Specialization From the Art Faculty:***

### **33211 History of Ancient East**

This course aims at studying the development of human life in the Ancient Near East region since the Old Stone Age up to late historical eras. The Ancient Near East will be studied from political, cultural and intellectual aspects: Instruments, writing systems, architecture, arts, religions. This course will focus on the history of Ancient East countries, namely, Iraq, Egypt and Syria. The course also examines the effects of these civilizations on Man's history.

### **33213 History of Early Islam (the Prophet's and Guided Caliphs' Era)**

This course examines the call for Islam, its spread in Mecca and Medina,

organization of the Muslims' state during the Prophet's lifetime, the Prophet's policy in spreading the Islamic call inside and outside the Hijjaz, apostasy and self-prophecy claim movements, the issue of the Prophet's succession, conquests during the Guided Caliphs' times, organizations of state governing administration, financially, religiously and militarily, as well as disagreements which had emerged and their consequences.

### **33214 History of Umayyad Caliphs:**

This course highlights a number of topics: establishment of the Umayyad dynasty, development of caliphate system during the Umayyad period, the Umayyads' policy in fostering their authority, the Umayyads' position towards the Islamic sects, namely, al-Khawarij and the Shiites; the Mawali movements, Islamic conquests during the Umayyad caliphs' times, government and administrative systems, and characteristics of civilization during the rule of the Umayyad period

### **33215 History of Abbassid Caliphs:**

This course investigates the organization of da'wa (call) for House of the Prophet, establishment of the Abbassid caliphate. In addition, the course is a brief study of caliphs in the first Abbassid age, Abbassid caliphs' home policy toward the Alawis, Mawalis, Shu'biyyah, Baramika, the Arabs, ... etc. The course also looks at Abbassids' foreign policy towards the Byzantine and Holy Roman empires, the Maghreb and Andalus, ... etc. It will also shed light on the emergence of semi-independent Muslim states, age of Turks' dominance, systems of government, and aspects of civilization during the Abbassid caliphs

### **33414 Contemporary World History:**

This course is a study of 20th century events including the events of the Second World War, the emergence of Western and Eastern blocs, the non-aligned bloc, international crises and a follow-up of current events at the international level.

### **33412 History of Arabs:**

This course covers the Ottomans' conquest of Arab countries, a quick general glimpse of these countries until the late 18th century. The course is also an intensive study of the 19th century and its major characteristics at the international, Ottoman, and Arab levels and the European domination of the Arab countries until the early events of the First World War.

### **33413 History of Modern Palestine:**

This course is a study of Palestinian history from the beginning of the First World War, and the conditions of Palestinian society during the First World War. The course traces political events that resulted in the emergence of Palestine as a geopolitical entity, the British political drive and its alliance with Zionist plots in Palestine. The course covers both political and non-political events which affected modern Palestinian history until the end of the Second World War.



### 33212 Pre-Islamic History of Arabian Peninsula:

This course highlights the study of the sources related to Jahili and Arabian Peninsula history before Islam, Arab classes, geography of Arab lands, Yemen's old states, and the remaining states in the Arabian Peninsula before Islam: Qinda, Palmyra, Nabateans, Ghassasans, and Manathiras, and the tribal society in Hijaz from all aspects.

### 33313 History of Europe in the Medieval Ages:

This course is a study of the history of the Roman empire, the Barbaric invasions and the establishment of German ministates, spread of Christianity in Europe, emergence of the church/monastery movement, the Normans and their role in the course of historical events.

### 34111 Geography of Palestine:

This is a regional study of Historical Palestine before 1948. the impact of historical events on it. Political upheavals that have been storming the country for along time, particularly from economic, human, and geographical perspectives.

### 34112 Human Geography:

This course examines human geographic research methodologies of thought, how man came into being on earth and how he spread out.

### 34113 Principals of (physical Geography Natural:

This course introduces a number of topics: solar system, celestial bodies, theories on origin of this planet, age, dimensions and structure of stones, seas, oceans and their origin, movement of sea and ocean waters, climate, soil, water, formation of earth.

### 34210 Principles of Maps and Surveying;

Topics covered in the course include principles of map drawing, cartographic symbols used in maps, instruments used in map drawing, technical and mathematical methods used in making projections, methods of land survey, creation of projections, spaces on maps, nature, familiarity with equipment used in various surveying operations in addition to ways of elevating a natural area on a map or a physical plan.

### 34312 Principles of Demography:

This is a study of different population theories and policies, sources of demographic and urban data, mortality, migration and its rates, and factors influencing them.

### 34213 Principles of Climate:

This course begins with a definition of climatology, and relationship between climatology and meteorology, atmosphere in terms of structure and its effect on controlling earth environment, study of climate elements (sun rays, heat, winds, air pressure, moisture, precipitation, rain, clouds, mist) and general foundation on which international climate classifications are based.

### **34421 Population Geography:**

Topics covered in this course include geographical distribution of population, factors influencing this distribution, different demographic structures, general mobility of population, people's relationship with the environment and natural resources

### **34230 Introduction to Aerial Photoanalysis:**

This is a study of aerial photos in terms of types, engineering and light features, analysis of aerial photos by using optical equipment, map designing and land uses.

### **34315 Urban Geography:**

This course is a study of urban and rural housing patterns and characteristics, city planning, patterns of land use, and major city problems

### **34314 Water Resources Geography:**

Topics covered, in this course, include cycle of natural water, its basic elements, particularly amount of rainfall, evaporation, precipitation, water leakage in soil, underground water, rivers and lakes, seas and oceans in terms of scarcity, abundance and properties, changes in time and place, utilization, development and preservation of these resources as well as the existing relationships between them and man.



# STUDY PLAN FOR BACHELOR PROGRAM IN DEPARTMENT OF TEACHER OF UPPER BASIC LEVEL - TEACHING SCIENCE

## *Specialization Requirements:*

The students should complete the following courses with Average 70% and above: and should pass 21101 Calculus (1)

- 22101 General Physics I
- 23101 General Chemistry I
- 24101 General Biology I

The basic Requirements for Bachelor Degree in Methods of Teaching Sciences.

The Method of Teaching department offers a single major for the Bachelor of teaching Sciences. All students seeking bachelor degree in this major should finish (140) credit hours including University Requirements faculty compulsory and electives, Departments Requirements compulsory and electives.

## *Departments compulsory Requirements (18) credit hours:*

Course No	Course title	Credits	Prerequisites
72371	Methods of teaching Sciences I	3	--
72381	Methods of teaching Sciences II	3	72371
72316	Design and production of educational aids for teaching Sciences	3	72371
72481	Current Issues in Teaching Sciences	3	72381- 72371
72393	Practical Iraining in Sciences Language	3	72381- 72371
72411	Research Methodology	3	--

## *Departments elective requirements Students Chooses (9 Credit hours):*

Course No	Course title	Credits	Prerequisites
71312	Principles of Mental Health	3	--
72366	Educational Supervision	3	--
72299	Active Learning	3	--
72313	Educational Sociology	3	--
72415	Teaching Skills Designing	3	--
72286	Educational Planning	3	--
75210	Educational Counselling	3	--
71214	Learning Theories	3	--



### **Specialization Requirements for Methods of Teaching Sciences (57 Credit hours):**

Course No	Course title	Credits	Prerequisites
21102	Calculus II	3	22101
22101	General Physics I	3	--
22102	General Physics II	3	22101
22107	Laboratory Practice I	1	22101
22108	Laboratory Practice II	1	21102
22221	Waves and Optics	3	21102
22203	General Physics III	3	22106
22231	Electronics	3	21102
24101	General Biology I	3	--
24102	General Biology II	3	24107
24107	Practical General Biology I	1	24107
24311	Bio chemistry	3	23332
24108	Practical General Biology II	1	24102-24108
24231	Genetics	4	24102-24108
24255	Botany	4	24102-24108
23101	General Chemistry I	3	--
23102	General Chemistry II	3	23101
23107	Laboratory Practice I	1	--
23108	Laboratory Practice II	1	23102
23231	Organic Chemistry I	3	23107
23321	Inorganic Chemistry I	3	23101
23211	Analytical Chemistry	3	--

### **Course Description for Methods of Teaching Sciences:**

#### **72371 Methods of teaching Sciences I:**

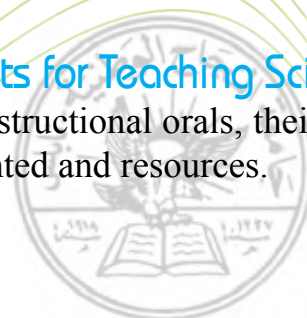
This course introduces students to principles, functions and goals of teaching Sciences. The course also introduces recent methods used in preparation of instructional material. The course ends with a look at ways for teacher preparation and qualities of a good teacher.

#### **72381 Methods of teaching Sciences II:**

Topics covered in this course are the following: detailed study of methods used in teaching Sciences and instructional aids used to reinforce these methods students are also given an opportunity to apply these methods well also learn about evaluation of pupils Learning.

#### **72316 Design and Production of education Arts for Teaching Sciences:**

This course covers a number of topics: concept of instructional orals, their aments and characteristics; curricula, educational charts, aquatinted and resources.



### 72481 Current Issues in Teaching Sciences:

The course discusses issues that are related to teaching Sciences such as cooperative teaching, its definitions, goals, foundations elements, procedures, patterns, strategies and Methods. It also compares, cooperative learning and competitive and individual learning, also role of teacher in cooperative learning, cooperative skills and how to teach it and apply it in teaching Sciences.

### 72393 Practical Training in Sciences:

The course includes Methods of training in real teaching, lesson planning and its application in a complete technological way using Microteaching. Teacher who supervise the training presents videos for teaching cases which students criticize – student chooses a lesson and presents to his peer students supervised by the teacher of the course. Teacher and students clarify points about presented lesson after primary and secondary.

The lesson would be taped and the students would see it later to find out areas of strength and weaknesses.

### 72411 Research Methodology:

This aims at introducing students to scientific research methodology and helping him/her to develop his abilities in understanding research and procedures in conducting it and to know concepts, foundation and methods that research carries and helping students to choose a problem for his research and gather the data and analysis methods and explaining the data to solve the problem.

### *Course Description for courses in Methods of Teaching:*

#### 71312 Principles of Mental Health:

The course introduces the definition of mental health its aspects and status. It also focuses on adjustment, normal behavior, personality, consciousness and unconsciousness, forms of front brain, frustration, epilepsy axially, psychological disorders, social behavior and forms of mental health in public life.

#### 72366 Educational Supervision:

The course involves the concept of educational supervision, its various definitions, the historical development for the process of educational supervision and its foundation, the importance of educational supervision and factors influencing it. The role of the principals school supervisor, Types of supervisors, authoritarian, Democratic, Cooperative etc. methods of Supervising ( class visits, illustrative lessons, Microteaching)..

#### 72299 Active Learning:

The course presents the concepts of active learning, its definitions and foundation,

characteristics, importance elements, classroom environment for active learning, strategic of active learning and its pollens ( purposeful lecturing, Discovery etc. Role of teacher.

### **72313 Educational Sociology:**

Studies the concepts of Educational sociology, the effects of culture on educational intuitions, home, school and media and indirect educational elements such as geneses ( inheritance, environment elements and culture.

### **72415 Designing Teaching Skills:**

The course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals- students will also be able to determine activities, methods and evaluation. The course ends with an introduction to tasks teachers are changed within the designing of instruction and planning.

### **72286 Educational Planning:**

Studies educational planning, its importance, characteristics, range planning and its relation with change. It also covers reasons of success, difficulties, challenges, procedures of educational planning. Introducing educational detailed plan with its application in the Palestinian educational environment.

### **75210 Educational Counseling:**

The course includes guidance and counseling, goals, approaches, principles, theories, fields and approaches, data gathering methods, The process of counseling psychological counseling in schools and some students problems in schools and methods to save them.

### **71214 Learning Theories:**

The course introduces students to major theories of learning, behavioral and cognitive. Studies pallor's, Thorndike's and stunner's contributions and achievements, in addition to contributions of Koehler, Kurt, Levin, Amusable and Gagne, concerning skinner, the course will highlight this programmed learning.

## ***Course Description for Compulsory Courses for Methods of Teaching Specialization From Scince faculty :***

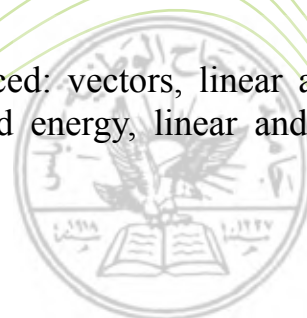
### **21102 Calculus II:**

This course introduces integration and differentiation of exponential and logarithmic functions, trigonometric and partial trigonometric functions, methods of integration, polar coordinates, conic sections, extraordinary integration and indefinite quantities.

### **22101 General Physics I:**

In this course, the following subjects are introduced: vectors, linear and two-dimensional motions, Newton's mechanics, work and energy, linear and angular momenta, gravitation and simple harmonic motion.

### **22102 General Physics II:**



This course covers electrical fields and potentials, capacitors, electrical circuits, magnetic field induction, RC and RL circuits, electromagnetic waves, optics, interference and diffraction.

### **22107 Laboratory Practice I:**

This involves a number of selected experiments in mechanics.

### **22108 Laboratory Practice II:**

This includes a number of selected experiments in electricity and magnetism.

### **22221 Waves and Optics:**

This course covers a number of topics: waves and vibrations, diffraction and interference, polarization of light, lasers and masers, holography

### **22203 General Physics III:**

In this advanced course, students learn about fluids, sound waves, gas laws, heat laws, light laws in diffraction and interference.

### **22231 Electronics:**

In this introductory course, students receive instruction on D.C. circuits analysis, formation of waves, A.C. circuits, semiconductors, diodes and diode circuits, small signal analysis and biasing for bipolar transistors, FET and MOS FET, amplifiers, biasing and types, introduction to digital logic systems, and oscillators

### **24101 General Biology I:**

A discussion of biological activity at the level of the cell, including cell structure, chemical constituents, architecture, material exchange with the environment, the role of the cell membrane, major energy generating biochemical pathways, cellular respiration, photosynthesis, control of cellular activities and basic concepts in genetics.

### **24102 General Biology II:**

A discussion of biological activity at the level of organism, including structure and function of body parts, response of the organism to its biological and physical environment.

### **24107 Practical General Biology I:**

The course includes scientific background and practical procedures for the various experiments on different biological principles discussed in course no. 24101.

### **24255 Plant Diversity:**

Fundamentals of plant biology including growth, reproduction, structure and functions of plants, and morphological studies of typical plants are all covered.

### **24108 Practical General Biology II:**

The course includes scientific background and practical procedures for the various experiment on different biological principles discussed in course no. 24102.

### **24231 Genetics:**

This course presents the principles and experimental evidence leading to our understanding of the gene concept and the role of DNA as genetic material. Patterns of inheritance, the relationship between genotype and phenotype, and transmission, coding, and expression of genetic information are also included

### **24255 Botany:**

General biological principles with emphasis on growth, reproduction, structure, and functions of plants, morphological studies of typical plants.

### **23101 General Chemistry I:**

In this course, Students learn basic concepts in chemistry, structure of atoms, chemical laws calculations, chemical bonding, forms of compounds, general laws in aqueous solutions chemistry, general laws for gases, and other theoretical subjects.

### **23102 General Chemistry II:**

This course introduces basic concepts in properties of solutions, thermodynamics, mechanical interactions, chemical equilibriums, ion base, electrochemistry. There will also be application of these topics.

### **23107 Laboratory Practice I:**

This course includes qualitative analysis of ionic elements (prohibitive and negative). This will be in addition to different periodic trends. Part of the course will focus on the compositions and their contents.

### **23108 Laboratory Practice II:**

This lab course includes a number of experiments on topics covered in General Biology II 24102.

### **23231 Organic Chemistry I:**

This course is a study of chemical properties of non-cyclic compounds. It also illustrates the nature of common links in particles. It is also a study of general reactions, and stereochemistry for these compounds

### **23321 Inorganic Chemistry I:**

In this course, students receive instruction on fundamentals of inorganic chemistry. The course starts with an introduction about atomic structure and detailed study of periodicity, chemical bonds and molecular shapes. The course then proceeds to solid state chemistry, as well as acid/base chemistry.

### **23211 Analytical Chemistry:**

This course mainly deals with the study of basic principles of analytical chemistry, statistical methods in chemistry, traditional/classical analytical methods such as

volumetric and gravimetric analysis, chemical equilibrium, titrimetry and redox (Oxidation-Reduction) theory.

### **Bio 23332 Bio chemistry:**

Basic discussion of the structure and properties of biomolecules with special emphasis on proteins, enzymatic catalysis, membrane assembly and function and introduction to bioenergetics.

### **BIO 24255 Botany:**

General biological principles with emphasis on growth, reproduction, structure, and functions of plants, morphological studies of typical plants.

# STUDY PLAN FOR BACHELOR PROGRAM IN DEPARTMENT OF TEACHER OF UPPER BASIC LEVEL - TEACHING MATHEMATICS

## *Specialization Requirements:*

The students should complete the following courses with Average 70% and above: and should pass 22101 General physics.

- 21101 Calculus I
- 21102 Calculus II

The basic Requirements for Bachelor Degree in Methods of Teaching Mathematics..

The Department of the Methods of Teaching offers a single specialization for the Bachelor of Methods of Teaching Mathematics. All students seeking bachelor of Methods of Teaching Mathematics should finish (140) credit hours including University Requirements compulsory and electives faculty Requirements , and compulsory and electives departments Requirements.

## *- Departments compulsory Requirements (24) credit hours:*

Course No	Course title	Credits	Prerequisites
72372	Methods of teaching Mathematics I	3	--
72382	Methods of teaching Mathematics II	3	72372
72316	Design and Production of educational aids for Teaching Mathematics	3	72372
72485	Current Issues in Teaching Mathematics	3	72382- 72372
72394	Practical Training in Mathematics	3	72382- 72372
72411	Research Methodology	3	--

## *Departments elective requirements Students Chooses (9 Credit hours):*

Course No	Course title	Credits	Prerequisites
71312	Principles of Mental Health	3	--
72366	Educational Supervision	3	--
72299	Active Learning	3	--
72313	Educational Sociology	3	--
72415	Designing Teaching Skills	3	--
72286	Educational Planning	3	--
75210	Educational Counselling	3	--
71214	Learning Theories	3	--



## Specialization Requirements for Methods of Teaching Sciences (57 Credit hours):

Course No	Course title	Credits	Prerequisites
21102	Calculus (2)	3	22101
22101	General Physics II	3	22101
21220	Programming for Mathematics	3	--
21201	Calculus (3)	3	21102
21203	Principles of Differential Equations	3	21201
21371	Nonlinear Equations	3	21203
21211	Principles of Mathematics	3	21102
21231	Statistical Methods 1	3	--
21241	Principles of Linear Algebra (1)	3	21201
21242	Principles of Modern Algebra (1)	3	21211
21322	Linear Programming	3	21241
21343	Principles of Number Theory	3	21211
21262	Geometry principles	3	--
21232	Statistical Methods 2	3	21231
21212	Modern Analysis	3	21211
21302	Partial Differential Equations	3	21203
21323	Operations Research (1)	3	21241
21334	Theory of probability	3	21201
21321	Numerical Analysis (1)	3	--

## Course Description for Methods of Teaching Mathematics:

### 72372 Methods of teaching Mathematics I:

This course introduces students to principles, functions and goals of teaching Mathematics. The course also introduces recent methods used in preparation of instructional material. The course ends with a look at ways for teacher preparation and qualities of a good teacher.

### 72382 Methods of teaching Mathematics II:

Topics covered in this course are the following: detailed study of methods used in teaching Mathematics and instructional aids used to reinforce these methods students are also given an opportunity to apply these methods well also learn about evaluation of pupils Learning.

### 72316 Design and Production of education Arts for Teaching Mathematics:

This course covers a number of topics: concept of instructional orals, their aments and characteristics; curricule, educational charts, aquatinted and resources.

### 72485 Current Issues in Teaching Mathematics:

The course discusses issues that are related to teaching Mathematics such as cooperative teaching, its definitions, goals, foundations elements, procedures, patterns, strategies and Methods. It also compares, cooperative learning and competitive and individual learning, also role of teacher in cooperative learning, cooperative skills and how to teach it and apply it in teaching Mathematics.



### **72394 Practical Training in Mathematics:**

The course includes Methods of training in real teaching, lesson planning and its application in a complete technological way using Microteaching. Teacher who supervise the training presents videos for teaching cases which students criticize – student chooses a lesson and presents to his peer students supervised by the teacher of the course. Teacher and students clarify points about presented lesson after primary and secondary.

The lesson would be taped and the students would see it later to find out areas of strength and weaknesses.

### **72411 Research Methodology:**

This aims at introducing students to scientific research methodology and helping him/her to develop his abilities in understanding research and procedures in conducting it and to know concepts, foundation and methods that research carries and helping students to choose a problem for his research and gather the data and analysis methods and explaining the data to solve the problem.

### ***Course Description for courses in Methods of Teaching:***

#### **71312 Principles of Mental Health:**

The course introduces the definition of mental health its aspects and status. It also focuses on adjustment, normal behavior, personality, consciousness and unconsciousness, forms of front brain, frustration, epilepsy axially, psychological disorders, social behavior and forms of mental health in public life.

#### **72366 Educational Supervision:**

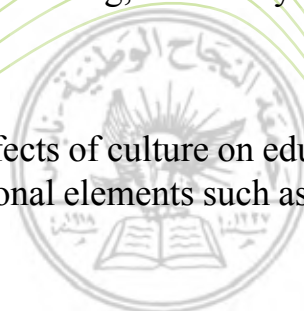
The course involves the concept of educational supervision, its various definitions, the historical development for the process of educational supervision and its foundation, the importance of educational supervision and factors influencing it. The role of the principals school supervisor, Types of supervisors, authoritarian, Democratic, Cooperative etc. methods of Supervising ( class visits, illustrative lessons, Microteaching)..

#### **72299 Active Learning:**

The course presents the concepts of active learning, its definitions and foundation, characteristics, importance elements, classroom environment for active learning, strategic of active learning and its pollens ( purposeful lecturing, Discovery etc. Role of teacher.

#### **72313 Educational Sociology:**

Studies the concepts of Educational sociology, the effects of culture on educational intuitions, home, school and media and indirect educational elements such as geneses ( inheritance, environment elements and culture.



### **72415 Designing Teaching Skills:**

The course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals- students will also be able to determine activities, methods and evaluation. The course ends with an introduction to tasks teachers are changed within the designing of instruction and planning.

### **72286 Educational Planning:**

Studies educational planning, its importance, characteristics, range planning and its relation with change. It also covers reasons of success, difficulties, challenges, procedures of educational planning. Introducing educational detailed plan with its application in the Palestinian educational environment.

### **75210 Educational Counseling:**

The course includes guidance and counseling, goals, approaches, principles, theories, fields and approaches, data gathering methods, The process of counseling psychological counseling in schools and some students problems in schools and methods to save them.

### **71214 Learning Theories:**

The course introduces students to major theories of learning, behavioral and cognitive. Studies pallor's, Thorndike's and stunner's contributions and achievements, in addition to contributions of Koehler, Kurt, Levin, Amusable and Gagne, concerning skinner, the course will highlight this programmed learning.

## ***Course Description for Compulsory Courses for Methods of Teaching Specialization From Faculty of Science.:***

### **21102 Calculus II:**

This course introduces integration and differentiation of exponential and logarithmic functions, trigonometric and partial trigonometric functions, methods of integration, polar coordinates, conic sections, extraordinary integration and indefinite quantities.

### **22102 General Physics II:**

This course covers electrical fields and potentials, capacitors, electrical circuits, magnetic field induction, RC and RL circuits, electromagnetic waves, optics, interference and diffraction.

### **21220 Programming for Mathematics:**

Fundamentals of programming; algorithms, types of data and control statements, dimensions, functions and subroutines; some mathematical software with applications.

### **21201 Calculus (3):**

Parametric equations and polar coordinates; vectors in  $R^2$  and  $R^3$  & surfaces; vector-valued functions; partial differentiation with applications; multiple integrals.

### **21203 Principles of Differential Equations:**

Classifications and solutions of first-order ordinary differential equations with applications; Higher-order and solutions; power series solutions; Laplace transforms; solutions of systems of linear differential equation

### **21211 Principles of Mathematics:**

Logic and proofs; set theory, relations and functions; cardinality and examples on mathematical structure

### **21231 Methods of Statistics 1:**

Topics covered in this course are statistical data classes, measures of central tendency and variability, probability, concepts and calculations, In addition, the course covers discrete and continuous random variables and probability distributions, as well as binomial and normal distributions and sampling distributions. The course ends with a look at point and estimate for population mean and testing hypothesis for population mean.

### **21241 Principles of Linear Algebra (1):**

Matrices, vectors and elementary row operations, operations on matrices, determinants and inverses of matrices, systems of linear equations and method of solutions; vector spaces, linear independence and basis; linear transformations, kernel and range; eigenvalues and eigenvectors.

### **21242 Principles of Modern Algebra (1):**

Binary operations; groups, subgroups, finite groups, cyclic groups, symmetric groups, factor groups, normal subgroups; group homomorphisms; Sylow theorems.

### **21322 Principles of Linear Programming:**

Problem formulation; graphic solution; simplex method; duality theorem; linear sensitivity analysis and algebraic representation; transportation and assignment problems; network (PERT and CPM); game theory.

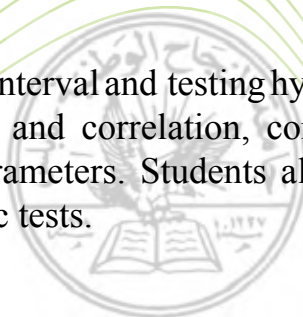
### **21343 Principles of Number Theory:**

Divisibility, prime numbers; perfect numbers, congruence; Euler theorem, Fermat's theorem, Wilson's theorem; linear congruence, congruent and noncongruent solutions; Chinese remainder theorem.

### **21262 Geometry principles:**

### **21232 Methods of Statistics 2:**

This course covers sampling distributions, confidence interval and testing hypothesis for single and two population parameters, regression and correlation, confidence interval and testing hypotheses for regression line parameters. Students also learn analysis of variable, chi-square tests and non-parametric tests.



### 21212 Modern Analysis (1):

Properties of real numbers; open and closed sets; sequences; limits and continuity; differentiation; Riemann integral.

### 21302 Partial Differential Equations (1):

Formation of a partial differential equation; methods of solutions of first order linear and nonlinear partial differential equations; methods of solutions of second order linear and nonlinear partial differential equations; Fourier series and transforms, wave equation, Laplace's equation, potential equation, equation of an infinite wire, heat equation

### 21323 Operations Research (1):

Introduction to operation research; inventory models, queuing models; game theory; Markov chains; case studies

### 21334 Theory of probability 1:

In this course, students receive instructions on axioms of probability, discrete and continuous random variables, probability distributions, binomial, geometric, negative binomial, uniform, exponential, gamma and normal. The course ends with an examination of moment generating functions and transformation distributions.

### 21321 Numerical Analysis (1):

Numbers, Binary, Octal and Hexadecimal number systems; floating point arithmetic, Errors, sources and types; solving nonlinear equations, solving systems of linear equations, solving systems of nonlinear equations; approximation and interpolations, numerical differentiation and integration.

### 21262 Principles of geometry:

Geometry: Hilbert's postulates, congruence, equivalence, similarities, circles, geometric transformations: space geometry: relations between lines, between lines and planes, between planes, theory of orthogonal projections: solid geometry: prisms, pyramids, cylinders, cones, sphere and related theorems.

# STUDY PLAN FOR BACHELOR PROGRAM IN DEPARTMENT OF TEACHER OF UPPER BASIC LEVEL - TEACHING TECHNOLOGY

## Specialization Requirements:

Students should complete the following courses with an average of 70% and above:

- 72115 Computer in Education
- 22105 General Physics 1 for college of education
- 131111 programin1 -

The basic Requirements for Bachelor Degree in Methods of Teaching Technology.

The departments offers single specialization for a bachelor in Methods of Teaching Technology wish to specialize in Methods of teaching Technology should complete (145) credit hours including University Requirements faculty compulsory and Requirements compulsory and electives. Departments Requirements compulsory and electives.

## Departments compulsory Requirements (21) credit hours:

Course No	Course title	Credits	Prerequisites
72299	Actvie Learning		
72368	Teaching skills	3	--
72378	Methods of teaching Technology I	3	72270
72379	Science, technology and society	3	72270
72391	Design and Production of education Aids for natural Sciences	3	72370- 72270
72797	Practicum (1) for teaching Technology	3	72370- 72270
72897	Practical Education Methods of Technology	3	--

## Specialization Requirements for Methods of Teaching Social Sciences (59 Credit hours):

Course No	Course title	Credits	Prerequisites
61102		3	33311
33213	History of Early Islam (the Prophet's and Guided Caliphs' Era)	3	--
33214	History of Umayyad Caliphate	3	--
33215	History of Abbassid Caliphate	3	33311
33414	Contemporary World History	3	33311
33412	History of Modern Arabs	3	33311
33413	History of Modern Palestine	3	33311
33212	Pre-Islamic History of Arabian Peninsula	3	--
33313	History of Europe in the Medieval Ages	3	--
34111	Geography of Palestine	3	--
34112	Human Geography	3	--
34113	Principals to (physical Geography Natural	3	--
34210	Principles of Maps and Surveying	3	34113
34312	Principles of Demography	3	34113
34213	Principles of Climate	3	--
34421	Population Geography	3	--
34230	Introduction to Aerial Photoanalysis	3	--

34315	Urban Geography	3	--
34314	Water Resources Geography	3	34213

### Departments elective requirements Students Chooses (6 Credit hours):

Course No	Course title	Credits	Prerequisites
71312	Principles of Mental Health	3	--
72366	Educational Supervision	3	--
72299	Arabic Learning	3	--
72313	Educational Sociology	3	--
72415	Designing Teaching Skills	3	--
72286	Educational Planning	3	--
75210	Educational Counselling	3	--
71214	Learning Theories	3	--

## 72415 Instructional Designs

This course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals. Students will also be able to determine activities, methods and evaluation. The course ends with an introduction to tasks teachers are charged with in the designing of instruction and planning.

## TM 72411 Research methodology

This course aims at teaching students methods of academic scholarly research and developing their research skills. Students will be introduced to research types, ways of conducting them, concepts, methods and foundations used by researchers. Instructor will help students on how to choose goals, research problems, use tools for data collection and make analysis of these data in order to arrive at possible solution to these problems.

## CS 131271 Application software

This course introduces students to modern software packages applicable to different fields.

## ***Course description***

### **CS 131111: computer programming**

This course begins with a general introduction to computers, hardware and software, problem solving, and data types. It also introduces high level programming language using C\C++ including I/O, control statements, one-dimensional arrays and functions, and number systems.

### **CS 131112 Computer programming**

This course covers top-down algorithmic development and implementation using C\C++, multi-dimension arrays, pointers, recursion, structures, files.

### **CS131211 Data Structures**

This course is an introduction to various data structures including lists, stacks, queues, and trees, analysis and implementation of data structures recursion, sorting, searching, hashing.

### **Cs 131212 Design and Analysis of Algorithms**

Students are introduced to techniques used in analysis of algorithms, and design methods: divide and conquer, dynamic programming, greedy algorithms, and recursion, searching and sorting algorithms.

### **CS 131371 Computer Graphics**

This course begins with an introduction to the principles, algorithms, and devices for construction and display of computer-generated images, interactive graphic techniques, vector, chart, and curve generations, applications and transformation in 2D and 3D.

### **CS 131353 Database**

Students are introducing to database concepts, relational, hierarchical, and network models, data manipulation languages, query design, construction of database system.

## ***College course description***

### **PHY 22107 General physics( Laboratory Practice )**

This involves a number of selected experiments in mechanics.

### **PHY 22108 General physics( Laboratory Practice 1)**

This includes a number of selected experiments in electricity and magnetism.

### **CHM 23101 General Chemistry "1"**

In this course, students learn basic concepts in chemistry, structure of atoms, chemical laws calculations, chemical bonding, forms of compounds, general laws in aqueous solutions chemistry, general laws for gases, and other theoretical subjects.

## CHM 23107 General Chemistry ( Laboratory Practice)

This course includes qualitative analyses of ionic elements (positive and negative). This will be addition to different periodic trends. Part of the course will focus on the compositions and the contents.

## CE 61102 Engineering Workshop 1

Practical and theoretical experience in various workshop technologies including welding, casting, electrical wiring, forming of metals, and cutting of metals by machining.

## CE 63207 Electrical Engineering

This course covers the following topics: fundamentals of electrical engineering, linear circuit theory, analysis of A/C solid-state circuits, electrical machines and devices, amplifiers, transformers, lighting and electrical installation, electronic circuits, transistors, semiconductors, and legal standards.

## CE 61104 Engineering Drawing

This course covers several topics: basic drawing techniques and materials used orthographic projection, technical sketching, geometric constructions and drawing isometric and oblique pictorial views of objects.

## INE65366 Engineering Metrology and Standards

Topics covered are error analysis, calibration of measuring devices, tolerances, measurements of pressure, temperature, force flow and power. The course also covers process of industrial specification and standardization, national and international standards, and coding systems.

## CHE65480 Engineering Safety

This course teaches students the proper ways to be followed in industry. These include proper handling of toxic and dangerous materials, basics of inflammation, fires, and explosions, ways of protection from fires and explosions as well as relevant legislation concerning occupational safety.

## CHE64583 Environmental Engineering + CHE64588 Environmental Applications

(Concurrent courses 2 + 1 credits)

The aim of this course is to direct the student of chemical engineering to the methods of dealing with the environment when practicing his profession. The course will acquaint the student with pollution and its control. Topics covered include air pollution, source of pollutions, ways of measurement and analysis. Students also learn about ways of pollutant emissions and how to control them in closed and open plants. Students are also introduced to legislations concerning air and water pollutions and their sources as well as their detrimental effects. They also receive instructions on ways of measuring and analyzing pollution. The course ends with a look at polluted and waste water processing techniques and legislations concerning water pollution.



## **MEC67586 Energy Conversion** حفظ الطاقة

This course covers energy growth and economics, renewable energy, and direct energy conversion.

## **PHY22105 General Physics I (for College of Educational Sciences)**

Students, in this course, learn about vectors, kinematics of one and two dimensional motions, Newton's laws, linear momentum mechanical energy, work, power, gravitation, thermodynamics and wave motion.

## **PHY22106 General Physics II (for College of Educational Sciences)**

This course covers the following topics; electric charges, electric force, electric field, Gauss's law, electric potential, capacitance, electric current and resistance, DC circuits' magnetic force, sources of magnetic field, magnetic induction, inductance, ray optics.

## **Tm 72366 Supervised Teaching**

The aim of this course is to prepare and train students to employ academic knowledge and apply it in a classroom setting. To this end, students will be required to practice teaching in schools for one full semester (3 hours per week). They will also prepare and implement study plans.

## **Practical Education II 72897 Methods of Technology**

This course whips distributing students of methods of technology among Nablus/ schools for the purpose of real teaching of the related materials in the school textbooks under the supervision of the cooperative teacher, the specialized teacher and the university teaching staff from An-Najah University. In this respect, the student will be available regularly at school acting out all school activities including planning, teaching practices etc. The original teacher and the university teacher will regularly follow up the work for further improvement and modification.

## **72379 Science, technology and society**

This course aims to acquaint students with the role which is possible to play in using technological tools and devices and technology as a comprehensive integrated idea for the purpose of changing and improving the society.

## **72378 Methods of teaching Technology**

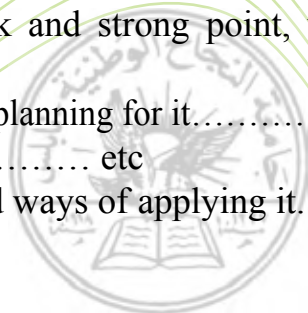
This course whips all out of date and up to date methods of teaching in the different levels such as:

Lecturing which entails application, planning, weak and strong point, ways of improving it..... etc.

Discussion for teaching computer, its importance kinds, planning for it.....etc

Interlocution method, its benefits, kinds, advantages..... etc

problem solving method : its definition, importance and ways of applying it.



## 72797 Practicum (1) for teaching Technology

This course is meant to train students how to actually teach through using microteaching lab. In this course videotaped lessons are demonstrated and criticized, new lessons are prepared and conducted in front of other students and positive and negative points are discussed by the instructor and his/her students after videotaping these lessons. Specialized topics in different school levels are chosen and discussed by students. The discussions are also videotaped and demonstrated by the whole group or individually.

## 72415 Instructional Designs

This course aims at helping students design lesson plans, determine concepts pertinent to civil, emotional and psychological goals. Students will also be able to determine activities, methods and evaluation. The course ends with an introduction to tasks teachers are charged with in the designing of instruction and planning

## DEPARTMENT OF TEACHER OF LOWER BASIC LEVEL

In order for a student to be able to specialize in Elementary Education, s/he has to successfully complete the following course with an average of 70%

- 71112 Introduction to Psychology
- 71115 Developmental Psychology
- 71113 Introduction to Education

Department code is (# 3)

Requirements for a B.A. degree in Elementary Education Counseling

The Department of offers a single specialization in Elementary Education leading to a B.A. degree. Students wishing to obtain an undergraduate degree must complete (140) credit hours chosen from university, college and department compulsory and elective courses distributed as follows:

### Compulsory courses (72 credits)

Course	Course title	Cr hrs	prerequisite
73111	Elementary Education	3	-
73201	Methods of Teaching English I	3	-
73218	Methods of Teaching Arabic I	3	-
73219	Methods of Teaching Islamic Education I	3	-
73220	Methods of Teaching Mathematics I	3	-
73221	Child Literature	3	-
73225	Methods of Teaching Science and Health I	3	-
73227	Methods of Teaching Social Sciences I	3	-
73229	Music and Arts & their Methods of Teaching	3	-
73300	Supervised Teaching I	3	-
73310	Civics Education	3	-
73315	Methods of Teaching Arabic II	3	73218
73320	Methods of Teaching Mathematics II	3	73220
73325	Methods of Teaching Science and Health II	3	73225
73372	Children's Problems and Behavior Adjustment	3	-
73410	Current Issues and Trends Elementary Education	3	-
73422	Methods of Teaching physical Education	3	-
73402	Teaching practice	9	73300
71254	Educational Psychology	3	71113,71112
72316	Design and production of Teaching Aids	3	71112
73317	Classroom Management	3	-
72352	Evaluation in School	3	-



***Elective course (student may choose 12 credits from this group)***

Course	Course title	Cr hrs	prerequisite
71252	Psychology of play	3	71113,71112
72213	Methods of teaching Elementary stage	3	-
73208	Environment Education	3	-
73301	Methods of Teaching English II	3	-
73327	Methods of Teaching Social Sciences II	3	73227
73362	Methods of Teaching Islamic Education II	3	73219
75210	Guidance and Counseling Psychology (prerequisites)	3	71112

## Course Description

### €€73111 Elementary Education

This course covers a number of topics: nature, importance, philosophy, and problems of elementary education; factors influencing it; curriculum; achievement, teachers efficiency, psychological fundamentals of child's personality and factors influencing its formation; elementary stage curriculum; methods of teaching; problems of elementary education (dropout, slow learning, realism, automatic upgrading; combined grades, teachers weakness, overcrowded classes, and weakness of administrative apparatus).

### €€73201 Methods of Teaching English

Students in this course learn about theories and practices necessary for the teaching of English curricula. This is in addition to setting of plans, objectives, programs for tutoring weak learners.

### €€73218 Methods of Teaching Arabic I

This course has two goals. The first is to provide the student with linguistic foundations; the second is to introduce the students to methods of teaching Arabic. This includes objectives, functions and techniques of teaching; grammatical rules, reading assignments, literary studies; analysis of first, second and third grades textbooks; instructional aids; correction of language in lower elementary stage.

### €€73219 Methods of Teaching Islamic Education I

This course covers concepts and foundation of Islam, religious and Ibadat, values and morals in Islamic education and their reflection on the society. The course also introduces the how's of teaching the Holy Quran, prophetic teaching, Islamic education textbook in the primary grades and the methods of teaching them.

### €€733220 Methods of Teaching Mathematics I

The aim of this course is to develop students ability to understand scientific and behavioral material to be able to teach it in the first primary stage. This includes numbers, simple mathematical operations: addition, subtraction and division. The course also covers the how's of teaching percentages, ratios and planning for the teaching of the first primary stage.

### €€ 73221 Children's Literature

Early- childhood experiences plays a vital role in human development. This course is designed to explore the history of children's literature and how it developed to different trends of modern literature. The course aims to let student enjoy & utilize different approaches in children's literature in the counseling process of children's under different circumstances, facilitating the learning process and their adoption of different social skills, hence helping students as future teachers and counselors

### €€73225 Methods of Teaching Science and Health I

This course begins with an attempt to understand the concept of science, its ways, methods of its teaching; properties of material, molecule theory; forms of energy, nature of earth, weather, health, pollution, planets and stars.

## ЄЄ73227 Methods of Teaching Social Sciences I

This course investigates the concept of social studies in terms of methodologies, goals and dimensions: mental, social, personal and emotional. The course also looks at basic concepts and principles in social studies, namely, history, geography, sociology, politics, economics, and society. Emphasis is placed on methods of their teaching and preparation.

## ЄЄ73229 Music and Arts and their Teaching Methods

This course aims at introducing students to music education and its role in the school curriculum. Student will also learn the methods of teaching music in schools including the teaching of drawing, painting, and manual and technical works.

## ЄЄ73300 Supervised Teaching I

This course includes practical teaching of 45 hours in primary stage under the supervision of a school teacher and principal and the follow up of a department instructor.

## ЄЄ 73310 Civic Education

This course focuses on special topics in civic education: its concept its fields in family, school: society, and nation.

The student will be on different activities in about: civil society, Human rights.....etc.

## ЄЄ73315 Methods of Teaching Arabic II

This course covers a number of topics: Concept of language and psychology; language acquisition theories; basic skills in Arabic (reading, writing); methods of teaching; linguistic for fourth, fifth and sixth grades. The course also explains the how's of teaching Arabic in the these grades, methods of evaluation and testing techniques.

## ЄЄ73320 Methods of Teaching Mathematics II

This course is a study of methods, materials and aids used in the teaching of mathematic, it is also a study of objectives, concepts, and classroom procedures with special emphasis on selection, preparation and use of teaching materials including lesson plans and multimedia aids, and evaluation process and testing.

## ЄЄ73325 Methods of Teaching Science and Health II

This course aims at enabling students to understand scientific phenomena properly. The course places an emphasis on objectives, problems, procedures, and methods of teaching science, student will learn about preparation of plans, use of demonstrations, experiments, science curriculum projects and reference materials. Students are also furnished with a scientific background about physical phenomena in the universe.

## ЄЄ73372 Children's Problems and Behavior Adjustment

This course aims at providing school teachers with a scientific background pertinent to identification of psychological problems facing youngsters, the how's of their diagnosis and treatment. Emphasis will be placed on problems directly related to school and family roles in social upbringing, and the importance of bringing about sound mental health among pupils.

## €€ 73410 Current Issues and Trends in Elementary Education

The students will discuss the integrated and clinical instruction of elementary stage, in via of integrated curriculum with its components; content, goals, activities, and evaluation. Also the student will discuss new attitudes in elementary education in international experiments and with field research.

## €€73422 Methods of teaching physical Education

Students receive instruction on both education and scientific foundations be considered in methods of teaching modern physical education in primary stage, the course includes a number of topics: students different stages of growth, characteristics of each; physical exercises & methods of teaching them; methods of training pupils on these exercises and techniques of teaching rhythmic body movements; production of a physical education lesson and introduction of small games.

## €€ 73402 Teaching practice

This course aims at training students in schools as pre-service teachers supervised by in-service in the school and one instructor in his Department.

## PSY71254 (€) Educational Psychology Topics:

Nature of educational psychology and its relationship with general psychology; application of concepts of behavioral and perceptive schools in the teaching process, facilitating the learning process; children's learning difficulties-talented and disabled children-potentials required for completion; measurement of learning progress and requirements for the learning and teaching process.

## €€72316 Design and production of teaching of Aids

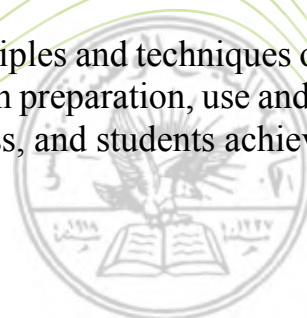
This course examines the concept of instructional aids, their elements and characteristics, instructional resources, and production or development of instructional aids for their use in teaching.

## €€73317 Classroom Management

In This course, students learn about principles and techniques of group organization and instruction, ways of establishing group cohesion, and theories and methods of handling individual and group behavior and learning in classroom setting. Students also learn about the how's of running schools.

## €€72352 Evaluation in School

This course is a survey and examination of basic principles and techniques of testing and evaluation in the educational process. The focus is on preparation, use and analysis of school tests and their influence in the learning process, and students achievement.



## **Elective courses (12 Credits hours)**

### **PSY71252 (€) Psychology of Play**

This course explains the nature of playing, its historical development and the educators' interest in its educational significance. Of these educators, the course will introduce Froebel and Murray. The course also dwells on behavior of playing from a psychological perspective as interpreted by Freud, Piaget, Erickson, and Brunner. Emphasis is also given to importance of playing in kindergartens and its consideration as the center of child's early education before school.

### **€€ 72213 Methods of teaching in Elementary stage**

This course aims at providing the student by the text objective and currant trends in teaching. Also the student will be trained how to use teaching aids in teaching process.

### **€€ 73208 Environment Education**

This course aims at presenting the concepts of ecology and the factors which affects environmental and the causes of pollution and the role of human being in the local and international will be discussed environment

### **€€73301 Methods of Teaching English II**

The course aims at providing students with theories and practices required for teaching and evaluating English syllables in addition to designing plans for teaching as well as plans for remedial work..

### **€€73327 Methods of Teaching Social sciences II**

Like similar courses, This course also studies methods and materials in the teaching of social studies in elementary education. Students are also acquainted with theoretical and practical approaches to social studies. By the course end, students should be able to successfully plan, implement and evaluate classroom instruction in these areas.

### **€€73362 Methods of Teaching Islamic Education II**

This course focuses on the teaching of Islamic education disciplines in the context of a systematic integrated approach. The course highlights elements of Islamic education curriculum in the forth, fifth and sixth grades. It also illustrates objectives, activities and evaluations used in these grades. Furthermore, students will design lesson plans, get training on the how- of delivering model classes and using technology in instruction using computer and other aids in education.

### **PSY 75210 Guidance and Counseling Psychology**

(prerequisites: 71112)

This course begins with an explanation of counseling concept, orientation, counseling process, and counselor's moral principles. It also explains models and theories of psychological counseling, educational and psychological methods and techniques. The course also dwells on problems facing individuals and the need for counseling in some courses. Emphasis is also given to educational counselor's methods, role, commitment, academic and educational efficiency and the how's of making an orientation and, counseling program.



# DEPARTMENT EDUCATION WITH A MAJOR IN PER- SCHOOL EDUCATION

## *Compulsory Courses (72 credit hours)*

### **76101 Introduction to Kindergarten**

This course offers a historical review about the development of child education in the Arab world and the Western World. It introduces major philosopher's schools of thought that dealt with child education: it also gives children an opportunity to students to explore the preschool world of children early childhood, the aim of early childhood, the methods used, planning at guiding various children activities furthermore it discusses quality of preschool programs, teachers characteristics and the status of the profession, in the past, present and future.

### **76210 The Psychology of Play in Early Childhood**

This course deals with the concept of play and the most important theories and founded and psychological characteristics of play and its importance, its goals and the evolution of play in early childhood programs in particular, and popular games different

### **76212 Child Health and Nutrition**

The course provides basic and essential knowledge about infant's health, preschool children's' most common diseases and possible ways of treatment. It also provides knowledge about malnutrition diseases and possible ways of cur.

### **76213 Basic skills in Physical Education(PE)**

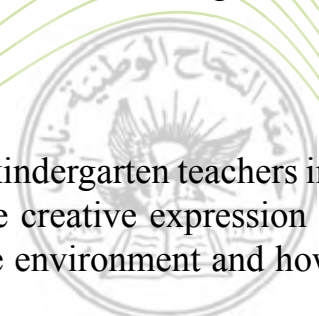
This course focuses on the effect of PE on the learning of children the importance of practice right physical activities, equipment, play grounds which must be suitable to their capacities, fulfill their needs. Finally it talks about designing the appropriate individual physical educational programs.

### **56214 Basic Skills in Music Education**

This course focuses on the effect music on young children learning, the importance of music, how to develop basic musical skills, training teachers on the various musical tools, and finally teaching children a number of songs that suit their age.

### **76215 Basic Skills in Art Education**

This courses looks into the basic art skills of Female kindergarten teachers in plastic art/. It also aims at promoting art appreciation and the creative expression of these arts, knowing the simple raw material available in the environment and how to use



them to guide children, encouraging children to explore and use these raw material in their artistic expressions and the role of the teacher to help use them in a creative manner

### **76216 Integrated Curriculum in Kindergarten**

This course is designed to promote understanding and application of the basic principle of the integrated curriculum in the lower basic stage. The course empowers pre-service teachers with knowledge and skills on how to plan their teaching using a holistic approach to help students cope with the different disciplines they are about to learn.

### **76217 Teaching Reading and Writing for children**

This course aims at integrating Arabic language curriculum in the primary stage, it includes elements and disciplines in curriculum, preparation, conversation, reading and approaches to teaching in a comprehensive technique.

### **76310 Children's Cognitive and Language Development**

This course includes the covert of cognitive and language development for a child as children's mental capabilities intelligence, perception, thinking, information processing, problem solving skills, brain function with emphasis on cognitive theory in using tests and application, language development and communication skills with young children from birth to eight years; it also includes factors influencing language development, methods of learning and its principles and primary language skills that every child needs.

### **76311 Drama and Theatre in Children Education:**

This course aims to clarify the role of drama and theatre in the psychological development of children, especially cognitive development such as creative and critical thinking which children can invest in artistic activities.

### **76312 Design and application of Pre-school Curriculum**

It provides students with extensive experiences in designing children preschool programs and their applications, reemphasizing content in particular fields such as arts, music, math, science, social studies. It includes curriculum development; it also aims at enabling students to perceive planning & designing for children in the light of their society and culture.

### **76313 Mental Health of pre-school child**

This course introduces the concepts of mental health , simulation of appropriate behavior focusing on psychological disorders in childhood such as depression , motor

skills disorders , learning disabilities, random behavior, attention – deficit hyper activity disorders (ADHD )and other disorders in childhood focusing on therapeutic strategies and psycho-therapy theories .

### **76314 Current Trends in Child Education**

This course covers the identification of the most important problems of the family in a time today, and the reasons they occur with interest in knowing the problems of children in the Palestinian family, and identify some of Applied Studies conducted on the effects of psychological and social to the child, and to identify the multiple roles of working mothers and their impact on children and families.

And examine the awareness and interest in child-rearing, and contemporary concerns in the study of psychology of women and children.

### **76315 Environmental Education for Children**

This course aims at presenting the concepts of science and ecology as well as the factors which affects the child's environment and to train the child how to keep his own environment.

### **76316 Creativity in childhood:**

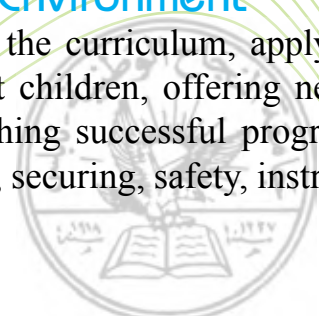
This course looks into the concepts of creative thinking, its' component and elements, and its relation with intelligence, other capabilities and personality traits. Also this course aims to clarify aspects of creativity in different growth stages, and determine the methods for detection and diagnosis of creators and identifying their characteristics and how to deal with them.

### **76317 Developing Social and Moral Concepts:**

This course study three sides of children development; social, emotional and moral development, and clarifies the most important and famous theories which explain these sides . Also it examines the educational applications in teaching children considering these sides, and educational programs which are linked with these sides in many contexts; in family, kindergartens and local society, and determines the main factors which affect growth paths. In addition to that it studies growth problems through diagnosing and treating them.

### **76319 Managing Children's Learning Environment**

This course over stresses improving and organizing the curriculum, applying the different rubrics that include distinguished care about children, offering necessary planning and management for the sake of accomplishing successful programs for children, and family such as hygiene (health), nutrition, securing, safety, instructions, staff, budget and natural environment.



## 76410 Measurement and Evaluation for Children Learning

This course deals with children measurement and evaluation methods, focuses on applying and using evaluation instrument, develop tests related to childhood and children with special needs measurement and evaluation methods.

## 76411 Children with Special Needs

This course empowers teachers with knowledge and skills on how to deal with disabled children. The course also focuses on teaching students who have learning difficulties due to speech, language and emotional disorders. It also promotes using useful techniques and tools to identify disabled children.

## 76412 Thinking Development of pre-school Child

This course introduces concepts of thinking, perception, attention, critical and creative thinking and how to develop these concepts for pre-school children. It also discusses the importance of role-playing in improving thinking ability, and defines obstacles of thinking and methods of teaching thinking for pre-school children. Pre-psychological on implementation of psychology schools such as behavior, cognitive approaches, to facilitate learning process, creating classroom community to promote positive relationship and learning disabilities , child with special needs and competences ,counseling

## 76498 Theoretical Basics of Practice Teaching

This course aims at presenting the theoretical basics and principals for training students as kindergarten teachers.

## 76499 Teaching Practice

This course aims at training students in kindergartens and schools as pre-service teachers supervised by in-service teachers in the school and kindergarten and one instructor in his department.

## **Elective courses: (9 credit hours)**

### **76251 Guidance & Psychological Counseling for Kindergartners**

This course presents integration of educational psychology and psychology focusing assessment and evaluation needed for teaching – learning process in pre-school stage.

### **76372 Childhood problems and Methods of Behavior Adjustment for kindergarten**

This course aims to provide school teachers the background of scientific knowledge concerning the causes of psychological problems that may be suffered by young people, and how to diagnose and especially psychological problems that are related to the role of family socialization and its importance in achieving the mental health of students

### **76419 International Experience in Kindergarten Programs**

This course aims at offering an overview the most recent International experiences that deal with early childhood programs, it also aims at discussing them and adapting them to the Palestinian setting.

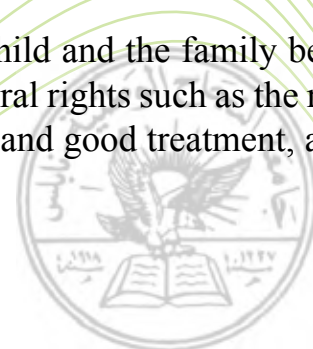
### **76447 Design and Production of Learning Resources**

The course deals with audio, visual and interactive learning materials in terms of their definition, relation with education technology, classifications, resources and role in the teaching learning process. It also includes the effect of cognition and communication on different learning materials' design such as transparencies, slides, audio tapes, video tapes and CDs. In addition, the course deals with the principles of the design, production and use according to the systems approach. It concludes with the practical application of the design, production and use of learning materials in different kindergarten subject.

### **76454 The Rights of Children and Family**

This course aims at presenting the concepts about the rights of children and family in different laws and legislations in Palestine and to compare it with laws and legislations in other countries.

Also this course will highlight on the rights of the child and the family before the birth of the fetus, and the rights after the birth of the moral rights such as the right to a name, parentage and custody, life, equality, education, and good treatment, and play, and in the education of faith.

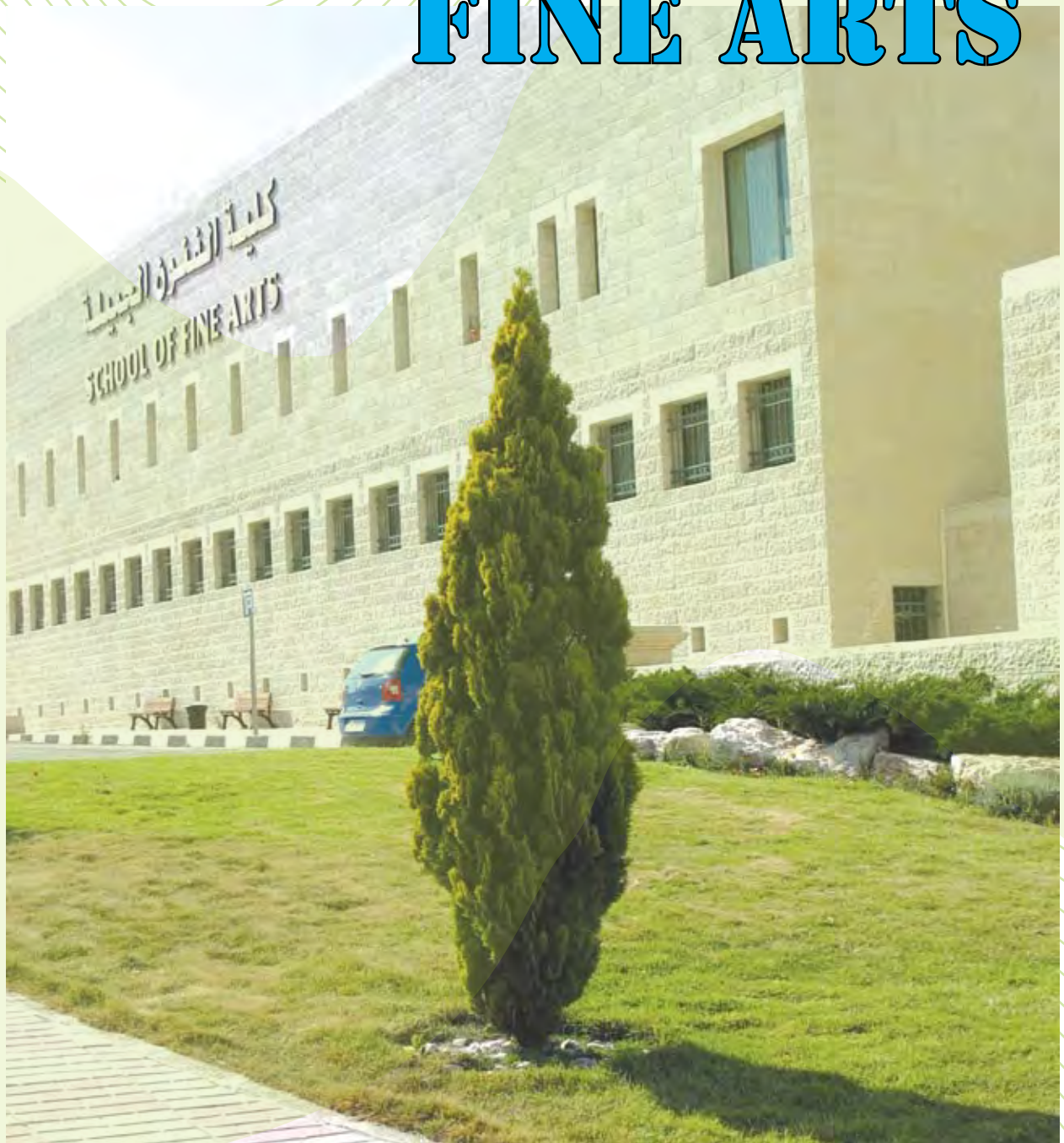


## 76455 Child Education in Islam

This course provides an overview of the educational principles from an Islamic perspective, concentrating on the role of mothers, fathers and society in teaching Islamic values to children.

# COLLEGE OF

# FINE ARTS



# COLLEGE OF FINE ARTS

## *The establishment and development of the college of Fine Arts*

The college of Fine Arts was established in 1985, and ever since that year until the year of 1985 the college has been offering elective courses along with college compulsory and elective courses consistent with the study plan of the college of Art.

In 1985 a study plan for the awarding of a B.A. in Fine Arts was decided upon, by the college of Fine Arts. The college of Fine Arts had accepted applicants in the following specialization in the following departments:

1. Department of Music
2. Department of Plastic Arts:

In 1992 was the year during which the college of Fine Arts was separated from the college of Arts and was established with its own study plans for the awarding of a B.A. in the following concentration/specialization:

1. Music (ology)
2. Painting
3. Interior Design (Décor)

In 2003/2004 was the time during which the college of Fine Arts moved into its newly-constructed buildings in the university new campus; and in 2005/2006 the college of Fine Arts began to offer a new specialization/major of Graphic Design which ultimately culminates in the awarding of a B.A. in Graphic Design.

The newly constructed building comprises a four-story building occupying 9000 square meters area; in addition to 1200 square meter theater which accommodates one thousand individuals.

The newly constructed campus was constructed in such a way which is consistent with the most modern designs and World criteria, equipped with spacious halls, auditoriums, studios for specific purposes.

The college of Fine Arts at An- Najah University is considered unique because it was the first and the only college of its kind which awards a B.A. in Arts & Music. By all means, this college has paved the way for the talented Palestinians to join and enroll in this college and to nurture the talents of those gifted Palestinians in such a way to enable them to lay down the ground work for future generations of qualified candidates to increase people's understanding of Arts and music among Palestinians.



The college of Fine Arts has been trying through its established programs in Plastic and Applied Arts to prepare its graduates to become competent technicians in plastic and applied arts and music and to develop and enhance the Arts movement to a high ranking along with the enhancement of a culture of Arts and music in the Palestinian society.

In addition, the college of Fine Arts has been responsible for graduating highly competent trainers and teachers of Arts & Music prepared for different educational stages in the Palestinian society.

The college of Fine Arts has been a genuine milestone when it is being measured by the type of extracurricular activities in which it has been involved ever since its establishment. The college of Fine Arts has entered into joint agreement with French universities for the mere purpose of establishing students/teachers exchange programs

The college has also joined another cooperative program with the French Cultural Center which has resulted in the establishment of an Arts Exhibition along with inviting French artists and actors to hold workshops at the college of Fine Arts

The university choral frequently participates in the performance of such formal occasions on the university campus and has participated in a variety of conventions for the performance of other activities abroad in the Arab world.



The study plan for a B.A. in Fine Arts:

The college of Fine Arts offers the following study plans which lead to the awarding of a B.A. in the following major/concentration/ specializations:

- ⇒ Painting
- ⇒ Interior Design
- ⇒ Music(ology)
- ⇒ Graphic Design
- ⇒ Ceramics

During their enrolment in the college of Fine Arts, students have to take 26 credit hours of university elective and compulsory courses as an integral part of the requirements package along with 27 credit hours in general courses offered by the college of Fine Arts and distributed in the following schedule:

6 Courses or the equivalent of 18 credit- hour- courses of college compulsory requirements

Course Number	Course Title	Credit Hour	Course prerequisite
81111	Introduction to Musicology	3	
82113	Introduction to Art Education	3	
82114	Introduction to Music Education	3	
82120	Introduction to Arts	3	
82121	Art Education	3	
83112	Aesthetics	3	

3 courses or the equivalent of 9 credit-hour-courses of college optional requirements which students opt for from the following:

Course Number	Course Title	Credit Hour	Prerequisite
81112	Chorale Recital	3	
81114	Palestinian Folklore Music	3	
81115	Music Education	3	
81116	Palestinian Folkloric Arts	3	
81119	Art of presentation	3	
82115	Arabic Calligraphy	3	
82117	Photography	3	
82118	Exhibition Organization	3	
82119	Handicrafts	3	
82122	Arts & Industry	3	
82123	Arts & Society	3	

## **Description of College Required Courses:**

### **1. Compulsory Courses:**

#### **81111: Introduction to Musicology**

This introductory course focuses on a variety of topics ranging from the linguistic and non-linguistic definition of music to the interpretation of the meaning of music as science, art, & language, to the types and forms of music to the writing and composing of these different types and forms of musical notes and tones and their performance on theater. In addition, this course introduces students to the manner of drawing a clef sign, multi music scales, intervals among them, intervals among tunes, and different passages. This course focuses also on introducing students of Arts to the types of World musical forms such as the Opera & Symphony and Arabic musical forms such as Al-qasida, al-muwashah, and other performing and listening art forms.

#### **82113: Introduction to Art Education**

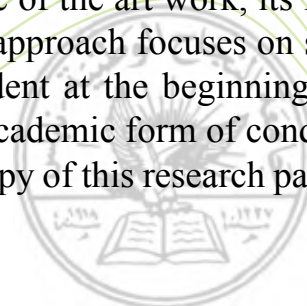
This course focuses on the functions of general education course in terms of the meaning of education, its definition, its overall essential role in educating the member and society. In addition, this course focuses on the role of art education and its influence on the individual and society. Furthermore, this course takes up the Greek's and Roman's perspective concerning the role of art education and its impact on the individual and society and the contemporary theories of art education.

#### **82114. Introduction to music education**

This course focuses on introducing students to the role of music in education through different historical periods of time regarding the meaning of music education, its goals, and its influence on the physical, psychological, mental, and social state of affairs of the individual. In addition, this course underscores the merits and values of music and takes up some contemporary theories of music education particularly the ones which pertain to Kuday, Carl Orff, and Dal Kruz.

#### **82120: Introduction to Art:**

The purpose of this course is to introduce students to the four major types of arts (the optometric, theater, and architectural). Concentration will be given to the fundamental relationship among these four types/forms of arts. The instructor follows two approaches to accomplish the objective of this course. The first approach consists of giving lectures, setting up group discussion, issuing materials on selected models of art works which illustrate the original source of the art work, its function, its substance, its style, and its formation. The second approach focuses on selecting and assigning a particular subject of arts to each student at the beginning of each semester to work on provided that students follow an academic form of conducting a research paper to be delivered as a lecture and a hard copy of this research paper to be turned in to the instructor of the course.



### **82121: Art Education:**

The primary goal of this course is to expand the student's artistic imagination and horizon in the fine arts through theory-lecturing, videocassettes & slides displays for the purpose of exposing students to these types and genres of plastic arts and the arts schools which represent them.

### **83112: Aesthetics.**

This course focuses on the study of aesthetics and the philosophies, trends, and principles used for the appreciation of beauty. In addition, it looks at the relation of aesthetics with other related subjects. Furthermore, this course investigates the multi-faceted concepts of aesthetics, its forms and content, beauty and ugliness. This course focuses also on the meaning of tragedy and comedy in art.

#### ***Elective courses:***

### **81112: Chorale Recital**

This course aims at making students rehearse more than 25 songs provided that their rehearsal of some of these songs be consistent with the conditions laid down by the rehearsal chorus of performing the recital.

### **81114: Palestinian Music Folklore.**

This course studies and investigates Palestinian production of music, the pattern and style of Palestinian folkloric music, and popular music analysis at the vocal and instrumental levels. This course examines the characteristics of instrumental music and its popular properties. In addition, this course aims at studying the forms and models of popular/folkloric music. And finally, it looks at the models of popular songs and the musical instruments used to play these songs. It also looks at the types of these music instruments in terms of their production, vocal structure, and ways of performance.

### **81115: Music Education**

This course aims at introducing students of fine arts to World-wide musical clips, Arab classical music, opera music, operetta and ballet, through listening to a variety of performances and watching video displays for the purpose of educating and orienting students with some background knowledge of music..

### **81116: Palestinian Folkloric Arts:**

This course underscores the importance of studying folklore and how it is inspiring for popular artists to study this genre of art. In addition, this course looks at the process of glass-blowing, pottery-making, textile industry, inscription, metal-carving, carpet-industry, porcelain, straw and bamboo industry, and popular embroider. Furthermore, this course is an attempt to develop the local folkloric ornamentation unit and the folkloric heritage.

## 81119: Art of Presentation

This course investigates the theoretical and practical strategies for the enhancement and development of public-speaking or the art of speaking for students to a higher level. It introduces students to the subject of vocal apparatus and its role in enhancing a student's ability to deliver a speech or make a presentation; and enhancing a student's knowledge of the function of each organ. Students will have the opportunity to receive some training on how to become a better speaker by polishing their ability in speech delivery and by acquiring the necessary knowledge of the organs which enhance their speaking ability. And finally this course is a real opportunity for students to become acquainted with the process of speech production, its major components, and how to deal with it

## 82115: Arabic Calligraphy

This course examines the types and patterns of Arabic calligraphy in terms of its characteristics & properties, and how it is being used and carried out through different historical models; and how it is being applied practically and artfully. Students are expected to produce these different models of handwritings after receiving adequate exposure and training.

## 82117: Photography

This course aims at introducing students to the role of the camera and its function and how instrumentally and artistically it can be used.

## 82118: Exhibition Organization:

This course deals with the ways and means for setting up and organizing public and private art exhibitions and galleries.♣

## 82119: Handicrafts.

This course is an intensive and comprehensive study of handicrafts and the interconnection/ interrelatedness between these handicrafts and other art crafts in terms of the role that these crafts play in the development of aesthetic aspects and the enhancement of the value of aesthetics in the manufacturing of handicrafts.

## 82122: Arts & Industry

This course deals with the mutual relationship between industry and different genres of art in terms of the role that the industry plays in the process of developing the aesthetic aspects and in retrospect the role that the art plays in enhancing the aesthetic level of a piece of art in industry.

## Art & Society 82123

This course provides an analytical & evaluative study of the role and the relation between art and society through-out history. In addition, it underscores the effect of art on human performance and the role of society in enhancing and guiding the process of artistic creativity and innovation in the members of society.

## DEPARTMENT OF MUSICOLOGY:

B.A Degree requirements in the Department of Musicology

Admission to the Department of musicology requires that prospective applicants meet the following two conditions:

- Applicants' high school GPA should be 65% and above;
- Prospective applicants should pass the A placement Test of the Dept of musicology.

The Department of musicology offers a unique specialization of music and awards a B.A., in this major. Interested applicants for a B.A. in this specialization should complete 140 credit hours including university requirements & electives, college requirements and electives, and department requirements.

### *study plan*

#### **A: Compulsory Courses (72 Credit hours)**

Course Number	Course Title	Credit Hours	Prerequisite
85211	(1)Music History & Appreciation	3	
85212	World Music Rules	3	
85213	(1)Solfeggio & Rhythm	3	
85214	Arabic Music Rules	3	
85215	(1)Compulsory Piano	1	
85216	(2)Solfeggio & Rhythm	3	85213
85251	(1)Specialty Instrument	3	
85252	World and Arab musical instruments	3	
85253	School Chants & Songs	3	
85311	(2)Music History & Appreciation	3	85211
85312	(2)Compulsory Piano	1	85215
85313	Oriental Solfeggio	3	85216
85314	Harmony (1)	3	
85316	(3)Compulsory Piano	1	85312
85351	(2)Specialty Instrument	3	85251
85354	(3)Specialty Instrument	3	85351
85411	Western Music Analysis	3	85413
85413	(2)Harmony	3	85314
85414	Music Teaching Methods	3	
85415	(1) Composing Rules	3	
85416	(1)Muwashahat	3	
85417	Computer Music Arranging & Recording(I)	3	
85418	Graduation Project	3	
85452	(4)Specialty Instrument	3	85354
85457	(3)Solfeggio and Rhythm	3	85216
85458	(4)Solfeggio and Rhythm	3	85457

## B. Elective Courses (15 Credit Hours)

Course Number	Course Title	Credit hour	Prerequisite
81117	Musical Acoustics	3	
85315	Choirology	3	
85352	(1)Ensemble	3	
85353	Methods of Developing Singing Voice	3	
85355	(2)Ensemble	3	85352
85412	of Islamic & Arab Music History	3	
85453	Improvisation Methods	3	
85455	Counter point	3	
85456	Music Therapy	3	
85460	(1)Chamber Music	3	
85461	(1) Rhythm	3	
85462	(2)Chamber Music	3	85460
85463	Analysis of Oriental Music	3	
85464	(2)Motion Rhythm	3	85461
85465	Rhetoric	3	
85466	(5)Specialty Instrument	3	85452
85467	(3)Ensemble	3	85355
85468	(2)Muwashahat	3	85416
85469	(2)Composing Rules	3	85415
85470	Modern Music Orchestration Techniques	3	85471
85471	2Computer Music Recording & Arranging	3	85417
85472	Arabic Maqamat & Its Rhythms	3	
85473	(3)Harmony	3	85413
85474	Phonetics	3	



## Course Description

### Music History and Appreciation (1) 85211

This course is a study of the history of music from early music times until the end of classical period. This course provides students with the opportunity to learn extensively about the development of music and the musicians who have had great influence on this development. In addition, this course focuses on the most accomplished works on music during the same period. Furthermore, students will have the opportunity to become acquainted with music forms and schools, and their overall impact on the development of music as a science and as an art.

### World Music Rules: 85212

This course is an investigation of the fundamentals of music and its theories; music tunes and their names; music clefs and their types; music signs and their forms; music intervals, music courses, marks of transformation; music scales and their types; rhythm and meters; the speed of tunes and their phonetic terms; signs of abbreviation, reiteration, and legato; sign of staccato; signs of embellishment; and signs of performance method.

### 85213: Solfeggio and Rhythm (1)

This course is theory-based. It aims at introducing students to the theoretical and practical foundations for the development of their hearing and rhythmic abilities. It also aims at introducing students to the various rhythmic forms in the simple and compound music scales. Students have to do some exercises on singing Solfeggio. They will be also asked to read music notes and perform some simple and compound music forms.

### 85216: Solfeggio and Rhythm (2)

This course is theory-based. It aims at introducing students to various rhythmic forms in brief and compound periods of time. Students will also do some singing exercises in various rhythmic forms. They will also engage in performing different rhythmic forms in simple scales by using some tools and instruments in order to acquire competence in rhythmic sense. Furthermore, students will have the opportunity to learn how to distinguish harmonious and disharmonious types of music pieces when it is played out. And finally, this course is really designed to provide students with the theoretical and practical foundations for the development of students' hearing and rhythmic abilities.

### 85214: Arabic Music Rules

This course is theory-based. It aims at introducing students to the Arabic music scales such as al-maqamat and their genres and structure. This course is also a study of Arabic meters and Arabic instrumental and singing forms.

### 85215+85312+85316: Compulsory Piano (1, 2, 3)

These courses aim at introducing and training students to play the Piano through a specific learning program which involves the techniques of piano –playing and the playing of simple music pieces.



### 85251: Specialty Instrument I

This course is a practice course. It is designed to introduce students to the rules and principles of playing on a particular musical instrument of his/her own choosing.

### 85252: Arab and World Musical Instruments

This course is a practice course. It is a study of the orchestral instruments and classical Arabic instruments in terms of their types (wind, string, reed, and percussion), their texture, vocal range, characteristics, techniques of using them and their role in Arab orchestra and bands.

### 85253: School Chants and Songs

This course is theory-based. It is designed to introduce students to the types of school chants and songs by training them to play and sing different songs and chants. In addition, students will have the opportunity to learn how to teach songs and chants to school students.

### 85311: Music History and Appreciation (2)

This course is theory-based and it is a continuation of Music 85211. It traces the history of music ever since the inception of the Romantic period and the various music schools which appeared in the beginning of the 20th century and the contemporary classical music. Furthermore, this course provides students with the opportunity to learn about the development of music and the musicians who have great influence on this development along with the major music publications in the same period. And finally students will become acquainted with music forms and music schools.

### 85313: Oriental Solfeggio

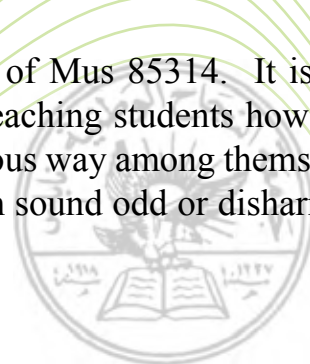
This course is theory-based. It involves the performance of several melodic exercises in which a number of Arabic rhythmic maqams will be used. These include rast, nahawand, bayati, siga, huzam, suznak, saba, al-kurd, and al-Hijaz.

### 85314: Harmony (1)

This course is theory-based. It deals with the science of sound/voice harmony. It investigates the theoretical and practical characteristics of musical chords as a science which is concerned with the composition of tones. In this course students will be introduced to the structure and types of musical chords and how musical melodies are formed into multiple sounds in a harmonious way among themselves.

### 85413: Harmony (2)

This course is theory-based and it is a continuation of Mus 85314. It is a study of the composition of tones and chords. It is about teaching students how musical melodies are formed into multiple sounds in a harmonious way among themselves. It also introduces students to the study of melodies which sound odd or disharmonious with other tones and melodies.



### 85351: Specialty Instrument (2)

This course is a practice course in which students have the opportunity to practice some playing on musical instruments to acquire some competence. Thus course is designed to teach students the methods of acquiring the technical training necessary to play on musical instruments with simple music pieces.

### 85354: Specialty Instrument (3)

This course is a practice one. It is designed to provide students with more technical training on musical instruments so that students can play different pieces of music forms on various musical instruments.

### 85411: Western Music Analysis

This course is theory-based. It analyses various music forms and then moves to carry out a meticulous dissection of music pieces in terms of melody and its kinds, rhythm, meters, expressive characteristics; analysis of simple duet form and simple trio form; compound duet form and compound trio form. The course ends with a look at musical variations and sonata forms.

### 85414: Methods of Teaching Music

This course is theory-based. It is designed to introduce students to the theoretical and practical Arabic and World pedagogy in music at elementary and secondary schools. In addition, this course focuses on providing students with the pedagogy for teaching music to children in elementary grades. Furthermore, it also aims at improving and sharpening students' pedagogical and learning capabilities.

### 85415 Composing Rules (1)

This course is theory-based. It is concerned with teaching students theories of composing World music starting from: the construction of melodic cell; going through with the making of harmony; and then transformation; the short and long tempo; the similarity in the melody, rhythm, counterpoint, and the accompanying organum. By drawing on World theories of composing music, students have to learn how to tie up such knowledge with the idea of making new forms of musical instrument such as chanting melodies and the simple music of Al-taqtuqa.

### 85416: Muwashahat (1)

This course is theory-based. It introduces students to an art genre and music melodies called 'Al-Muwashahat', in terms of its composition, forms, and development. In addition, students will study and learn its singing and they are expected to memorize twenty simple mushahat in different rhythmic and Maqamat.

### 85417: Computer Music Recording and Arranging

This course is designed to introduce students to the use of some computer programs which have applications in scoring and arranging music. These computer programs will help students acquire the following necessary skills to improve their training and

composing music on computer:

1. To dictate score music via computer;
2. To compose various melody lines accompanying the original melody;
3. To orchestrate the melody to various musical instruments taking into account the structure and nature of each instrument;
4. To give students general information about MIDI Network with an idea about the means of connecting it.

These computer programs will benefit students in terms of acquiring some training in recording music.

### **85418: Graduation Project**

This course is concerned with the requirements and completion of students' graduation projects. It states that a student has to coordinate with the instructor of the course about the assignment he/she will take up provided that the student has to carry out and perform his project in the most important Arabic music form such as al-muwashah, dawr, song, audible, and small pieces of modern music. The time length of this project should not exceed 30 minutes.

### **85452: Specialty Instrument (4)**

This course is a practice one. It is a continuation of previous courses in this field in which students have to learn and acquire technical training and playing techniques. Students are expected to play full music pieces on the musical instrument which he/she desires.

### **85457: Rhythm and Solfeggio (3)**

This course is theory-based. It provides students with some training and exercises in reading, writing, and composing of music along with dictation. In addition students would also learn the types of music clefs and their melodies and rhyming. This course surveys the exceptions in the time intervals of simple and compound meters. It also aims at enhancing and maximizing students' instant reading abilities

### **85458: Rhythm and Solfeggio (4)**

This course provides students with advanced exercises and training in reading, writing, and dictation in music in terms of rhythm and melody. It also introduces students to the internal partitions of a music note and help student to distinguish the trio form of music notes or music composition and its types and to be able to recognize the diacophony songs.

### **81117: Music Acoustics**

This course deals with the elements of acoustics such as vibration, sound waves, sound volume, sound degree, sound pitch, types of sounds, and measurement of sound intervals. It deals also with the acoustics of rhythmical, string, and wind music instruments. And finally this course deals with diffusion of sound in space, closed and open auditoriums

### 85315: Choirology

This course is theory-based. It covers a lot of topics such as the choral formation, types of chorales, distribution of choral voices, and the characteristics of the voices participating in the chorale. In addition, this course focuses on the selection of chorale songs and chorale members' techniques.

### 85352: Ensemble (1)

This course is theory-based. It introduces students to the types of small musical bands such as duets, trios, quartets, and pentas. In addition, this course introduces students to chamber bands and affords them the opportunity to participate in such chamber bands.

### 85353: Methods of Developing Singing Voices

This course is theory-based. It is a study of the methods for the development of a singing voice and the identification of human voice in terms of its quality and tone characteristics. This course introduces students to the ways of developing the articulatory apparatus, the ability to regulate the breathing process during singing. Through the performance of many singing exercises students will be able to notice the extension of voice range and volume. And finally, this course is an opportunity for students to be introduced to the techniques and methods of singing performance.

### 85355: Choirology (2)

This course introduces students to the types of small chorales such as duets, trios, quartet form, etc. In addition, students will be introduced to chambers choirs/chorals where students have to perform and practice playing with these chorals.

### 85412: History of Arab and Islamic Music

This course traces the history of music during Al-Jahilia period or the pre-Islamic era until this time. It highlights and underscores the most visible symbols of Arab music and various rhythmic forms primarily Al-muwashah, (post classical forms of Arab poetry), Al-taqtuqa, Al-qasida, 'poem', and etc. It will also point out the most outstanding publication of Arab music which appeared in the Umayyad and Abbassid periods and their influence on the evolution and development of music in the West.

Finally, this course focuses on the formal Palestinian music and the leading Palestinian musicians who worked in the beginning of the 19th century; along with introducing students to the contemporary Palestinian music

### 85453: Music Improvising Techniques

This course is theory-based. It is designed to help student learn how to compose musical sentences promptly and instantly through the completion of a finite sentence; performing a particular subject on a musical instrument; and creating harmonious music compositions for a particular known melody. In addition, this course underscores the idea of sharpening and improving students' technical skills through impromptu playing in accord with various music rhythms.

### **85455: Counter point**

This course introduces students to the science of multi-sound-articulation; and trains students to acquire the principles of composing strict polyphony such as ‘canon’, two melodic sounds, two-band fuge and organum.

### **85456: Music Therapy**

This course is theory-based. It is designed to introduce students to the modern and adopted techniques and methods of psychiatric treatment through the use and application of music therapy. It also underscores the important role which music therapy plays in enhancing individuals with infirm hearing and developing one’s ability of walking.

### **85460: Chamber Music (I)**

This course deals with the content of music notes suitable for the chamber music such as the sonata for the piano and the violin or the sonata piano, etc.

### **85461: Motion Rhythm (1)**

This course includes drills and exercises in motion rhythm through the coordination between the physical movement of the body and the rhythm. It calls for the coordination between the display of the physical movement of the body and the playing of a particular musical piece in simple meters with 2-4, or 4-4, or 3-4. This performance of such pieces of music should include simple rhythms.

### **85462: Chamber Music (2)**

This course is theory-based. It includes musical pieces suitable for chamber music which contains three to eight musical instruments. The primary focus of this course is on the expressive aspects of a particular piece of music to be played out.

### **85463: Analysis of Oriental Music**

This course deals with the forms of composing Arabic music in terms of its composition and formation. In addition this course aims at improving and maximizing students’ abilities in following up on construction forms of this Arabic composition of music through exposure to the written and audible script of different music forms.

### **85464: Motion Rhythm (2)**

This course includes training students on motion rhythm through maintaining some harmony between the movement of the body and rhythm in simple scales which include motion rhythm and oriental forms; in addition, it call for the accompaniment of muwashahat through motion rhythm.

### **85465: Rhetoric**

This course introduces students to the art of rhetoric and its major components in terms of providing students with the knowledge and practice necessary for the rhyming of musical poetry. Students will be introduced also to all these rhyming forms and types with which they can compose musical poetry and perform on some musical instruments.

### 85466: Specialty Instrument (5)

This course is a practice course. It uses some music pieces to measure students' abilities in performance; it uses such music pieces to measure students' sense of expression and articulation. In addition, this course includes some music pieces whose purpose is to train and develop students' performance skills in general in addition to giving students five music pieces with different tempo and forms.

### 85467: Choirology (3)

In this course students have to perform some modern music pieces of high level and quality within the singing group of students who represent a chorale group capable of playing at different musical instruments available and according to a defined role or music assignment.

### 85468: Muwashahat (2)

In this course students will have the opportunity to memorize some Muwashahat, Adwar, Taqatiq, and monologues in a variety of Maqamat forms. In addition, students have to learn to perform some rehearsal no less than 15 pieces of muwashahat.

### 85469: Composing Rules (2)

This course aims to introduce students to the process of imitation of music and word music. The focal point is to tie up poetry with music and then exposing students to what is known as picture music and popular music as a source for composing and making modern music. Students will learn also the concept of minimizing the number of music elements to form modern music. Students have to learn new techniques and mechanisms with which they can compose new and modern form of music with the least number of music elements which they used to. Students will have the opportunity in this course to make use of the theory of minimalism to make oriental music.

### 85470: Modern Music Orchestration Technicalities

This course aims at giving students a general overview on the future of MIDI network and the development which may result from it in the future. In addition, students will have the opportunity to be introduced to the sound studio in terms of knowing its major components, and the type of instruments available there, and a brief account on its acoustics and sound engineering techniques. Furthermore, students will have the opportunity to learn how to scoring for the orchestra instruments through their exposure to various classical and modern rhythmic styles of music and the methods of forming them.

### Computer Music Recording and Arranging 85471:

This course is theory-based. It aims to introduce students to computer music programs and to train them to make music recording, scoring, and arranging. This course provides students with the rules and mechanisms for the sequencer recording through specialized programs. In addition this course affords students the opportunity of providing them with a brief account on how to build rhythmic forms for different musical instruments such as the strings and the percussion.

## 85472: Arabic Maqamat and Rhythms

This course introduces students to the foundations of music rhythms and its components. It also requires that students study thirty rhythmic forms of Maqamat and apply them on a separate rhyming instrument or on accompanying musical instrument. In addition, this course introduces students to the Arabic Maqamat through listening to a variety of forms and types of maqamat or through playing some forms of these maqamat on different musical instruments in order to acquire some knowledge about Arabic maqamat in terms of their rhythms, application, and performance. And finally students will learn to play some music pieces and analyze it in terms of maqam and rhythm.

## 85473: Harmony (3)

This course is theory-based. It includes drills and training exercises for students to use Maqamats in harmonic and diatonic form. In addition, it provides students with training exercises in unfamiliar melodies.

## 85474: Phonetics

This course is theory-based. It deals with the speaking apparatus of human beings in terms of its major speech organs and the articulators of speech production. In addition, this course deals with the sounds of Arabic consonant, vowels, and semi-vowels and their place and manner of articulation. This course studies also Arabic sounds in terms of their types, classification, description, and their low and high pitch. Since there is a connection between phonetics and the music of poetry and the art of rehearsal, this course looks at the system and structure of the syllable in Arabic phonology which is highly connected with the music of poetry. And in this vein, this course studies the supra-segmental phonemes such as stress, intonation, and juncture which are directly related to the art of rehearsing which musicians and composers rely on to accomplish harmony in their music works.



## ACADEMIC STAFF

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## DEPARTMENT OF APPLIED ARTS : INTERIOR DESIGN

B.A. Degree requirements in the Department of Applied Arts in Interior Design

Admission to the Department of Applied Arts in Interior Design requires that prospective applicants meet the following two conditions:

- Applicants' high school GPA ( or grade point average ) should be 65% and above;
- Prospective applicants should pass the Placement Test of the Department of Applied Arts in Interior Design.

The Department of Applied Arts in Interior Design offers a unique specialization in Interior Design which culminates in the awarding of a B.A., in this major. Interested applicants for a B.A. in this specialization should complete 141 credit hours including university requirements & electives, college requirements and electives, and department requirements.

### Study plan

#### A. Compulsory Courses (73 Credit Hours)

Course Number	Course Title	Credit Hour	Prerequisite
83211	History & Appreciation of Art (1)	3	
83213	Academic Drawing (1)	3	
83216	Academic Drawing (2)	3	83213
83313	History & Appreciation of Art (2)	3	83211
83411	Contemporary Art Islamic & Arabic	3	
83463	Theory of Colors & Its Application (1)	3	
84212	Perspective	3	
84413	Graduation Research Project (Interior Design)	3	84465
84454	Quantities & Specifications	3	
84460	Principles of Design	3	
84461	Interior Design "1"	3	
84462	Interior Design "2"	3	84461
84463	Interior Design "3"	3	84462
84464	Interior Design "4"	3	84463
84465	Interior Design "5"	3	84464
84466	Rules of Two-Dimensional Design	3	
84467	Architectural Drawing	3	
84468	Theories and its Methodologies of Design	3	
84469	Technology of Raw Materials	3	
84470	The Sociology & Psychology of Design	3	
84471	Lighting & Sound Technicalities	3	
84472	Shading Shadows, and Lightening	3	
84473	Detailed Plans	3	
84474	Graduation Project/ Interior Design	1	84465
84475	Computer Design I	3	

## B. Elective Courses (15 Credit Hours)

Course Number	Course Title	Credit Hours	Prerequisite
83214	Painting (I)	3	
83215	Artistic Anatomy	3	
83253	Open Landscape (1)	3	
83312	Academic Drawing (3)	3	83216
83315	Academic drawing (4)	3	83312
83352	Open Landscape (2)	3	83253
83412	Palestinian Plastic Art Movement	3	
83464	Theory of Colors & It Application (2)	3	83463
84251	Stained Glass (1)	3	
84254	Graphic Design "1"	3	
84351	Mosaic	3	
84354	Stained Glass (2)	3	84251
84355	Graphic Design (2)	3	84254
84451	Introduction to Three-Dimensional Design	3	
84476	Decor & Carpentry Factories	3	
84477	History of Contemporary Art	3	
84478	Art Criticism	3	
84479	History & Design of Furniture	3	
84480	Objects & Models	3	
84481	Computer Design II	3	84475
86213	Principles of Calligraphy & Decoration	3	

## *Course Descriptin*

### **83211: History and Appreciation of Art (1):**

This course is theory-based. It provides a historical study of Middle East ancient arts in the primitive ages during the mandate of the dynasties. It also provides an account of the arts of the ancient world. In addition, it includes a historical & aesthetic study of Islamic artistic styles of: the Umayyad, the Abbassi, the Umayyad style in Andalus, Spain, the Fatimia, the Suljuki, the Ayyubi, the Mongolian, the Moroccan Spanish, the Mamluki, the safawi, the Ottoman in Turkey, and the Islamic art in India.

### **83213: Academic Drawing (1):**

This course is designed to train students to acquire some drawing skills in pencil, charcoal, and acrylic. In addition, students are called upon to hone on the following skills to be become adept at the tasks of drawing they may be engaged in:

To learn how to record factual material and avoid relying on invisible things; to maintain a harmonious relationship and synchronize the movement among the eye, the hand, and the tool being used for the task at work. And in order to accomplish such a task, students should ascertain the following points:

Maintaining some sort of balance of percentage in their painting/drawing of objects;

Distributing the target elements fairly and squarely within the bounds of the planned and designated framework of art work; Double-checking the existence of both the shadowy and lighted areas; Selecting and using single-point lead pencils; making sure that there is a third-dimension included in the formation of different objects; Understating the nature and texture of the raw material being used along with its pointed directions.

This course requires that students carry out a series of activities given to them as homework assignments in order to make sure that students have a good grasp of art concepts they had taken previously.

### **83216: Academic Drawing (2):**

This course trains students of Fine Arts to acquire some knowledge on the following processes when they engage in academic drawing: Rely on factual materials to report the reality as it manifests itself by relying on a recording style for accuracy; Distribute the elements within the bounds of the given framework with great care for the basic foundations for any work of art;

Carry out different studies on calligraphy with different objectives and goals; Understand the methods of drawing in pencil, charcoal, and acrylic, and the degree of coloring and its relation with the object being drawn in terms of its proximity; carry out drawing of models with different goals and objectives for the sake of knowing the effect of calligraphy; dealing with models of different textures such as clothes, metals, glass, to ascertain the distinctive properties and characteristics of a particular

raw material and its relation with void/empty space; to use and employ some raw materials such as coal, Chinese ink, and water colors, in order to figure out its artistic properties and characteristics; and finally focus on the statue of human being or part of it through drawing a partial statue, or a statue without body.

The expectation is that students in this course have to carry out some drawing of the head and body of human being.

### **83313: History and Appreciation of Art (2):**

This course is theory-based. It includes a study of art in the Renaissance age in Europe and the different schools of art such as classicism, romanticism, surrealism, and realism. In addition, this course provides an adequate account on contemporary art trends in the 20th century.

### **83411: Contemporary Islamic & Arab Arts:**

This course is theory-based. It provides a historical and analytical study of Islamic art as an innovative art. It also provides a study of the characteristics of the Islamic arts, its relation with the Islamic faith, and the most important Islamic artistic decorations. In addition, this study presents models of Islamic artistic styles, Islamic architectural elements, Islamic painting, Islamic applied arts, and contemporary plastic arts in the Arab World. Furthermore, this course provides an account on the most prominent Arab artists and their creative artistic works with an analysis of these artistic works to be displayed on slides. Students who sign up for this course are expected to conduct a research paper on one of the prominent Arab artists.

### **83463+83464: Theory of Colors & its Application (2):**

This course introduces students to the theories of colors by the prominent artists of different art schools. In addition, this course provides a comprehensive study of the nature of colors, their classification and types, the dynamic aspects of colors, the psychological basis and functions, and the influence of colors on the eyes of the spectators. Furthermore, this course requires that students apply some of these weaving processes to experience the influence of colors and the ways of using these colors in two or three-dimensional objects.

### **84212: Perspective :**

This course provides students with instructions which enable them to draw the perspective for the designing idea relying on untested blueprint procedures. It also provides students with better opportunities to apply certain designs which help students pass the theoretical stage of drawing to become more creative and confident at the assigned tasks. Furthermore, this course aims at nurturing the creative imagination of students which result in developing the artistic appreciation and authentic sensitivity of students to appreciate the values of different designs. Moreover, this course is an opportunity for students to learn all types of perspectives: 1 vanishing point perspective, 11 vanishing point perspective, 111 vanishing point perspective. And

finally, this course looks at the merits of teaching students about the drawing of one-dimensional, or bi-dimension, and three-dimensional objects and of other ways to expand the student's understanding. Students will be supplied with a large amount of information to enable them to draw the perspective for the designing idea relying on an elaborate format or script before carrying it out.

### **84413: Graduation Research Project (Interior Design):**

This course is a practice course. In this course students have to pick out a particular subject to complete their graduation project. This graduation project has to meet a set of conditions to be acceptable to the concerned committee. The graduation project has to be a full-fledged and complete project. It has to relate and be grounded in interior design. It has to involve the collection of information and important data. It has to show the ability of students to employ such information in accomplishing an innovative project in interior design encapsulating all the necessary functioning, artistic, and environmental elements. Students have to submit a study including ground & ceiling projections, elevations, sections, executive drawings, binoculars, models including an analytical study of the main idea of the graduation project.

### **84454: Quantities & Specifications :**

This course is a physical science course connected with materials, their properties, characteristics, and is tied up with the principles of mathematics and arithmetic. It is strongly related to architectural design and designs of executive drawings. In addition, this course constitutes an essential component of internal design. Students will learn great deal about the specifications of building materials and estimation of quantities. They will also learn about functional aesthetic, economic and human aspects of architecture.

### **84460: Principles of Design:**

This course introduces students to the concept of designs and design formation in terms of: its types and forms, its techniques and raw materials along with its tools and instruments. In addition, it introduces students to the principles, rules, elements, and characteristics of designs such as color, line, area, mass, void, equilibrium, movement/motion, distribution, correspondence, space. Furthermore, it introduces students to contexts in which students can learn to deal with objects and shapes with two and three-dimensions and their application. Moreover, it introduces students to the different models of aesthetic in designs

### **84461: Interior Design (1) :**

This course is a practice course. It deals with a residential interior design particularly an apartment in an apartment complex through which students can learn a great deal about the speed of moving in and out, the distribution and arrangement of furniture, the elements of architecture, the lighting, the colors, and complementing and embellishing materials and their relation with each other and with the external environment, and the pattern of formation. In this course students are expected to acquire knowledge about ground projections, sections, elevations, executive drawings, binoculars, and models and then apply such knowledge in designing some models and shapes of them. Finally, students have to submit a research proposal about their project.

### 84462: Interior Design (2) :

This course is a practice course. It introduces students to the concept of interior design for social and tourist centers particularly hotels, restaurants, resting places, and centers for various purposes. This course aims also at introducing students to the concept and application of design and the ability of students to express it or display it in the interior space provided through teaching and training students of how to lay out models of interior design, ground projections, sections, elevations, executive drawings, binoculars, and models. And finally students will be asked to do a small research proposal on their project for this course.

### 84463: Interior Design (3):

This is a practice course. It aims at studying the interior design for commercial and industrial centers, trade markets, department stores, clinics, offices, and factories. In this course students will be introduced to the distinctive features and characteristics of interior designs for these projects and purposes, and the application of such design in the internal space and the study of its finishes, and accessories. Furthermore, students have to provide the ground projections and sections. At the end students have to provide a short research proposal on their project along with some models.

### 84464: Interior Design (4):

This is a practice course. It aims at introducing students to the type of interior design geared for cultural, recreational, entertaining, environmental, theaters, clubs, public place, and decorative monuments. This course presents models and samples of ground projections, sections, elevations, executive drawings, binoculars, and various models of different designs. At the end of this course, students have to submit a short research proposal on the intended project.

### 84465: Internal Design (5):

This is a practice course. It is concerned with the laying out the interior designs for the construction of public buildings such as train stations, airports, universities, and other means of transportation such as trains, airplanes, and ships. In addition, this course is designed to expand and reinforce students' understanding of their dealing with interior design and its relation with neighboring specializations. Furthermore, this course is designed to meet the needs of the designer who is connected with the establishments and organizations. In this course students will be asked to provide ground projections, sections, elevations, executive drawings, binoculars, models. And finally students have to submit a short research proposal on the intended project.

### 84466: Rules of Two-Dimensional Design:

This course is both theory-based and a practice course. Thus it provides students with the fundamental principles of the two-dimensional object. It also develops students' understanding of the nature, components of design, its mechanisms, tools, techniques, and its influences by pointing out and displaying the principles and rules of design such as colors, measurements, impact, line, textures. Furthermore, this course examines the reaction of human being to various designs and shapes and the application of their techniques.

### **84467: Architectural Drawing:**

This course is designed to teach students the fundamentals of architectural drawing in which students will be exposed to samples of geometric projections, complete lines and sketches, elevations, and architectural sections through practicing the drawing of various samples and sketches. In addition, students will learn the symbols of the elements and materials of construction and make them visible in projections, elevations, and sections. Furthermore, students will learn types of lines, drawing scales, dimension lines, preparation and arrangement of geometric posters or engineering –related posters

### **84468: Theories of Design and its Methodologies:**

This course is theory-based. It aims at introducing students to the concept of design and traces the historical stages which it has undergone. In addition, it aims at studying the most important old, modern and post-modern theories and their influences on enhancing, developing, and expanding methods and techniques of design. Finally, this course examines the relation between man and machine and explores the ways through which one can improve such relationship by incorporating computer application in interior design.

### **84469: Technology of Raw Materials:**

This course is theory based. It is designed to introduce students to the physical characteristics of the elements which constitute and are being used in internal design. It also looks at the ways and means of using such materials in interior design. These materials can be divided into two major types:

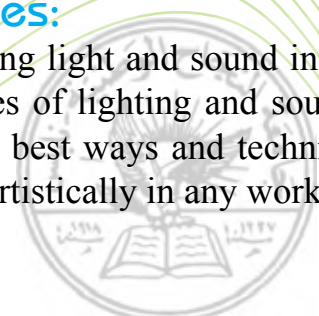
1. Woods: students will learn about woods in terms of their types, characteristics, and ways of using, connecting, tying up, and external polishing;
2. Metals: students will learn about metals in terms of their types, characteristics, connecting, welding, and manufacturing;
3. Plastic: students will learn its types, physical characteristics, and its technical application in interior design.

### **84470: The Sociology & Psychology of Design:**

This course is theory-based. It examines the interchangeable relation between society and design. In addition, this course looks at the ways in which design can be pointed towards serving the necessary needs of man. Furthermore, it looks at the psychological effects which design may have on both individuals and the artist's creativity .

### **284471 : lighting and Sound Technicalities:**

This course is concerned with the techniques of using light and sound in interior design by pointing out the relation of these techniques of lighting and sound with void, and mass. In addition, this course looks at the best ways and techniques of lighting and sound which can be used effectively and artistically in any work of art.



### 84472: Shading, Shadows, & Lightening:

This course is concerned with introducing students to the drawing of shadow/shadowy projections and shadows in the second and third-dimension. In addition, students have to learn the process of lightening and brightening a particular object or drawing by using various techniques of colors such as white and black, water colors, colored wood, Bass. Colors, and markers.

### 84473: Detailed Plans:

This course is designed to teach students to sharpen their abilities to express their executive views on internal design projections through the display of a completed product of a particular design in conjunction with detailed maps and sketches for the intended project. The expectation is that students have to show their innovativeness in the product they set out to design for a particular project.

### 84474: Graduation Research Project:

This course provides a complete description of the requirements of the Graduation Research Project which students have to fulfill in order to graduate. In this course each student is required to submit a theoretical research proposal of his graduation project which he/she selects with the approval of his/her supervisor. The focus of this graduation project has to be on a topic of the student's major. A committee will be appointed from the same college to supervise and evaluate the student's research proposal before he/she sets out to finish it up completely.

### 84475: Computer Design (1):

This is an introductory course of computer applications in art. In addition, it introduces students to the multi-faceted computer applications in file management, Word C. program, and other famous design programs such as Photo Shop.

### 83215: Artistic Anatomy:

This course is theory-based. It is an anatomical study of the human body and his walking/motion mechanisms by studying the functions of anatomy, the build-up of the internal and external shape of the human body from an artist's perspective. It includes a comparison study of the body of male and female, the physiological characteristics of the face and their changes, and the percentage of human organs and the human-specific laws as perceived by artists through out various ages. This course also provides a comparison between male and female body. Furthermore, this course requires that students carry out some practical application by drawing the body, skeleton, bones and muscles and movements of human.

### Open Landscape (1+2) 83252 + 83253:

This course is given outside the class room. All students and teachers go out to explore nature and find out aesthetic values in landscape in villages and old traditional places. During their sightseeing, students have to identify natural elements and artistic foundations of a work of art through attempting to draw different objects and sketches with different raw materials paying keen attention to fleeting artistic formation. In this course students become used to experiencing the aesthetic values present in the local environment.



### **83312: Academic Drawing (3):**

This course is a continuation of previous courses in academic drawing and it is built upon what has transpired in these previous courses. This course focuses on: the structural format of any object, the part-whole and whole-part relation in the formation process, and the connection between the object being formed and the philosophy behind the idea which is responsible for its formation. This has to be accomplished analytically for one single subject. Furthermore, this course aims at introducing students to the following drawing techniques: Becoming familiar with the technique of using collage for the service of any work of art; Employing previously used techniques along with the use of coal and Basteel; - Exploring new techniques suitable for the work of art at hand; Formulating the visible and visual reality and putting it in new art forms/shapes; Getting acquainted with the statue of the human body in various postures.

### **83315: Academic Drawing (4) :**

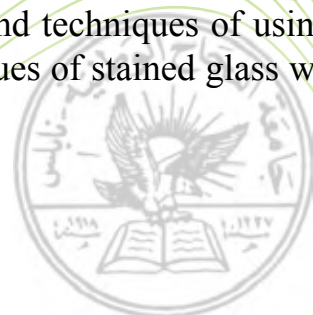
This course is designed to introduce students to different visions or perspectives of newly plastic models geared for students to distinguish between part-whole and whole-part relationship at the same time preserving the unity of the work of art and the craftiness of constructive design. In addition, this course trains students to ascertain harmony in constructing and assembling the object in terms of shape and content for the sake of preserving its artistic and comprehensive quality. Furthermore, this course underscores the student's personal vision primarily his philosophical vision concerning the work of art at hand. And finally, this course trains students to carry out any work of art by relying on different, familiar, and discovered raw materials.

### **83412: Palestinian Plastic Art Movement:**

This course is theory-based. First, it investigates the major factors of any artistic work by tracing the history of plastic arts in the Arab World in general, and in Palestine in particular before 1948. Second, it examines also the art movement during the rise of the Palestinian revolution after 1967, which witnessed the initial establishment of a Palestinian Plastic Movement in the occupied territory. Third, this course will identify prominent artists of the occupied lands and provide an analysis of their artistic accomplishments, the local art exhibition and galleries; and finally, it provides a new perspective of the current and future direction for the Palestinian Plastic Movement.

### **84251+84354 Stained Glass (1+2)**

This course is a practice course. It is a study of glass in terms of its types, ways of cutting it, the types of glass colors, and the ways and techniques of using colors in glass. In addition, this course deals with the techniques of stained glass with lead, copper, and jasper.



### 84254: Graphic Design (1):

This is a practice course. It is designed to complete and finish up with the values, concepts, innovative techniques which they have learned in previous courses and be able to apply such knowledge in designing various means such as business logo, brand registration, paper, commercial correspondence, book folders, identification cards, magazine folders, show cards, commercial labels, etc.

### 84351: Mosaic :

This course is a practice course. It is designed to provide a historical study of the mosaic in various ages and times and the ways of its manufacturing techniques. It also aims at introducing and training students to the use of mosaic tools and raw materials. In this course students will be asked to carry out some projects in mosaic by using color paper. In addition, students will learn the techniques of using stones, marbles, and other works in mosaic production.

### 84355: Graphic Design (2):

The primary focus of this course is commercial advertisements. It is concerned with the design of commercial advertisement in news papers and magazine and in art production. In addition, this course is also concerned with the mechanism of measuring and calculating advertisements and the importance of various pages in colored or white and black news papers. Furthermore, this course looks at the historical development of posters particularly the poster which pertains to commercials, and the scientific bases and foundations for the making of posters and drawing designed for illustrative drawings in books and stories for children books.

### 84451: Introduction to Three-Dimensional Design:

This course introduces students to the ways of experiencing and sensing the Third-Dimensional design, its works and other art elements through carrying out models of three-dimension and becoming acquainted with the various materials necessary for the production of such work.

### 84476: Décor & Carpentry Factories:

This is concerned with introducing students to the types of machinery, tools, instruments, and various raw materials such as wood, metals, and other materials used in factories. In addition, this course is designed to teach and train students to apply such materials to produce some useful models of art work in the field of internal design.

### 84477: History of Contemporary Art:

This course aims at introducing students to the plastic, applied, architectural art in contemporary art, modern, and post-modern. In addition, it looks at the art movements and schools which are connected and associated with ideas and thoughts of modernity and post-modernity and their creators.

### **84478: Art Criticism:**

This is a theory-based course. It is a study of the history and foundations of art criticism which is used in the process of evaluation and discovery of aesthetic elements in works of art through the study and analysis of an artist's individual thoughts and principles in aesthetic and the possibility of applying them socially.

### **84479: Furniture: History & Design:**

This course is both theory-based and practice course. It is concerned with the inception and development of furniture in different historical ages. In addition, it trains students to distinguish between and among various furniture styles and their characteristics. Furthermore, this course deals with the foundations, styles, and furniture design techniques. Moreover, it focuses on the development of furniture from the perspective of the design movements in the 20th century and its use of various materials.

### **84480: Models & Objects:**

This course is designed to introduce students to the ways and rules of making models of various objects made of woods and cartons by using different raw materials and applying what they have learned in this and other pertinent courses. In addition, students have to do a research project on models of internal and external design as a fulfillment of course requirements.

### **84481: Computer Design (II):**

This course is designed to acquaint students with the application of computer in producing different models of designs by relying and becoming versed in the application of the following software programs: Corel Draw, Corel Paint, Corel Move, Corel Trace, And Voice passed Programs. Illustration

### **86213: The Principles of Calligraphy & Decoration:**

This course is designed to provide a brief account of the history and development of calligraphy and decoration and their prominent artists. In addition, this course introduces students to the basic rules and principles of calligraphy and decoration along with the tools and instruments used in carrying out different drawing or design assignments. In this course students are expected to apply the rules and methods which they have learned in carrying out assignments in Arabic and Islamic styles of calligraphy and they are also called upon to employ this knowledge in different models of design



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# DEPARTMENT OF APPLIED ARTS : GRAPHIC DESIGN

B.A. Degree requirements in the Department of Graphic Design

Admission to the Department of Graphic Design requires that prospective applicants meet the following two conditions:

- Applicants' high school GPA ( or grade point average ) should be 65% and above;
- Prospective applicants should pass the Placement Test of the Department of Graphic Design.

The Department of Graphic Design offers a unique specialization in Graphic Design which culminates in the awarding of a B.A., in this major. Interested applicants for a B.A. in this specialization should complete 141 credit hours including university requirements and electives, college requirements and electives, and department requirements.

## Study plan

### A. Compulsory Courses (73 Credit Hours)

Course Number	Course Title	Credit Hour	Prerequisite
83213	Academic Drawing ( 1)	3	
83216	Academic Drawing (2)	3	83213
83463	Theory of Colors & Its Applications (1)	3	
83464	Theory of Colors & Its Applications (2)	3	83463
84254	Graphic Design "1"	3	
84355	Graphic Design "2"	3	84254
84460	Principles of Design	3	
84470	The Sociology of Design & Its Psychology	3	
86112	Photographic	3	
86114	Graphic Design "3"	3	84355
86115	Graphic Design "4"	3	86114
86116	Graphic Design "5"	3	86115
86117	Graduation Research Project (Graphic Design)	3	
86118	Typography	3	
86119	Computer Graphics 1	3	
86120	Computer Graphics 2	3	86119
86123	Art Graphics I	3	
86126	History of Graphic Design	3	
86213	Principles of Calligraphy & Decoration	3	
86214	Technicalities of Printing & Its Raw Materials	3	
86215	Principles of Inscription & Printing	3	
86216	Advertisement Theory 1	3	
86217	Advertisement Theory 2	3	86216
86218	Graduation Project (Graphic Design)	1	
86219	Pre-printing	3	
86312	Field Training	0	

## B. Elective Courses (15 Credit Hours)

Course Number	Course Title	Credit Hour	Prerequisite
83211	History and Appreciation of Art (1)	3	
83312	Academic Drawing (3)	3	83216
83313	History and Appreciation of Art (2)		83211
83315	Academic Drawing (4)	3	83312
84451	Introduction to Three-Dimensional Design	3	
84466	Rules of Two-Dimensional Design	3	
84467	Architectural Drawing	3	
84468	Theories of Design and Its Methodologies	3	
84476	Decor & Carpentry Factories	3	
86121	Computer Graphics 3	3	86120
86122	Computer Graphics 4	3	86121
86124	Art Graphic (2)	3	86123
86125	Art Graphic (3)	3	86124
86212	Animated Pictures in Computer	3	
86416	Advanced Graphic Design	3	

### Course Description

#### 83213 : Academic Drawing (1) :

This course aims at teaching and training students to acquire the following competencies: to rely on visual and optical facts to report the reality as it manifests itself with a recording style; to maintain and synchronize the movement among the eye, the hand, and the tools or instrument being used to accomplish the assigned task and this involves that students ascertain the percentages and proportions of the objects they are working on; to ascertain the accuracy of distributing the elements within the bounds and framework of the work of art; to adhere and stick firmly to the writing scripts/studies; to double check the shadowy and lighted elements/areas in the objects they are drawing; to ascertain the technicality of using single-point lead pencils; to ascertain the accuracy of the third-dimensional objects within the different structural formation and the level of sight; to understand the nature of the raw material , its texture, and its pointed direction. In this course students will be given a series of activities as homework assignments in order to make sure that they have a good grasp and understanding of the concepts they had taken previously.

## 83216 Academic Drawing (2) :

This course aims at teaching and training student to follow the following procedures in carrying out their drawing: relying on optical/ visual facts to report the reality as it manifests itself with a recording style; maintaining accuracy in the distribution of elements within the space and general framework with some consideration to the rules/ foundations of forming a piece of art work; carrying out different drawing/writing models with different goals and objectives to ascertain their influence; understanding the importance of degree variations of different colors in the objects which have to be drawn and their relation with the level of proximity with other objects; dealing with other models with different textures and features such as clothes, metals, glass, in order to ascertain the distinctive features and properties of the raw material and its relation with void areas; using a variety of raw materials in carrying out certain drawing such as coal, Chinese ink, water colors, and becoming aware of the artistic properties and features of these colors; focusing on the human body or part of it through drawing partial statue with or without the head and becoming knowledgeable about such models and drawing of the head and body of the human skeleton.

## 83463+83464 Theory of Colors and Its Application (1+2) :

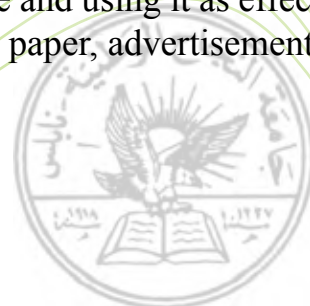
This course is concerned with theories of colors and the artists and art schools they represent. It also provides a comprehensive study of these colors in terms of: their types, classifications, dynamism, their relation and function; and their influence on the eyes of the spectators. This course is also concerned with students' application of these different colors to two/three-dimensional objects, and the basis of the psychological influence of these colors on the artistic ability of students.

## 84254 Graphic Design (1) :

This course is concerned with the collective beauty or the aesthetic perception of the symbol of letters which can function as a logo for a particular corporation or institution and is also concerned about students' learning innovative and creative ways and mechanisms in graphic designs such as the drawing of logo, the registered commercial brand, correspondence papers, Identification cards, certificate of honors, postal stamps, books and magazine folders, and their publication.

## 84355 Graphic Design (2):

This course deals with issues of contemporary designs and the specific type of designs for factories and business corporations. In addition, this course addresses and attends to the ways of dealing with photographic picture and using it as effectively as possible in graphic designs, canning, product wrapping paper, advertisement, lighted advertisement, and shipping vehicles



### 84460 Principles of Design:

This course is designed to introduce students to the types, forms, raw materials, tools of models of design. In addition, it introduces students to the conceptual idea of design, its basic foundations, elements, characteristics and features such as color, line, space area, mass, void, equilibrium, motion, distribution, correspondence, and space. Furthermore, this course introduces students to the ways of dealing with objects or shapes with two-dimension or three-dimension and their application. It also introduces students to a variety of models and patterns of design and their connection with aesthetics and beauty.

### 84470 The Sociology of Design and its Psychology:

This course examines the interchangeable relation between society and design. In addition, this course looks at how design can be used not only to serve the needs of man but it also has some psychological effect on the artist's creativity

### 86112 Photography:

This course is both a theory-based and practice course. It is designed to give a brief account on the history of photographic and its development. It also introduces students to the tools, instruments, artistic and technological preparations employed in photographing, developing films, and printing, enlarging, forwarding pictures in black, or white, or colored. This course trains students to employ photographic pictures in the service of art works and different models of graphic designs.

### 86114 Graphic Design (3):

This course is designed to study the different aspects of advertisement campaigns which target various aspects of our life primarily economic outlooks. It introduces students to different models of distinctive graphic designs for sale advertisements and posters by conducting field campaign or work and finishing up with formulating a satisfying impression/perception about the advertisement business outlook.

### 86115 Graphic Design (4):

This course is practice course. It is primarily concerned with the art of designing moving/ motion graphic boards particularly designed for popular and formal celebrations. In addition, this course is designed to have students prepare studies, preliminary sketches, and finished models of design and carry them out. Moreover, this course trains students in graphic design by offering them the opportunity to work in groups.

### 86116 Graphic Design (5):

This course is computer-assisted graphic design in which students draw on computer application to learn the art of design. In addition, students draw on advanced programs such as Apple Macintosh and IBM to learn and make graphic design. Students have also to use photography in order to creatively reproduce certain art designs for commercial and advertisement purposes and uses. Such accomplishment can be used to satisfy part of the graduation project requirements.



### **86117 Graduation Research Project ( Graphic Design ):**

This course requires that student carry out a graduation project consistent with the following conditions: Students have to prepare an adequate plan for a complete advertisement campaign through carrying out an extensive research on both consumer 's and product market; students have to carry out a comparison study of various commercial brands of a specific product; students have to lay down the thought-out plan and strategies and the designated budgets in order to carry out the advertisement campaign in coordination with the management of the concerned company or organization; students have to make sure that the advertisement campaign they usually come up with are realistic and tenable. Students' works have to be coordinated with their designated instructors and they can seek further assistance by using computer and design programs.

### **86118 Typography:**

This course is concerned with the aesthetic elements of the Arabic and English letters/orthographies in terms of their relation, types, and functions. Students are expected to draw models of design of these letters in order to learn how to create some logos. In addition, this course is intended to teach students to consider the thoughts and concepts of expressionism in expressing plastic art.

### **86119 Computer Graphics (1):**

This course is designed to develop and sharpen students' skills in computer use and application of design through introducing students to the following soft-ware programs and their applications:

Adobe Illustrator, Adobe Photo Shop, Quark Express

Students have to apply the knowledge they will have acquired from their exposure the above soft-ware programs to projects which require the application of computer design.

### **86120 Computer Graphics (2):**

This course focuses on the expressive aspect of optical illustration by having students rely on the application of the following computer programs:

Illustration painter, Maya, 3 D Max

### **86123+86124+86125 Art Graphics (1, 2, 3):**

This course trains students to use pencils of different degrees of intelligibility, to draw with charcoal and Chinese black or white ink. This task can be accomplished by having students draw sketches and crocks in order to maintain some harmony between the eye and the hand movements, by having students draw living and non-living objects, figuring out their relationship with each other. In addition, this course will have students do some basic printing tasks such as: printing on zinc, aluminum, and printing on lithographic stone. Students will also be called upon to manually implement typing of sketches and crock drawing to produce a number of copies of each sketch.

### 86126 History of Graphic Design:

This course is concerned with the art of graphic design in terms of its birth, inception, and development through various ages until its evolution as a full-fledged and autonomous major with its own distinctive characteristics and rules. In addition, this course traces the historical development and evolution of graphic design and its role and relation with economic, political, cultural, art, physical education, and environmental aspects of life. Furthermore, this course introduces students to the methods and techniques for the arrangement of printed materials and the adopted designs used in advertisement and campaigns.

### 86213 Principles of Calligraphy & Decoration

This course provides a brief history of the evolution and development of calligraphy and decoration and their leading creators. In addition, this course introduces the rules and principles of calligraphy and decoration, and the tools employed in their application. Furthermore, students will be called upon to apply the knowledge they have acquired; and use the tools necessary for the application of some models in Arabic calligraphy and Islamic embellishment; and how to use such patterns of calligraphy in different models of design.

### 86215 Principles of Inscription and Printing:

This course is both a practice and theory-based course. It provides students with a brief history of the art of inscription and printing in terms of their core foundations, principles, tools and instruments, and their raw materials. In addition, this course highlights the major stages of development and evolution of the art of printing; and looks at the various printing techniques and their practical applications by the use and employment of woods, zinc, and aluminum manually or by machine.

### 86216 Advertisement Theory (I):

This is a theory-based course. It is an introductory course in advertisement which is designed to introduce students to its inception, definition, development, and fundamentals. In addition, it aims at introducing students to its various media/mediums of advertisement/advertising and their differences. It is also concerned about its integrity, respect for individual possessions through copy right law, the code of ethics for careers, and the impact and influence of advertisement on economic development, the formation and welfare of communities, advertisement agencies and their hierarchical organization and the work of their departments.

### 86217 Theory of Advertisement (2):

This course is theory-based. It is primarily concerned with the following issues: advertisement studies, advertisement of arts, and the real purpose of advertisement, the administrative organization of commercial advertisement, and the code of ethics which regulates and governs commercial advertisement. In addition, this course looks at the individual property protection law and the intellectual framework of advertisement, advertisement campaign, and its planning, goals and objectives, market research, consumer, product, and analysis of market research, consumer, and product.

And finally, this course traces the history of advertisement in Palestine and other Arab countries and the importance of some mass media such as the Radio and T.V. in educating and enlightening the masses and the future of advertisement in Palestine and looks at advertisement as a professional career.

### **86218 Graduation Project (Graphic Design):**

This course is concerned with students' graduation project. Students will be asked to prepare and submit a theoretical research project for graduation under the guidance and supervision of their supervising instructors. Graduation projects have to be on a subject relevant to student's major in the college in which he/she is affiliated with. A university committee shall be appointed to discuss and evaluate the student's graduation project before student's graduation takes place.

### **86219 Pre-printing:**

This course is theory-based. It is concerned with the process of printing in terms of its literature, tools and instruments, and techniques, for the preparation and production of any art work. In addition, this course includes the following techniques and technologies for the purpose of accomplishing the following tasks:

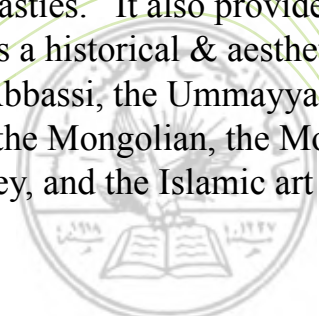
The ability to sort out colors, classify the type of papers, figure out the prices, doing the measurements and uses. Furthermore, this course introduces students to other important things for the purpose of preparing students for the printing tasks awaiting them such as: knowing the types of ink and its use, the making and developing of films.

### **86312 Field Training :**

This course is a training course in which students will be asked to apply the knowledge they have acquired in their classes to real life assignments where they have to go to art and printing organizations in order to gain some hand-on-experiences and training suitable for the type of skills and expertise they have acquired. The purpose of doing this is to prepare students for the tasks ahead of them in real life and to provide them with the opportunity to gain some practice before applying for a real job. All this has to be done under the guidance and supervision of their instructors. Students have to turn in a report of the type of work which they have accomplished by the end of the training term.

### **83211 History & Appreciation of Art (1):**

This course is theory-based. It provides a historical study of Middle East ancient arts in the primitive ages during the mandate of the dynasties. It also provides an account of Western ancient arts. In addition, it includes a historical & aesthetic study of Islamic artistic styles of: the Ummayyad, the Abbassi, the Ummayyad style in Andalus Spain, the Fatimia, the Suljuki, the Ayyubi, the Mongolian, the Moroccan Spanish, the Mamluki, the safawi, the Ottoman in Turkey, and the Islamic art in India.



### 83312 Academic Drawing (3):

This course is a continuation of the previous courses in Academic Drawing I+ II; thus it builds upon these two courses. In addition, this course focuses on: the format of any object, the part-whole and whole-part relation in the formation process, and the connection between the object being formed and the philosophy behind the idea which is responsible for its formation. Furthermore, this course aims at introducing students to the following: becoming familiar with the technique of using Al-kullaj for the service of any work of art; employing previously used techniques along with the use of coal and Basteel exploring new techniques suitable for the work of art at handling formulating the visible and visual reality and putting it in the following forms: new art forms/shapes and surrealism and geometric shapes; Getting acquainted with the statue of the human body in various postures

### 83313 History and Appreciation of Art (2):

This course is theory-based. It includes a study of art in the Renaissance age in Europe and the different schools of art such as classicism, romanticism, surrealism, and realism. In addition, this course provides an adequate account on contemporary art trends in the 20th century.

### 83315 Academic Drawing 4:

This is a practice course. It provides students with some training in academic drawing to sharpen their accuracy of observation, planning, and the study of elements whether living or non-living, and the discovery of aesthetic values in these elements. In addition, this course is designed to train students to sharpen their skills for the formulation, structuring, and construction of any object for the service of art. Furthermore, this course ascertains that students' philosophical views are consistent with their works of art. Moreover, this course requires that students acquire a set of performance and technical skills geared for the use of familiar or discovered raw materials such as oil and water colors and wax colors used in painting/drawing.

### 84451 Introduction to Three-Dimensional Design:

This course introduces students to the ways in which students can experience and feel the third-dimensional works/objects and other artistic forms through carrying out models of three-dimensional objects, and using various types of necessary raw materials.

### 84466 Rules of Two-Dimensional Design:

This course aims at introducing students to the fundamental principles of the Second-Dimensional design and developing students' understanding of such models of design in terms of their components, tools and instruments, and their influences by laying out the fundamental principles such as color, measurement, the effect, line, and texture, etc. This course is also concerned with the type of effects that students are likely to have and develop as a result of their being exposed to such literature of principles of design.

This is a practice course. It is designed to teaching students: the principles and fundamentals of architectural drawing; the methods of geometrical projections; the how's of drawing and making sketches, elevations, and architectural sections, through the drawing of sketches and models for a small house. In addition, students will have the opportunity in this course to learn the various symbols and marks of raw materials and the means of showing them in the projections, elevations, and sections which have to be drawn in addition to showing the types of lines, scale of measurements and drawing, measurement lines. And finally students should learn how to prepare geometric boards/elevations and arrange them.

### **84468 Theories of Design & its Methodology:**

This course is theory-based. It is designed to introduce the concept of design and the historical stages that it has undergone and to trace its old and modern theories. In addition, this course provides a study of the traditional, contemporary, modern methodology of design and their overall influences. Furthermore, this course provides an account on the influences of the minor systems in the development and expansion of methodologies and their potentialities. Moreover, this course is concerned with the minor systems which seem to describe the type of relationship between man and machine and the ways to improve such level of relation

### **84476 Decor and Carpentry Factories:**

This course introduces students to the machinery, tools, instruments, and different raw materials such as wood, metals, etc, which are used in factories in order to train students to use them to produce different and useful models which are deemed necessary for the development of their skills in internal design.

### **86121 Computer Graphics (3) :**

This course is designed to develop the concepts and skills necessary for website design. In addition, this course is concerned about teaching and developing students' skills in developing HTML. Furthermore, this course is concerned about providing a historical account of the inception of Internet as a new medium of communication. Moreover, this course is designed also to provide students with the rules and principles of developing their skills for the preparation of programs by employing motion/animated pictures and voice through the following programs:

- ◇ Macromedia Free hand MX 2004
- ◇ Macromedia Dream Weaver MX 2004
- ◇ Macro media Fire Work MX 2004

### **86122 Computer Graphic (4) Practice:**

This course is designed to help students focus and develop some skills for the preparation of programs which depend on dealing with the users of Interactive Design through developing and enhancing their necessary skills for the design and development of different programs and on-line websites by relying on the following programs such as

- Macromedia Flash MX2004
- Macromedia Director MX 2004

In addition, students are expected to learn how to use voice and picture programs or programs which deal with pictures and voice/sound.

### **86212 Animated Pictures in Computer:**

This course is both theory-based and practice. It is designed to study various methods of creating an optical illusion for motion and being able to grasp its overall interpretation. In addition, this course aims at showing students: the art of caricature, the fundamental principles of the art of animated/ motion pictures in the film 2D-Cartoon, and the way to transform a series of drawings which show motion into a computer-assisted film.

### **86416 Advanced Graphic Design:**

This course is designed to teach and train students to conduct a free, creative and an innovative study of selective projects relying on the rules and concepts that students have learned during their study of different courses in this major.

## DEPARTMENT STAFF:

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# DEPARTMENT OF PLASTIC ARTS : PAINTING

B.A Degree requirements in the Department of Plastic Arts in Painting

Admission to the Department of Plastic Arts in Painting requires that prospective applicants meet the following two conditions:

- Applicants' high school GPA ( or grade point average) should be 65% and above;
- Prospective applicants should pass the Placement Test of the Department of Plastic Arts in Painting.

The Department of Plastic Arts in Painting offers a unique specialization of painting and awards a B.A., in this major. Interested applicants for a B.A. in this specialization should complete 140 credit hours including university requirements and electives, college requirements and electives, and department requirements.

## Study Plan

### A. Compulsory Courses (72)

Course Number	Course Title	Credit hour	Prerequisites
83211	History & Appreciation of Arts (1)	3	
83213	Academic Drawing (1)	3	
83214	Painting (1)	3	
83215	Artistic Anatomy	3	
83216	Academic Drawing (2)	3	83213
83253	Open Landscape (1)	3	
83311	Painting (2)	3	83214
83312	Academic Drawing (3)	3	83216
83313	History & Appreciation of Art (2)	3	83211
83314	Painting (3)	3	83311
83315	Academic Drawing (4)	3	83312
83316	Painting (4)	3	83314
83411	Contemporary Islamic & Arab Arts	3	
83413	Painting (5)	3	83316
83414	Methods of Teaching Art	3	
83415	Graduation Project / Painting	3	83413
83454	Design in Plastic Art	3	
83460	Academic Drawing (5)	3	83315
83461	Compositional formation	3	
83462	Techniques of Painting	3	
83463	Theory of Color & it Application (1)	3	
83464	Theory of Colors & its Application (2)	3	83463
84212	Perspective	3	
86123	Graphics (1)	3	



### ***B. Elective courses (15) credit hours.***

Course Number	Course Title	Credit Hour	Prerequisite
83352	Open Landscape (2)	3	83253
83412	Palestinian Plastic Art Movement	3	
83452	Sculpture (1)	3	
83465	Modern & Contemporary Painting	3	
83466	Water Painting & Drawing	3	
83467	Oil Painting & Drawing	3	
83468	Creative Study of Painting	3	
83469	Modern & Contemporary Art	3	
83470	Drawing & Painting : Techniques & Raw Materials	3	
83471	Advanced Study in Drawing & Painting	3	
84252	Metals & Woods (1)	3	
84451	Introduction to Three-Dimensional Design	3	
84460	Principles of Design	3	
84466	Rules of Two-Dimensional Design	3	
84470	The Sociology of Design & Its Psychology	3	
86124	Art of Graphic (2)	3	86123
86125	Art of Graphic (3)	3	86124
86213	Principles of Calligraphy & Decoration	3	
87113	Ceramics (1)	3	
87211	Ceramics (2)	3	87113



## Course Description

### 83211: History & Appreciation of Art (1)

This course is theory-based. It provides a historical study of Middle East ancient arts in the primitive ages during the mandate of the dynasties.

It also provides an account of Western ancient arts. In addition, it includes a historical & aesthetic study of Islamic artistic styles of: the Umayyad, the Abbassi, the Umayyad style in Andalus Spain, the Fatimia, the Suljuki, the Ayyubi, the Mongolian, the Moroccan Spanish, the Mamluki, the Safawi, the Ottoman in Turkey, and the Islamic art in India.

### 83213: Academic Drawing (1)

This course is designed to train students to acquire some drawing skills in pencil, charcoal, and acrylic. In addition, students are called upon to hone on the following skills to be become adept at the tasks of drawing they may be engaged in:

To learn how to record factual material and avoid relying on invisible things;

To maintain a harmonious relationship and synchronize the movement among the eye, the hand, and the tool being used for the task at work. And in order to accomplish such a task, students should ascertain the following points:

Maintaining some sort of balance of percentage in their painting/drawing of objects;

Distributing the target elements fairly and squarely within the bounds of the planned and designated framework of art work;

Double-checking the existence of both the shadowy and lighted areas;

Selecting and using single-point lead pencils;

Making sure that there is a third-dimension included in the formation of different objects;

Understating the nature and texture of the raw material being used along with its pointed directions.

This course requires that students carry out a series of activities given to them as homework assignments in order to make sure that students have a good grasp of art concepts they had taken previously.

### Painting 1-5 83214+83311+83314+83316+83413 Painting

These courses are designed to sharpen students' accuracy of observation, planning and the study of elements, both living and non-living, and the detection of aesthetic values in these elements. In addition, these courses are concerned with the multi-use of these instruments, tools, and raw materials pertinent to painting and the acquisition of technical performance skills relevant to oil colors, raw materials, water colors and wax colors used in painting. These courses require that students make several visits to local plastic art exhibitions. At the end of each academic semester, an exhibition has to be held in the department for their production of art work in photography. This course is offered every semester.

## 83215: Artistic Anatomy

This course is theory-based. It is an anatomical study of the human body from an artistic perspective. It also deals with the mechanisms employed for movement by studying the functions of anatomy and the build-up of the internal and external body. It also carries out a comparison between the body of the man and woman and examines the differences in the physical and facial symptoms and expressions between them from the perspective of artists in different ages & times. This course shall include drawing of the human skeleton/anatomy, bones, muscles, & movements.

## 83216: Academic Drawing (2)

This course trains students of Fine Arts to acquire some knowledge on the following when they do academic drawing: Rely on factual materials to report the reality as it manifests itself by relying on a recording style; Distribute the elements within the bounds of the given framework with great care for the basic foundations for any work of art; Carrying out different studies on patterns of calligraphy with different objectives and goals; Understand the methods of drawing in pencil, charcoal, and acrylic, and the degree of coloring and its relation with the object being drawn in terms of its proximity; carry out drawing of models with different goals and objectives for the sake of knowing the effect of calligraphy on dealing with models of different textures such as clothes, metals, glass, to ascertain the distinctive properties and characteristics of a particular raw material and its relation with void/empty space; the use and employment of some raw materials such as coal, Chinese ink, and water colors, in order to figure out its artistic properties and characteristics; and finally focusing on the statue of human being or part of it through drawing a partial statue, or a statue without body. The expectation is that students in this course have to carry out some drawing of the head and body of human being.

## 8325+8335: Open Land I and II

This course is usually given outside the classroom. Students along with their instructors have to go on an outing to spend an entire day to explore some selected places in villages or old traditional sites which have some aesthetic values in the open land in nature. In this course students will be asked to explore and identify the natural elements and the artistic foundations of any work of art through drawing a variety of objects by employing some raw materials and paying great deal of attention to these aesthetic values. By the completion of this course, students will have become accustomed to experiencing the aesthetic feeling present in the local environment.

## 83312: Academic Drawing (3)

This course is a continuation of the previous courses in Academic Drawing I+ II; thus it builds upon these two courses. In addition, this course focuses on: the format of any object, the part-whole and whole-part relation in the formation process, and the connection between the object being formed and the philosophy behind the idea which is responsible for its formation. Furthermore, this course aims at introducing

students to the following:

- Becoming familiar with the technique of using collage for the service of any work of art;
- Employing previously used techniques along with the use of coal and Basteel;
- Exploring new techniques suitable for the work of art at hand;
- Formulating the visible and visual reality and putting it in new art forms/shapes;
- Getting acquainted with the statue of the human body in various postures

### 83313: History and Appreciation of Art (2)

This course includes a study of art in the Renaissance age in Europe and the different schools of art such as classicism, romanticism, surrealism, and realism. In addition, this course provides an adequate account on contemporary art trends in the 20th century.

### 83315: Academic Drawing (4)

This course is designed to introduce students to different visions of newly plastic models geared for students to point out the part-whole relationship at the same time preserving the unity of the work of art and the craftiness of constructive design. In addition, this course trains students to ascertain harmony in constructing and assembling the object in terms of shape and content for the sake of preserving its artistic and comprehensive quality. Furthermore, this course underscores the student's personal vision primarily his philosophical vision concerning the work of art at hand. And finally, this course trains students to carry out any work of art by relying on different, familiar, and discovered raw materials.

### 83411: Contemporary Islamic & Arab Art

This course is theory-based. It provides a historical and analytical study of Islamic art as an innovative art. It also provides a study of the characteristics of the Islamic arts, its relation with the Islamic faith, and the most important Islamic artistic decorations. In addition, this study presents models of Islamic artistic styles, Islamic architectural elements, Islamic painting, Islamic applied arts, and contemporary plastic arts in the Arab World. Furthermore, this course provides an account on the most prominent Arab artists and their creative artistic works with an analysis of these artistic works to be displayed on slides. Students who sign up for this course are expected to conduct a research paper on one of the prominent Arab artists.

### 83414: Methods of Teaching Art

This course is theory-based. It examines the role of art in education and the goals of art education and the nature of artistic work and children's arts and stages of their development. It also looks upon the role of art education teacher in schools, identifies the curricula and the evaluation procedures being used in the past, present arts curricula, and the selection and organization of teaching materials; it also looks at the relation of art with other materials and the nature of curricula in elementary and preparatory education, and the planning and coordination of art activities and assignments, and the pedagogy being used by art teachers in their classes; and finally it looks at the role of art teachers in implementing the curricula geared for art education.

### **83415: Graduation Project/ Painting**

This course requires students to prepare a project on painting provided that this project involves the drawing/painting of a complete topic on different boards with different sizes. This course requires that students confer with their instructors on the selection and completion of their project on painting.

### **83454: Design in Plastic Arts**

This course is theory-based. It deals with art designs, the teaching of design, its elements, and its derived elements, building of designs and the evaluation of works of arts. In addition, there will be practical projects accompany theoretical studies concerning the elements of art design.

### **83460: Academic Drawing (5)**

This course is a continuation of other pertinent course in academic drawing. It builds upon Academic Drawing number (4) and thus it is designed to attend to the following matters:

To ascertain the variations of percentages of the human body while it is in motion through different levels;

To ascertain the student's personal work during his interaction and dealings with other individuals;

To ascertain that the student has the opportunity to find harmony in his use of a particular technique to accomplish a particular work of art with high quality;

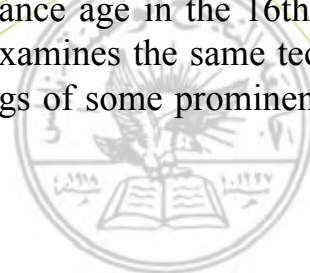
To reinforce the student's style which is based on an idea from which a series of artistic works would be performed and accomplished.

### **83461: Compositional Formation.**

This course is concerned with the practical applications of certain works of arts in order to ascertain some of the following matters: The elements of plastic formation, the type of relationship such as harmony or disharmony among certain elements, the clarity of vision and foresight, the issue of formation, planning, movement or motion, the effect of dormant elements in the target objects, and the relationship among all elements concerned with the work of art. In addition, this course introduces student to the concept of compositional formation/ construction of any work of art and its types. It also provides some signpost for paving the way to any work of art.

### **83462: Techniques of Painting**

This course aims at introducing students to the different ways of using color and other techniques in painting in pre-ancient times, during the middle ages primarily in 14th and 15th century during the renaissance age in the 16th and the Italian and Flemminge 17th century period. It also examines the same techniques being used in the 18th and 19th century in the paintings of some prominent artists.



## 83463+83464: Theory of Colors & its Application (2,)

These courses introduce students to the theories of colors by the prominent artists of different art schools. In addition, these courses provide a comprehensive study of the nature of colors, their classification and types, the dynamic aspects of colors, the psychological basis and functions, and the influence of colors on the eyes of the spectators. Furthermore, these courses require that students apply some of these weaving processes to experience the influence of colors and the ways of using these colors in two or three-dimensional objects.

## 84212: Perspective:

This course provides students with instructions which enable them to draw the perspective for the designing idea relying on untested blueprint procedures. It also provides students with better opportunities to apply certain designs which help students pass the theoretical stage of drawing to become more creative and confident at the assigned tasks. Furthermore, this course aims at nurturing the creative imagination of students which result in developing the artistic appreciation and authentic sensitivity of students to appreciate the values of different designs. Moreover, this course is an opportunity for students to learn all types of perspectives: 1 vanishing point perspective, 11 vanishing point perspective, 111 vanishing point perspective. And finally, this course looks at the merits of teaching students about the drawing of one-dimensional, or bi-dimension, and three-dimensional objects and of other ways to expand the student's understanding.

## 86123+86124+86125: Art Graphics (1, 2, 3,)

These courses train students to use pencils of different degrees of intelligibility, to draw with charcoal and Chinese black or white ink. This task can be accomplished by having students draw sketches and crocks in order to maintain some harmony between the eye and the hand movements, by having students draw living and non-living objects, figuring out their relationship with each other. In addition, these courses will have students do some basic printing tasks such as: printing on zinc, aluminum, and printing on lithographic stone. Students will also be called upon to manually implement typing of sketches and crock drawing to produce a number of copies of each sketch or crock...

## 83412: Palestinian Plastic Art Movement.

This course is theory-based. First, it investigates the major factors of any artistic work by tracing the history of plastic arts in the Arab World in general, and in Palestine in particular before 1948. Second, it examines also the art movement during the rise of the Palestinian revolution after 1967, which witnessed the initial establishment of a Palestinian Plastic Movement in the occupied territory. Third, this course will identify prominent artists of the occupied lands and provide an analysis of their artistic accomplishments, the local art exhibition and galleries; and finally, it provides a new perspective of the current and future direction for the Palestinian Plastic Movement.

## 83452: Sculpture (1)

This course aims at introducing students to the concept of sculpture, its nature, and types. It also aims at making students acquire the type of skills and proficiency necessary for the production of three-dimensional masses through forming objects of three-dimensional sides; it also aims at making students acquire the type of skills necessary for visible and invisible sculpture through carrying out some projects inspired by some ancient civilizations of Pharaoh and Assyrian.

## 83465: Modern and Contemporary Painting

This course is a practice course. It is designed to acquaint students with the type of knowledge necessary for them to learn how to put it into use. In addition, it aims at introducing students to the rules and principles of modern art such as Pop-Art, visual or optical art, animation/motion art, complete abstract art, partial abstract art, architectural abstract art, music abstract art, super-multi-functional art, cubic, constructivist, modern, and post-modern. In addition, this course aims at teaching and training students to apply the type of knowledge they have acquired to the multifaceted types of raw materials of colors and color-sample and color-solution.

## 83466: Water Drawing & Painting

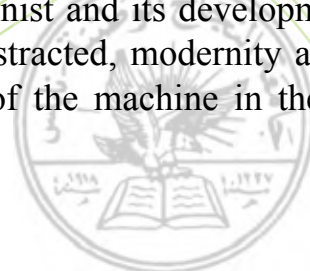
This course is intended to introduce students to the similarities and contrasts between the ways and methods of old and modern water painting and drawing with regard to the techniques, means, raw materials, and the formation of works of art. In addition, this course provides examples and models of colors such as Al-timbra, the colors of Josh, Al-jerra water color, Al-Kaza;an water color, and Chinese ink.

## 83467: Drawing & Oil Painting

This course aims at introducing students to the creative and innovative ways of blending the drawing process which employs lead pencils, charcoal or Chinese ink with the process of painting with oil colors and raw materials for the purpose of teaching students how to produce works of art with colored areas on top of completed work of art.

## 83468: Creative study in Painting

This course is a practice course. It is designed to provide an illustrative study of the organization of aesthetic in drawing. It is designed to uncover the genealogy of modern art, search for the dynamic senses in painting, cubism, and surrealism, draw creativity and innovation from space, Picasso, Kandiscki, Kelly, light and animated/motion pictures, popular art, optical/visual art, and motion/animated art. It also aims at examining some art schools such as the constructionist and its development, the expressionist, post-expressionist, the abstract, post-abstracted, modernity and post-modernity in photography. It also looks at the role of the machine in the age of technology.



### 83469: Modern and Contemporary Art

This course is theory-based. The purpose of this course is two-fold: First it deals with history of plastic, applied, and architectural arts, the schools and art movements and their pioneers during the renaissance era until the mid of the twentieth century; second, it deals with the plastic, applied, and architectural arts in contemporary concept of art along with the movements and schools of arts which are associated with perspectives of modernity and post-modernity and the motivation behind its creators and pioneers.

### 83470: Drawing and Painting: Techniques & Raw Materials.

This is a theory-oriented course. It aims at introducing students to the study of the mechanics and techniques involved in the production of an artful work whose structure and formation is blended with raw materials used in today's modern current works of art such as wood, clothes, cardboards and containers of carton, news papers, old magazines, metal boards, wires, and clay threads.

### 83471 : Advanced Study in Drawing & Painting

This course is a practice course. It is designed to train students to acquire the necessary skills for the use and employment of raw materials and other pertinent materials used and blended in colors in order to create some sort of innovatively tactical changes and effects consistent with a formative vision and an understood philosophical perspective in order to catch up with the contemporary art movements such as the complete and partial abstract art, the music and architectural abstract art and popular art. In addition, this course pays a great deal of attention to the arts of some major schools such as the artistic views of the constructionist, the post-expressionist, post-abstract, the role of the machine in the age of technology, modernity and post-modernity and their effect on painting.

### 84252/84453: Metals & Woods (1)

The purpose of this course is to introduce students to the types of metals, the making and doing of innovative designs on different metals, zinc, aluminum, yellow and red copper, and plates. It also acquaint students with the characteristics and properties of these types of metals and techniques of their welding, decoration processes, finishing, polishing, silver, nickel, or cooper coating, coloring processes, oxidization with certain acids, coloring with fire, or burning. It also teaches and trains students to use tools and instruments necessary at specific workshops. And finally it teaches students how to draw on woods by heating and making final finishes on boards /paintings by using wood paints.

### 84451: Introduction to Three-Dimensional Design

This course acquaints students with the three-dimensional design and its artistic components through the implementation of objects and designs of three-dimensions and through working with different types of raw materials necessary for making and forming such objects.



### **84460: The Principles of Design:**

This course introduces students to the concept of designs and design formation in terms of: its types and forms, its techniques and raw materials along with its tools and instruments. In addition, it introduces students to the principles, rules, elements, and characteristics of designs such as color, line, area, mass, void, equilibrium, motion, movement, distribution, correspondence, space. Furthermore, it introduces students to contexts in which students can learn to deal with objects and shapes with three-dimensions and their application. Moreover, it introduces students to the different models of aesthetic in designs

### **84466: Rules of Two-Dimensional Design**

This course provides students with the necessary principles of the second-dimension. In addition, it develops students' knowledge of the fundamental principles of designs, its components, its mechanisms and their influence through the manifestation and display of the fundamental principles of design such as color, measurement, impact, handwriting, texture. And finally this course aims at uncovering the reaction that this process might trigger concerning the formation of designs and shapes by artists.

### **84470: The Sociology & Psychology of Design**

This course examines the interchangeable relation between society and design. In addition, this course looks at how design is being used to not only serve the needs of man but it also has some psychological effect on the artist's creativity

### **86213: Principles of Calligraphy & Decoration**

This course aims at providing a brief account on the history of calligraphy and decoration and the development of these sciences and their leading figures. It also provides an account on the rules of calligraphy and the principles of decoration and the tools and instruments used for their performance. Furthermore, this course provides some application of Arabic and Islamic types of calligraphy and the ways with /by which one can utilize these patterns of calligraphy in designs.

### **87113: Ceramics (1)**

This course provides students with the practical skills necessary for the process of manual formation/ making of ceramics through compression and rope formation techniques or slide formation techniques. In addition, this course aims at training students to learn how to stick firmly parts and articles in order to accomplish the required design with great emphasis on the characteristics and quality of clay. It also affords students the opportunity to learn how to deal with problems and acquire the means and ways with which they can preserve their work and follow up on it on a continuous basis. All this would be accomplished through students' carrying out created designs which accomplish all these concepts.

### **87211: Ceramics (2)**

The purpose of this course is to introduce students to the concept of ornamented/ decorative sculpture through the completion of creative designs in this particular form or style. In addition, this course aims at introducing students to the mechanics and hands- on- techniques for problems-solving which might confront students in their acquisition of knowledge about ceramic works.

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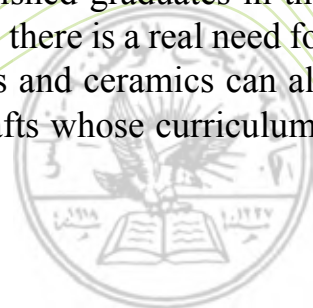
## **DEPARTMENT OF PLASTIC ARTS: CERAMICS**

What distinguishes this specialization in Ceramics at An-Najah National University is not the mere fact of its being the only program which awards a B.A. degree in this specialization in the country, but rather because of the grand quality of education which the college of Fine Arts affords its students. There is no denying that this major provides prospective applicant/students with the necessary theoretical and applied knowledge and skills in clay, pottery, and ceramics and anything which comes along and has to do with the preparation and various formation of this raw material. In addition, this major affords students the opportunity to learn about the techniques and methods of burning and glazing for the sake of reaching perfection and in order to allow students to create a genuine work of art with all its aesthetic, technological, and artistic meaning through the use of the proper instruments such as ovens and electrical wheels. Furthermore, this program provides students with the supporting skills pertaining to drawing and the making of moulds, heat printing, and methods of decoration along with providing students field training opportunities at certain locations which care a great deal for such specialization.

This program cares a great deal about deepening students' awareness of the national culture through their exposure to the art of ceramics and pottery which stand as a witness to the history of this country and the cultures that have been alive through out the life time of this region. This program is designed in such a way to reflect the theoretical grounding of the history of pottery and its extended periods in the Palestinian history; and to afford students the practical training they need which culminates in enabling students to manage and run an art plant effectively. In addition, the program affords students the opportunity to enhance their innovation and creativity through offering advanced courses dealing with ceramic walls, manual designing that high lights students' individuality and special character.

This is an instance where students will be able to display their artistic ability and put them on solid grounding for a real professional career on the local, regional, world level.

The prospects for graduates of ceramics and fine arts are promising on the ground that there is a lack of graduates in this profession in the Palestinian community in addition to the fact that there are many job opportunities for students with this major. For instance, graduates in this major can open their workshops in which they can develop their own techniques which give them the opportunity to open personal exhibitions through which they can obtain a personal income as well as being an entry to popularity and fame. Furthermore, distinguished graduates in this major can work for educational institution and academia since there is a real need for highly talented graduates in this field. Graduates of fine arts and ceramics can also work at public and private schools teaching fine arts and crafts whose curriculum has too much designing.



## Admission Conditions:

To gain admission to the college of Fine Arts prospective applicants should fulfill the following condition:

1. Should have a grade point average (referred to herein as GPA) of 65% or above in the General Secondary School Examination;
2. Should pass a Placement Test in ceramics.

Ceramics is one of the departments of designing arts. To get a B.A. students of ceramics have to complete (140) credit hours. These include university and college compulsory and elective requirements in addition to departmental requirements

Study requirements for obtaining a B.A. in Ceramics:

The Department of Plastic Art at the college of Fine Arts is pleased to offer a specialization in Ceramics which culminates in the awarding a B.A. degree to prospective applicants provided that they fulfill all required courses successfully for this degree which amount to 140 credit hours distributed among university, college, and departmental requirements.

## Ceramics: Study plan

### Compulsory Major: (72)

Course Number	CN	Course Title	Prerequisites	Equivalent Course Number	Equivalent Course Title	Completed C. Hours
83211	3	History & Appreciation of Art(1)		–	–	0
83216	3	Academic Drawing 2	83213	–	–	0
83411	3	Contemporary Islamic & Arabic Art		–	–	0
83414	3	Methods of Teaching Art		–	–	0
83452	3	Sculpture 1		–	–	0
83463	3	Theory of Colors & Its Application1		–	–	0
84451	3	Introduction to Three-Dimensional Design		–	–	0
86213	3	Principles of Calligraphy & Decoration		–	–	0
87112	3	Ceramics: Raw Materials & Technicalities		–	–	0
87113	3	Ceramics 1		–	–	0
87115	3	Sculpture 2	83452	–	–	0
87211	3	Ceramics 2	87113	–	–	0
87213	3	Ceramics 3	87211	–	–	0
87215	3	Sculpture 3	87115	–	–	0
87216	3	Ceramics & Mould- Formation		–	–	0
87311	3	Ceramic Wall Sculpture		–	–	0
87312	3	Ceramics 4	87213	–	–	0
87313	3	Ceramic 5	87312	–	–	0
87314	3	Advanced Studies in Ceramics		–	–	0
87315	3	Graduation Project (Ceramics )	87313	–	–	0
87316	3	Methods of Decoration on Ceramics		–	–	0
87317	3	History of Pottery		–	–	0
87318	0	Field Training		–	–	0
87413	3	Islamic Ceramics		–	–	0

## Elective Major:(15)

Course Number	CN	Course Title	Prerequisites	Equivalent Course Number	Equivalent Course T	Completed C. Hours
83214	3	Painting 1		–	–	0
83215	3	Artistic Anatomy		–	–	0
83311	3	Painting 2	83214	–	–	0
83312	3	Academic Drawing 3	83216	–	–	0
83313	3	History & Appreciation of Art 2	83211	–	–	0
83315	3	Academic Drawing 4	83312	–	–	0
83412	3	Palestinian Plastic Art Movement		–	–	0
83464	3	Theory of Colors& Its Application2	83463	–	–	0
83470	3	Drawing & Painting: Techniques & Raw Materials		–	–	0
84466	3	Principles of Second-Dimension Design		–	–	0
84912	3	Art Criticism		–	–	0
86214	3	Printing Technicalities & its raw materials		–	–	0
87212	3	Modern & Contemporary Art		–	–	0
87412	3	Introduction to Carving		–	–	0
87514	3	Advanced Studies in Aesthetics		–	–	0
87612	3	Sculpture & Mould-Manufacturing		–	–	0
87613	3	Advanced Study in Sculpture		–	–	0

## Course Description

### 83211: History and Appreciation of (I)

This course is theory-based. It provides a historical study of Middle East ancient arts in the primitive ages during the mandate of the dynasties. It also provides an account of the arts of the ancient world. In addition, it includes a historical & aesthetic study of Islamic artistic styles of: the Umayyad, the Abbassi, the Umayyad style in Andalus, Spain, the Fatimia, the Suljuki, the Ayyubi, the Mongolian, the Moroccan Spanish, the Mamluki, the safawi, the Ottoman in Turkey, and the Islamic art in India.

### 83313: History and Appreciation of Art (2):

This course is theory-based. It includes a study of art in the Renaissance age in Europe and the different schools of art such as classicism, romanticism, surrealism, and realism. In addition, this course provides an adequate account on contemporary art trends in the 20th century.

### 83213: Academic Drawing (1)

This course is designed to train students to acquire some drawing skills in pencil, charcoal, and acrylic. In addition, students are called upon to hone on the following skills to be become adept at the tasks of drawing they may be engaged in: To learn how to record factual material and avoid relying on invisible things; to maintain a harmonious relationship and synchronize the movement among the eye, the hand, and the tool being used for the task at work. And in order to accomplish such a task, students should ascertain the following points: Maintaining some sort of balance of

percentage in their painting/drawing of objects; Distributing the target elements fairly and squarely within the bounds of the planned and designated framework of art work; Double-checking the existence of both the shadowy and lighted areas; Selecting and using single-point lead pencils; making sure that there is a third-dimension included in the formation of different objects; Understating the nature and texture of the raw material being used along with its pointed directions. This course requires that students carry out a series of activities given to them as homework assignments in order to ascertain that students have a good grasp of art concepts they had taken previously.

### 83216: Academic Drawing (2):

This course trains students of Fine Arts to acquire some knowledge on the following processes when they engage in academic drawing :Rely on factual materials to report the reality as it manifests itself by relying on a recording style for accuracy ;Distribute the elements within the bounds of the given framework with great care for the basic foundations for any work of art; Carry out different studies on calligraphy with different objectives and goals ;Understand the methods of drawing in pencil, charcoal, and acrylic, and the degree of coloring and its relation with the object being drawn in terms of its proximity; carry out drawing of models with different goals and objectives for the sake of knowing the effect of calligraphy; dealing with models of different textures such as clothes, metals, glass, to ascertain the distinctive properties and characteristics of a particular raw material and its relation with void/empty space; to use and employ some raw materials such as coal, Chinese ink, and water colors, in order to figure out its artistic properties and characteristics; and finally focus on the statue of human being or part of it through drawing a partial statue, or a statue without body. The expectation is that students in this course have to carry out some drawing of the head and body of human being.

### 83312: Academic Drawing (3)

This course is a continuation of previous courses in academic drawing 1 & 2 and it is built upon what has transpired in these previous courses. This course focuses on: the structural format of any object, the part-whole and whole-part relation in the formation process, and the connection between the object being formed and the philosophy behind the idea which is responsible for its formation. This has to be accomplished analytically for one single subject. Furthermore, this course aims at introducing students to the following drawing techniques: Becoming familiar with the technique of using collages for the service of any work of art; Employing previously used techniques along with the use of coal and Basteel; -Exploring new techniques suitable for the work of art at hand;Formulating the visible and visual reality and putting it in new art forms/shapes such as searlsism and engineering; Getting acquainted with the statue of the human body in various postures.

### 83315: Academic Drawing (4) Practice.

This course is designed to introduce students to different visions or perspectives

of newly plastic models geared for students to distinguish between part-whole and whole-part relationship at the same time preserving the unity of the work of art and the craftiness of constructive design. In addition, this course trains students to ascertain harmony in constructing and assembling the object in terms of shape and content for the sake of preserving its artistic and comprehensive quality. Furthermore, this course underscores the student's personal vision primarily his philosophical vision concerning the work of art at hand. And finally, this course trains students to carry out any work of art by relying on different, familiar, and discovered raw materials.

### **83463+83464: The theory of Colors & its Application (2,)**

This course is designed to deal with the theory of colors used by prominent artists of different arts schools. In addition, it provides a comprehensive study of the nature and content of colors, its classification & types of colors in terms of their parts and groups, the dynamic aspects of colors, and their relation and the psychological and functional basis of colors, the effect of colors on the spectator's eyes. Furthermore, this course requires that students apply some of these weaving processes to experience the influence of colors and the ways of using these colors in two or three-dimensional objects.

### **83215: Artistic Anatomy**

This course is theory-based. It is an anatomical study of the human body and his motion motor or walking mechanisms by studying the functions of anatomy, the build-up of the internal and external shape of the human body from an artist's perspective. It includes a comparison study of the body of male and female, the physiological characteristics of the face and their changes, and the percentage of human organs and the human-specific laws as perceived by artists through out various ages. This course also provides a comparison between male and female body. Furthermore, this course requires that students carry out some practical application by drawing the body, skeleton, bones and muscles and movements of human.

### **84451: Introduction to Three-dimension Design**

This course introduces students to the ways of experiencing and feeling the three-dimensional works, their artistic components and elements through carrying out designs of three-dimension objects, and through tackling and working with different and necessary raw materials for the accomplishment of such purposes.

### **83411: Contemporary Islamic & Arab Arts:**

This course is theory-based. It provides a historical and analytical study of Islamic art as an innovative art. It also provides a study of the characteristics of the Islamic arts, its relation with the Islamic faith, and the most important Islamic artistic decorations. In addition, this study presents models of Islamic artistic styles, Islamic architectural elements, Islamic painting, Islamic applied arts, and contemporary plastic arts in the Arab World. Furthermore, this course provides an account on the most prominent Arab artists and their creative artistic works with an analysis of these artistic works to

be displayed on slides. Students who sign up for this course are expected to conduct a research paper on one of the prominent Arab artists.

### **83414: Methods of Teaching Arts**

This course is theory-based. It examines the role of art in education and the goals of art education and the nature of artistic work and children's arts and stages of their development. It also looks upon the role of art education teacher in schools, identifies the curricula and the evaluation procedures being used in the past, present arts curricula, and the selection and organization of teaching materials; it also looks at the relation of art with other materials and the nature of curricula in elementary and preparatory education, and the planning and coordination of art activities and assignments, and the pedagogy being used by art teachers in their classes; and finally it looks at the role of art teachers in implementing the curricula geared for art education.

### **87212: Modern & Contemporary Art**

The first part of this course deals with the history of art particularly in the area of plastic, applied, and architectural arts. It also focuses on the most prominent schools and movements of arts and their creators which had taken place after the Renaissance age and until the first part of 20th century. The second part of this course focuses on plastic, applied, and architectural arts in contemporary times or after modern art period and the schools and movements of arts which are linked and associated with the ideas of modernity and its motives, objectives, and creators.

### **87216: Ceramics and mould-making**

This course is concerned with introducing students to the benefits and merits of using moulds in ceramics on the basis that it saves a great deal of time and effort and it affords one to obtain several accurate and precise copies of the same mould pertaining to the ceramics with its distinct properties. This can be done through the carrying out of a sample of pottery clay and pouring the japseen into the mould in order to obtain the negative copy and then preparing the solution of the clay and the way of pouring it into a mould to obtain an original copy or model.

### **83412: Palestinian Plastic Art Movement**

This course is theory-based. It focuses on the elements of artistic work and traces the historical development of plastic arts in the Arab region and in Palestine in particular prior to 1948. It also looks at art after 1967 during the rise of the Palestinian revolution and the beginning of the Palestinian plastic art movement in the occupied lands. The course introduces leading Palestinian artists in these lands and will make an analysis of their works and local art exhibitions. It will also attempt to come up with a new vision for the future course of this movement.

### **84912: Art Criticism**

This course deals with the history and principles of art criticism, a subject which is relied upon for the evaluation and discovery of the aesthetic elements in various



works of art through studying and analyzing an artist's personal views, perspectives, and principles and their aesthetics and the means to apply them socially.

## Painting (1, 2) 83214+83311

These courses are designed to sharpen students' accuracy of observation, planning and the study of elements, both living and non-living, and the detection of aesthetic values in these elements. In addition, these courses are concerned with the multi-use of these instruments, tools, and raw materials pertinent to painting and the acquisition of technical performance skills relevant to oil colors, raw materials, water colors and wax colors used in painting. These courses require that students make several visits to local plastic art exhibitions. At the end of each academic semester, an exhibition has to be held in the department for their production of art work in painting /photography. This course is offered every semester.

## 86213: Principles of Calligraphy & Decoration

This course provides a brief history of the evolution and development of calligraphy and decoration and their leading creators. In addition, this course introduces the rules and principles of calligraphy and decoration, and the tools employed in their application. Furthermore, students will be called upon to apply the knowledge they have acquired; and use the tools necessary for the application of some models in Arabic calligraphy and Islamic embellishment; and how to use such patterns of calligraphy in different models of design.

## 84611: Rules of Two-Dimension of Design

This course provides students with the necessary principles of the second-dimension. In addition, it develops students' knowledge of the fundamental principles of designs, its components, its mechanisms and their influence through the manifestation and display of the fundamental principles of design such as color, measurement, impact, handwriting, texture. And finally this course aims at uncovering the reaction that this process might trigger concerning the formation of designs and shapes by artists.

## 83470: Drawing & Painting: Techniques & Raw Materials

This is a theory-oriented course. It aims at introducing students to the study of the mechanics and techniques involved in the production of an artful work whose structure and formation is blended with raw materials used in today's modern current works of art such as wood, clothes, cardboards and containers of carton, news papers, old magazines, metal boards, wires, and clay threads.

## 86214: Printing Technicalities & its Raw Materials

This course aims at introducing students to the study of the mechanics and techniques involved in the printing of an artful work whose structure and formation is blended with raw materials used in today's modern current works of art such as wood, clothes, cardboards and containers of carton, news papers, old magazines, metal boards, wires, and clay threads. This course deals with the following subjects: printing, its history,

and its development throughout the ages; it deals with various technicalities such as off-set, letter press, and etc. This course provides students with a comparative study between printing technicalities with different colors, types of papers, carton with known sizes, and doing or making the shots. It also aims at getting students to know the techniques of sorting out colors and films, the works of plates, and doing the preparation for the art work for printing.

### **87512: Contemporary Issues in Modern Art**

This course is designed to deal with contemporary aesthetic, social, and philosophical subjects and the way to address such subjects within the framework of modern art or modernity. This course focuses also on the approaches which are adopted by some talented artists to deal with contemporary issues how these matters have affected their works of art.

### **87112: Ceramics/Materials and Technicalities**

This course aims at introducing students to the concept of ceramics, the stages of its production, formation, and the characteristics of the clay which can be modeled into various shapes and forms and the stages necessary for its preparation. In addition, this course is designed to introduce students to the various ways of clay formation and the problems faced by the potter during his making of pottery. Furthermore, it introduces students to the types of glass-coating and the methods of glazing.

### **87113: Ceramics (1)**

This course provides students with the practical skills necessary for the process of manual formation/ making of ceramics through compression and rope formation techniques or slide formation techniques. In addition, this course aims at training students to learn how to stick firmly parts and articles in order to accomplish the required design with great emphasis on the characteristics and quality of clay. It also affords students the opportunity to learn how to deal with problems and acquire the means and ways with which they can preserve their work and follow up on it on a continuous basis. All this would be accomplished through students' carrying out created designs which accomplish all these concepts.

### **87211: Ceramics (2)**

The purpose of this course is to introduce students to the concept of ornamented/ decorative sculpture through the completion of creative designs in this particular form or style. In addition, this course aims at introducing students to the mechanics and hands- on- techniques for problems-solving which might confront students in their acquisition of knowledge about ceramic works.

In addition this course introduces students to the ways of emptying out or undoing of carried out works in this way.

### 87213: Ceramics (3)

This course is designed to help student acquire the necessary formation skills on the electrical wheel and the stages through which this work is usually carried out in this way and the ability to implement creative designs by employing this method. In addition, this course is likely to reinforce students' understanding of these concepts and the skills which have been taught in previous courses such as the visible and deep drilling.

### 87312: Ceramics (4)

This is a practice course. It aims at introducing students to the concept of glass-coating, its structures, installation, and components. It also aims at teaching students the concept of chemistry of ceramics in the installation of glass coating and application of different experiments using colored oxide color in order to verify the theoretical information. In addition, it provides students the skills of glass- making or glazing such as sprinkling and diving or immersing, etc. And finally this course aims at introducing students to the ways of dealing with the colors of under glaze.

### 87313: Ceramics (5)

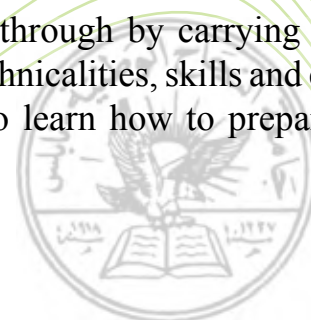
This course aims at enabling students individually to prepare the clay for ceramics by exposing students to the different stages which this type of pottery clay undergoes which can be molded and reformed. This course affords Students the opportunity not only to conduct some experiments and field studies and brings samples of sand but also to carry out creative ceramic projects relying on the experience which the student has acquired from courses which he/she had taken previously.

### 87316: Decoration Methods on Ceramics

This course aims at introducing students to the history of decoration and its origins throughout the different civilizations, and to the concept of the decorative unit and its ability to find innovative technical formation. This course also seeks to give students the skills to enable them to transfer the decorative units to pottery works and to be able to do the carving works transparently and explicitly taking into account the specificity of the raw material and its external decorative suitability. In addition, this course affords students the opportunity to utilize computer technology in the creation and formation of innovatively decorative designs.

### 87311: Ceramic Wall Sculpture

This course aims at introducing students to the nature of wall ceramic sculpture by making students prepare wall designs and follow through by carrying out wall decorative carving projects and by making use of the technicalities, skills and concepts acquired in previous courses. Students have also to learn how to prepare glass-coating and do glazing works.



### 87314: Advanced Studies in Ceramics

This course is a practice course. It is designed to provide students the opportunity to do decorative works as final projects with a great deal of sophistication and advanced level drawing on the experiences which the students had gone through in this field. It is in this course during which students will have an opportunity to be trained for the work of the graduation project. Furthermore, this course is designed to ascertain students' ability and experience to be utilized properly and effectively.

### 87315: Graduation Project (Ceramics)

This course is designed to ascertain that the knowledge and skills which students have acquired in ceramics and sculpture can be put into real and tangible use in designing and carrying out the graduation project which is likely to be used as a measuring criterion for assessing and testing student's acquired skills and competences necessary for his/her graduation.

### 83452: Sculpture (1)

This course is designed to introduce students to the concept of sculpture, its nature, content, and types. In addition, this course aims to provide students with the skills necessary to deal the mass material of three dimensions through modeling out engineering objects and shapes of three dimensions. It also aims at providing students with sculpture-related skills through carrying out some projects modeled out of and derived from objects of old and previous civilizations such as pharaoh and Assyrians.

### 87115: Sculpture (2)

In this course students will have the opportunity to learn about co-Relief sculpture through carrying out some project on masks modeled or taken from the history of art and emulating it, in addition to pour into simple molds and copying the original work from gypsum after making a negative mold for the performed works.

### 87215: Sculpture (3)

In this course students will be asked to do some autopsy on/of the human body through performing complete sculptural projects of the human body such as the head, the body motion, going through the various steps necessary for sculptural works. It also provides students with the opportunity to acquire the skills necessary for making and modeling out partitions of sculptural molds from gypsum.

### 87413: Islamic Ceramics

This course aims at introducing students to the role of Islamic civilization in the development and evolution of the art of ceramics on account of its being an old and applied art. This course profiles the pioneering works of the Muslim artist through his creative innovation of the concept of ceramics with shiny metal. It also provides a display of models and samples illustrating the Islamic role in promoting and developing this type of art.

## 87612: Sculpture & Mould Manufacturing

This course is intended to introduce students to the types of simple and partitioned moulds/mold and the distinctive characteristics of each type and the ways of its production through the execution and accomplishment of sculptural works and through the pouring into moulds by using different raw materials such as gab sine, paint, and cement; in addition to knowing the partition of a mould for a specific raw material and its characteristics.

## 87613: Advanced Study in Sculpture

This course is designed to help students deal with matters such as mass and void through carrying out sculptural designs of their own creation and innovation manifesting the abstract pattern/style and preserving at the same time the fundamental characteristics of the complete/full sculptural design and underscoring the touch element as a mark of a particular artistic strength.

## 87514: Advanced Study in Aesthetics

This course is a continuation of other courses on aesthetics and thus it builds upon the foundation of other previous courses in this area. It is designed to tackle more specialized subjects such as the theory of art criticism and aesthetics, the contemporary aesthetic philosophy such as the intuitiveness, existentialism, symbolism, in addition other important aesthetic theories such as the reactionary, psychological, and formation theory, in addition to the subjects on comparative aesthetics.

## 87412: Introduction to Drilling

This is a practice course. It is designed to provide students with a historical prelude or synopsis on the concept of drilling from an early period and through out various civilizations for the following reasons:

To introduce students to the connection between drilling and other various scientific works; to acquaint students with the different drilling tools and devices and with the handy and machine drilling;

To introduce students to some of the applications of handy and machine drilling by using simple means;

To make students apply some of these methods by having them make a specific design and putting it on the raw material pending to be drilled and then start drilling it until the work is completed.

## 87317: History of Pottery

This course is a historical study of the industry of pottery starting from the Canaanite age until modern times going through the civilizations which had inhabited this region. In addition, this course focuses on studying the most pervasive and prominent components, designs, and decorations of these civilizations in this region. Furthermore, this course concentrates on producing research on the profession or craft of pottery-making and the people overseeing it on account of its being an art and a traditional and popular craft.

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# COLLEGE OF

# AGRICULTURE



# COLLEGE OF AGRICULTURE

## *Historical background and stages of development*

Agricultural education, at An-Najah National University, began in 1986 with the establishment of the Department of Agricultural sciences, in the College of Science. In 1992, the department became a full-fledged college and the ninth in the university. In 1996 the college was transferred from the University main campus in Nablus to the new campus in Tulkarm, which is known as Khadouri. The new campus is about 14 km to the east of the Mediterranean and is one of the most important agricultural areas of Palestine.

The college campus includes an old building which was built in 1930, an experimental and educational Facilities including: dairy farm having about 50 heads, sheep and goats farm with about 150 heads of different breeds, poultry houses, an olive field of several local varieties, fruit trees orchard of different varieties, five dunums of modern greenhouses as well as open fields used for growing open field vegetables, field crops and forages. Also, a number of scientific laboratories are available for teaching and scientific research.

## *Vision*

The vision of the college of agriculture is part of the overall vision of the university. The college aims to produce qualified and competitive graduates capable of keeping up with the continued scientific developments in agriculture, contributing to applied agricultural research and serving the agricultural community. The college seeks to provide the local and foreign societies with the needed agricultural specialists who meet the international standards of scientific background, skills and personal attitude.

## *The objectives of the College*

1. The preparation of specialists holding a BSc in agricultural sciences with a special focus on practical aspects.
2. The completion of applied scientific research that aims to improve and increase agricultural production and solving the problems facing farmers.
3. Dissemination of agricultural culture, community service, counseling and professional services to institutions and agricultural bodies and farmers.
4. Participation in the formulation of agricultural policies through participation in the related committees.
5. The preparation of qualified scientists and researchers through the post graduate programs (Master) offered by the faculty.



## **College future Perspectives:**

1. The improvement and development of the teaching process through:
  - Continuous review and development of academic plans to achieve market needs.
  - Work to increase faculty members and qualified technicians.
  - Continue to develop field training in the college farms and elsewhere.
2. Improving scientific research by:
  - Cooperation and coordination with local and foreign institutions to provide financial support for agricultural research.
  - The provision of financial material support from the Deanship of scientific research.
  - Activating the role of graduate students and cooperation in scientific research.
  - Ensure the publication of results in journals, symposiums and various workshops.
3. Engagement in the local community through:
  - Strengthening links with colleges and institutes inside or outside the university and agricultural schools.
  - Providing special attention to college graduates and help find jobs for them.
  - Increased participation in national councils and committees.
  - Communicating and interacting with farmers and dissemination research through field days and extension bulletins.

## **Academic programs:**

The College of Agriculture offers four academic programs leading to B.Sc. and two M.Sc. degrees.

- ⇒ Undergraduate programs (four fields)
- ⇒ Plant Production and Protection Code #4
- ⇒ Animal Production and Animal Health Code #5
- ⇒ Agricultural Economics and Rural Development Code #6
- ⇒ Nutrition and Food Technology Code #7



## Study Plan of College of Agriculture

The plan is distributed as the following :

1. University Requirements (26 credit hours) as the following:

### Compulsory courses (20 credit hours)

Course #	Course title	Credit hours	Prerequisite
10100	Introduction to computer	3	-
10101	Islamic culture	3	-
10102	Arabic language	3	-
10103	English I	3	23100
10105	Palestinian studies	3	-
10108	community service	1	-
10117	Leadership and communication skills	1	-
10322	English II	3	10103

### Elective courses (6 credit hours)

Students will choose six credit hours of elective courses, which is offered by the different faculties (they should not be from College of Agriculture). Students are not allowed to study more than one elective course from each of the faculties of the university.

2. College requirements (55 credit hours) as the following:

### A: Courses from Faculty of Science (20 credit hours)

Course #	Course title	Credit hours	Hours weekly		Prerequisite
			Theory	Lab.	
21103	General Mathematics	3	3	-	-
22109	General Physics	3	3	-	-
23101	General Chemistry I	3	3	-	-
23102	General Chemistry II	3	3	-	23101
23107	General Chemistry (lab-I)	1	-	3	-
23108	General Chemistry (lab-II)	1	-	3	23107
23233	Organic chemistry	3	3	-	23102
25202	Biostatistics	3	3	-	21103

## ***B: Courses from College of Agriculture (35 credit hours)***

Course #	Course title	Credit hours	Hours weekly		Prerequisite
			Theory	Lab.	
94101	General Botany	4	3	2	-
95101	General Zoology	4	3	2	94101
94210	Principles of Plant Production	3	2	3	94101
94220	Microbiology	3	2	2	94101 + 95101
94230	Entomology	3	2	2	94101
94240	Genetics	3	2	2	94101 + 95101
94242	Principles of Soil Science	3	2	3	22109
95210	Principles of Animal Production	3	2	3	95101
95335	Scientific Research	1	1	-	95334
97211	Principles of Nutrition	3	3	-	94101 + 95101
96226	Agriculture in Palestine	2	2	-	-
96211	Principles of Agricultural Economics	3	3	-	21103

## ***Course descriptions (College requirements from college of agriculture)***

### **94101 General Botany**

Plant cells and tissues, plant structure, anatomy and function of plant organ (root, stem, leaf flower, fruits and seed) Plants and energy Nutrition and transport, plant classification, plants ecology.

### **94210 Principles of Plant Production**

Relationships between humans and plants, the development of plant usages, the structure and functions of different plant parts, methods of plant propagation, plant classification, growth regulators, environmental factors (soil, temperature, water, and light) and its effects on plant production, photosynthesis, respiration and translocation. The effects of pests and weeds. The plant productions systems.

### **94220 Microbiology**

Introduction to the scientific foundation of agricultural microbiology. Brief history of microbiology. Classification of microbes. Techniques and methods used in studying microorganisms. Detailed study of different groups of microorganisms, with respect to structure and physiology. Application of microbiology in the field of soil, food, dairy, water, plant pathogen and health area.

### **94230 Entomology**

This course covers: insects morphology, internal anatomy and biology, external form, functions and body extras as well as their changes to suit their environment, insect order and behavior, their types and environmental factors influencing their numbers as well as their classification. The course ends with an examination of ways of fighting these harmful insects by using chemical pesticides and other ways, in addition to damages resulting from insects and their control.

## 94240 Genetics

This course presents the principles and experimental evidence leading to our understanding of the gene concept and the role of DNA as genetic material. Patterns of inheritance, the relationship between genotype and phenotype, and transmission, coding, and expression of genetic information are also included.

## 94242 Principles of Soil Science

This course covers a number of topics: definition of soil, its types and composition, its important relationship with agriculture, its physical, chemical and mineral properties, underground water, soil conservation, plant nutrition, and nutrients, organic material, soil microorganisms, land partition, principles of soil-water and plant relationship, soil moisture and its measurement, evaporation.

## 95101 General Zoology

Introduce students to the study of zoology at the cellular, organismal and function levels. Provides the students with introduction to areas of systematics, evolution, reproduction, development, animal diversity and ecology. The Laboratory section allows students to become familiar with the form and function of major animal phyla through observation of living animals, prepared slides and models.

## 95210 Principles of Animal Production

The role of farm animals in providing food and other products to the human being. Animal products (milk, meat, wool, eggs and leathers). Basic terminology common to animal science. Common breeds of farm animals, the basic scientific principles of feeding, reproduction, breeding and management of farm animals

## 95335 Scientific Research

Introduction to research methodology and research tools, literature review and writing a research paper.

## 96211 Principles of Agricultural Economics

In this course, students are introduced to economic principles which include the relationships among production inputs and the relationship between inputs and outputs. The course also introduces productivity, production laws, costs, status of agriculture in the economic statement and qualities characterizing work in agriculture. The course ends with a look at various branches of agricultural economics with emphasis on agricultural policies adopted by some Arab countries.

## 96226 Agriculture in Palestine

This course traces the development and importance of agriculture at international, Arab and local levels. The course covers agricultural climate, production elements, plant production in irrigated and rainfall areas. In addition, the course looks at animal production, market product, agricultural mechanization, agricultural institutions, agricultural problems in the region, modern and developed agricultural projects.

## 97211 Principles of Nutrition

This course introduces basic concepts nutrition, metabolism of nutrients within the human body, fate of nutrients and their interactions and symptoms of malnutrition, human nutrient requirements, types and causes of food spoilage, nutritional diseases. Food industries if Palestine, and nutritional status.



# DEPARTMENT OF PLANT PRODUCTION AND PROTECTION

## TITLE: B.SC. IN PLANT PRODUCTION AND PROTECTION

The plan composed of 142 credit hours distributed as the following:

No.	Course type		Credit hours
1	University Requirements		26
2	College Requirements (55 credit hours)	From Faculty of Science	20
		From College of Agriculture	35
3	Department Requirements (61 credit hours)	Compulsory courses	51
		Elective courses	10
	Total		142

### Admission Requirements

1. Successful completion of 30 credit hours that must include at least 18 credit hours of the college requirements.
2. Successfully complete General Botany (94101), General Zoology (95101) and Principles of Plant Production (94210) with an average no less than 70%.
3. In case the number of requests exceeds the capacity of the department, students will be selected based on the highest grade averages on General Botany, General Zoology and Principles of Plant Production.

### A. Department requirements (61 credit hours) as the following:

#### Department Compulsory courses (51 credit hours)

Course #	Course title	Credit hrs	Hours weekly		Prerequisite
			Theory	Lab.	
94211	Vegetable Production	3	2	2	94210
94212	Fruit Tree Production	3	2	2	94210
94313	Field Crop Production	3	2	3	94210
94318	Ornamental Plants and Gardening	3	2	2	94210
94321	Plant Physiology	3	2	2	94210
94323	Plant Propagation and Nurseries	3	2	2	94210
94332	Plant Pathology	3	2	2	94220
94333	Economic Entomology	3	2	2	94230
94343	Irrigation and Drainage systems	3	2	2	94242
94345	Agricultural Machinery	2	2	-	21103
94415	Protected Agriculture Management	3	2	2	94311 + 94323
94422	Plant Breeding	3	2	2	94240
94432	Integrated Pest Management	2	2	-	94333 + 94332
94440	Plant Nutrition	3	2	2	94321
94462	Seminar	1	1	-	Dept. approval
94490	Training in Plant Production	8	-	24	Dept. approval
94493	Training in Agricultural Machinery	2	-	6	Dept. approval

**Department Elective courses (10 credit hours) chosen from the following list:**

Course #	Course title	Credit hrs	Hours weekly		Prerequisite
			Theory	Lab.	
94311	Organic Farming	2	2	-	94211
94314	Principles of Forestry	3	2	2	94210
94315	Forage Crop Production	3	2	2	94210
94319	Selected Topics	3	3	-	-
94334	Agricultural Pesticides	2	2	-	23233
94410	Evergreen Fruit Tree Production	2	2	-	94212
94421	Post harvest Physiology	2	2	-	94311+94312+94318
94425	Biotechnology	2	2	-	94240
94444	Land Reclamation	2	2	-	94242
94455	Apiculture	3	2	2	94233
95400	Biochemistry for Ag. Students	3	3	-	23233
96241	Agricultural Extension	3	3	-	96211
96322	Agricultural Marketing	3	3	-	96211

## Course descriptions

### 94211 Vegetable Production

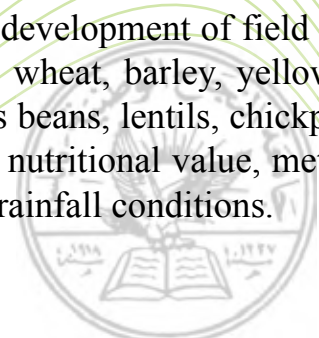
This course examines vegetables in terms of their economic importance and nutritional value, plant taxonomy, appropriate environmental conditions, culture, agricultural operations pertinent to the produce, transport, storage, agricultural techniques and their timing, under rainfall, irrigated and protected conditions.

### 94212 Fruit Tree Production

Students, in this course, receive instruction on skills necessary for fruit tree planting and production in terms of goals, site choice, suitable soil, choice of appropriate varieties, preparation of land for planting, systems or methods of planting and breeding, fruit blossom growth, maturity and picking, weeds resistance and frost. The course also emphasizes fruit trees planted in the region.

### 94313 Field Crop Production

This course covers the following topics: history and development of field crops in the world, growing important crops such as legumes, wheat, barley, yellow maize and white millet, and oats, growing other crops such as beans, lentils, chickpeas and soya beans; areas of production, environmental needs, nutritional value, methods of upgrading productivity/efficiency under irrigation and rainfall conditions.



### 94318 Ornamental Plants and Gardening

This is a study of principles and methods used to construct and design gardens and green areas and lawns, taking care of trees and planting trees and shrubs to decorate gardens, creation of stone and water gardens. The course is also a study of flowers and other types of plants particularly production of plant seedlings, by propagated bulbs, nodules, tubers and seeds and corms.

### 94321 Plant Physiology

This course deals with the soil-plant relationship in terms of the diffusion process, osmosis potential, water absorption, water translocation processes, metabolism processes, photosynthesis in terms of its mechanism and occurrence, nutrient absorption, plant hormones (phytohormone), growth, nutrient transfer, plant growth regulating substances, dormancy and germination.

### 94323 Plant Propagation and Nurseries

Students, in this course, are introduced to basic techniques and practical skills for propagation of fruit trees, ornamental plants and vegetables. These propagation methods include seedlings and vegetation of various types: pollination, inoculation, hatching and using different plant organs and parts in addition to tissue planting. The course also dwells on using agricultural installations such as green houses, and other different agricultural environments for propagation purposes

### 94332 Plant Pathology

This course includes the study of plant diseases (fungal, bacterial, viral...) and ways of their development and occurrence, and the relationship between the cause and effect as well as the influence of environmental factors on plants starting from their growth up to storage and marketing. The course also looks at the cycle of disease incidence, ways of its resistance with special emphasis on some of the diseases that damage agricultural crops in the regions, in terms of symptoms, cycles, development and eventual control methods used against them.

### 94333 Economic Entomology

Identification of insects which cause economic damage to plants including a description of insects and their life cycle, and type of damage-control measures. It cover pests from the following orders: homoptera, hemiptera, thysanoptera, diptera, coleopteran, lepidoptera, hymenoptera.

### 94343 Irrigation and Drainage Systems

Topics covered in this course include water flow in pipes and canals, irrigation systems and installations, measurement of irrigation water, surface water, sprinkle irrigation, drip irrigation, programming and management of irrigation systems, water quality and salinity, and the basics of agricultural drainage. Students also learn about soil-water relationship, ground water and water wells, agriculture and drainage.



## 94345 Agricultural Machinery

This course covers types of agricultural machines and equipment, their structure and importance, and how they work theoretically. Other topics covered include hydraulics, power transfer, economic performance of machines with emphasis on agricultural tractors. The course also introduces agricultural implements used for soil preparation, farming, harvesting, protection, fertilization, threshing, spraying and water pumping. Students will also learn how to select equipment and machines to be used on a farm, fuel, air, electricity and transport systems. The course ends with an introduction to mechanical problems of agricultural tractors and their maintenance.

## 94415 Protected Agriculture Management

This course covers a number of topics: importance and types of protected farming, greenhouses, wooden and plastic houses, plastic tunnels; design, components, installations of these structures, agricultural processes and their effect on increasing agricultural produce, improving quality of the produce inside these houses by using high tech equipment under controlled temperature conditions.

## 94422 Plant Breeding

The purpose of this course is to give students information about genetic principles pertinent to plant breeding and improvement, techniques and methods used in this field. Breeding self-pollinated economic crops and cross-pollinated crops to improve production, disease resistance and quality. The course also deals with modern means of breeding and the most important problems facing plant breeders and possible solutions for these problems especially for pests and disease control.

## 94432 Integrated Pest Management

Basic concepts of integrated pest management emphasizing ecological principles, integration of chemical, biological, cultural, and physical tactics into an overall strategy for the agroecosystem. Pesticides, cultural practices, host resistance, biological control, sterility principles. Economic of pest control and pest/host relationships

## 94440 Plant Nutrition

This course covers several topics: plant growth factors, plant nutrient elements and their relationship with productivity, fertilization of plants, methods of adding these elements and their availability in plants. These elements include nitrogen, phosphorus, potassium, calcium, magnesium and other trace elements. The course will also deal with organic fertilizers (manure) and their role in improving soil quality, fertility, and plant production.

## 94462 Seminar

This course is an opportunity for the student to collect and analyze data about a particular subject related to his/her interest. This will train him/her to link information, in various fields, and put it in a scholarly fashion. In this seminar, each student is expected to make a presentation and discuss the topic of his/her choice.

### 94490 Training in Plant Production

This practical course is an opportunity for the student to develop certain skills in plant production and protection, apply all information received in the different fields of agriculture. Students will spend their training at the university farm and apply all skills acquired in agricultural processes, problem-solving. Students will also make visits to nearby farms for further training.

### 94493 Training in Agricultural Machinery

Students, in this field course, receive training in processes of how to use agricultural machinery such as tractors and their subordinate implements, especially in carrying out agricultural work. Students also learn tractor driving, installing and disassembling implements used by the agricultural tractor.

### 94311 Organic Farming

Topics covered include: Organic farming: definitions, objectives, organizations, legislation, standards. Soil biological activity and soil management. Carbon cycling: organic matter and residue management. Cropping design principles, Rotations, green manures and poly-cultures. Crop protection - weeds, pests and diseases. Certification and Marketing of organic food. Organic farming and society, food quality and the environment.

### 94314 Principles of Forestry

This course highlights the economic and environmental significance of trees, objectives and methods of afforestation, afforestation ecology environmental factors and their influence on forest growth, development, and expansion. The course also looks at forest nurseries, afforestation methods, forest measurement, and ways of protecting forests from pests and diseases.

### 94315 Forage Crop Production

Topics dealt with, in this course, include economic importance and nutritional value of green forage crops, history of their development, plant description and environmental requirements, methods of production, ways of green crop storage, production of seeds and appropriate crops grown in arid areas and mechanization of forage production.

### 94319 Selected Topics

This course covers topics in plant production and protection, soil science and other related sciences which have not been covered or have been marginally covered in other courses.

### 94334 Agricultural Pesticides

Topics covered in this course are agricultural pests, different pesticides, ways of fighting and killing these pests chemically, the economic importance of pesticides, history of pesticides, their types, formulation, application techniques, registration of pesticides and registration laws, and problems arising from the use of agricultural pesticides.

## 94410 Evergreen Fruit Tree Production

This course covers production of evergreen fruit trees in the region, importance of studying these trees, their adaptation, varieties (cultivars) and their suitability for the environment, flowers, fruits, types, appropriate varieties, garden management, selection of new types, water needs with emphasis on olive, citrus, and aliguate trees in particular. The course ends with a look at orchard management.

## 94421 Post harvest physiology

Postharvest biochemical changes in fruits, vegetables, and flowers. Physical and physiological basis for handling and storage practices, perishable organ ontogeny and physiological disorders. Postharvest environment requirements including handling, refrigerated storage, and chemical treatments.

## 94424 Biotechnology

Principles of molecular biology and their application in biotechnology. Biological material and general techniques in molecular biology, PCR, enzymes, hybridization, vectors, gel electrophoresis of DNA, cloning, sequencing, modification of DNA. Genome analysis, gene expression analysis, transgenic plants and animals: principles, procedures, objectives, hazards on human & environment laws & ethics.

## 94444 Land Reclamation

This course is concerned with land and water resources in Palestine, classification of lands, areas, and importance of land suitable for reclamation. The course also deals with factors behind a drop in land productivity, sources of solvent salts in soil, saline soil, and ways of reclaiming it, sodium and alkaline soils and their reclamation, boron-rich soil and its reclamation and assessment of irrigation water use.

## 94455 Apiculture

Importance of beekeeping in the world and especially in Palestine. History and development of beekeeping nationally and internationally. The bee colony, its casts, and life history. The honey bee breeds (strains). Beekeeping equipment. Anatomy of honeybees. Internal and external activities. Beehive and queen management. Removing and marketing the crop. Infectious and non-infectious honey bee pests.



# DEPARTMENT OF ANIMAL PRODUCTION AND ANIMAL HEALTH

## TITLE: B.SC. IN ANIMAL PRODUCTION & HEALTH

The plan composed of 142 credit hours distributed as the following:

No.	Course type		Credit hours
1	University Requirements		26
2	College Requirements (55 credit hours)	From Faculty of Science	20
		From College of Agriculture	35
3	Department Requirements (61 credit hours)	Compulsory courses	51
		Elective courses	10
	Total		142

### Admission Requirements

1. Successfully complete at least 30 credit hours that must include at least 18 credit hours of the college requirements.
2. Successfully complete General Botany (94101), General Zoology (95101) and Principles of Animal Production (95210) with an average no less than 70%.
3. In case the number of requests exceeds the capacity of the department, students will be selected based on the highest grade averages on General Botany, General Zoology and Principles of Animal Production .

### A. Department requirements (61 credit hours) as the following:

#### 1-Department Compulsory courses (51 credit hours)

Course #	Course title	Credit Hours	Hours weekly		Prerequisite
			Theory	Lab.	
95211	Poultry Production	3	2	2	95210
95212	Sheep & Goat Production	3	2	2	95210
95230	Basic Anatomy of Farm Animals	2	1	2	95101
95313	Dairy Cattle Production	3	2	2	95210
95325	Feeds and Feeding	3	2	2	95210
95326	Poultry Nutrition	2	2	-	95325 + 95400
95330	Animal Physiology	3	2	2	95101
95331	Physiology of Reproduction and Artificial Insemination	3	2	2	95330
95350	Animal Health and Diseases	3	2	2	95210
95400	Biochemistry for Ag. Students	3	3	-	23233
95412	Production of Meat Animals	2	2	-	95210
95426	Ruminant Nutrition	2	2	-	95325 + 95400
95433	Animal Breeding	3	3	-	95334, 94240
95450	Poultry Diseases	2	1	2	95350
95461	Computer Applications in Animal Production	1	-	2	4th year
95462	Seminar in Animal Production	1	1	-	Dept. approval
95463	Animal Biotechnology	2	2	-	94240
95490	Field Training in Animal Production & Health	10	-	30	Dept. approval

## 2. Elective courses (10 credit hours) chosen from the following list:

Course #	Course title	Credit hrs	Hours weekly		Prerequisite
			Theory	Lab.	
94315	Forage Crop Production	3	2	2	94210
94455	Apiculture	3	2	2	94230
95315	Selected Topics	3	3	-	
95416	Fish Farming	2	2	-	95101
95418	Organic Animal Production	2	2	-	95210
95435	Animal Installations	2	2	-	95210
95436	Animal Farm Management	3	3	-	95210
95451	Parasitology	3	2	2	95350
96241	Agricultural Extension	3	3	-	96211
96322	Agricultural Marketing	3	3	-	96211
97341	Meat Technology	3	2	2	95210+97211
97343	Dairy Processing	3	2	2	97211

### Description of courses offered by the department:

#### 95211 Poultry Production

Introduction to the poultry industry in Palestine. Major poultry breeds. Poultry digestive and reproductive tracts, egg incubation and hatching, production of layers and broilers, feeding and housing and management systems, and marketing poultry products.

#### 95212 Sheep & Goat Production

Economic importance of sheep and goats. Local and world breeds of sheep and goats, establishing sheep and goat farms, systems of breeding and production, management of reproduction, feeding and fattening.

#### 95230 Basic Anatomy of Farm Animals

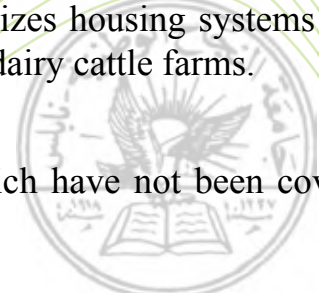
Basic anatomy of the skeletal, muscular, vascular and respiratory systems of farm animals. The course also covers the digestive system, the urinary tract, the male and female reproductive systems as well as the nervous system

#### 95313 Dairy Cattle Production

This course highlights the economic importance of milk and its products, pure breeds and dual-purpose breeds of dairy cattle, characteristics of the dairy animal, lactation curve and factors influencing milk production and composition, selection and genetic improvement in dairy cattle. The course also emphasizes housing systems and the main aspects of creation, management and running of dairy cattle farms.

#### 95315 Selected Topics

This course covers topics in animal production which have not been covered or have been marginally covered in other courses.



### 95325 Feeds and Feeding

Chemical composition and types of feeds, digestion and metabolism, feed requirements, energy, protein, fiber, minerals and their importance, systems of feeding, ration formulation and evaluation of feeds.

### 95326 Poultry Nutrition

Digestion, absorption, and metabolic processes in poultry. Feed ingredients and requirements according to stages of growth and production as well as the effects of nutrient deficiency. Description of feeds used in poultry nutrition and preparation of poultry rations. The end part of the course covers the different feeding systems.

### 95330 Animal Physiology

Study of the physiological functions of the respiratory, digestive, urinary, reproductive and endocrine systems. The course also covers the hormonal and nervous regulation and blood supply of these systems and the physiological relationships among them.

### 95331 Physiology of Reproduction and Artificial Insemination

Study of the functions of reproductive organs of farm animals, endocrine glands and hormonal regulation of reproduction, synchronization of estrus and improving reproductive performance of farm animals, collection, testing, refrigeration and freezing of semen, methods and techniques of artificial insemination in all farm animals.

### 95350 Animal Health and Diseases

Health and sickness of animals, influence of the environment; description of common diseases in the region, symptoms of disease, methods of diagnosis, prevention and treatment of bacterial, viral and parasitic diseases affecting farm animals.

### 95400 Biochemistry for Ag. Students

Introduction to biochemical molecules in cells. Energy metabolism, metabolism of carbohydrates, fats, proteins, and other nutrients.

### 95412 Production of Meat Animals

Importance of meat production in the world, meat animal breeds with focus on beef cattle breeds, production and housing systems, fattening of meat animals, factors affecting carcass and meat quality, and genetic improvement methods for meat animals.

### 95416 Fish Farming

This course covers several topics: importance of developing fish resources in Palestine, types and qualities of fish, basics of fish husbandry, management, nutrition, breeding, improvement and hatching. The course also examines qualities of water and their relationship with fish production, fishing and methods of storage.

## 95418 Organic Animal Farming

Introduction to organic farming in the field of animal production, laws and regulations for production of organic food, importance of organic food, systems used in production of organic food from animals, animal welfare, and marketing organic food.

## 95426 Ruminant Nutrition

Physiology of digestion and absorption in ruminants. Anaerobic fermentation and metabolic processes. Metabolism of volatile fatty acids. Description of feeds used in ruminant nutrition, feed requirements according to stages of growth and production and effects of nutrient deficiency. Formulation of rations and study of different feeding systems .

## 95433 Animal Breeding

Gene frequencies, Hardy-Weinberg equilibrium, types of gene action, phenotypic variation and its components, genetic value and breeding value, genetic parameters, estimation of breeding values, methods of selection and calculation of expected genetic change. Mating systems, crossbreeding and hybrid vigor, inbreeding and its effects. In addition, the course outlines the various genetic improvement schemes.

## 95435 Animal Installations

Introduction to the effects of the environment on animals, farm animal housing and ventilation systems, their specifications, parlour systems and necessary feeding, drinking and milking equipment .

## 95436 Animal Farm Management

Establishment of farm animals, farm animal husbandry systems: poultry, meat animals, dairy cattle, record-keeping, and marketing agricultural products.

## 95450 Poultry Diseases

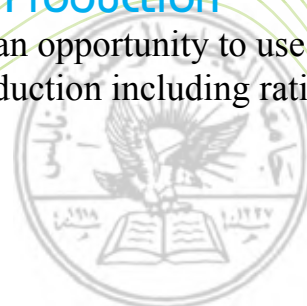
Main poultry diseases. Control and treatment of viral and bacterial diseases and internal and external parasites. Management of hygiene aspects of poultry farms.

## 95451 Parasitology

Types of parasites, parasite relationship with nutrition, infectious parasite diseases, symptoms of disease, diagnosis of these diseases, ways of treatment and prevention in addition to techniques of laboratory testing.

## 95461 Computer Applications in Animal Production

The aim of this course is to provide the student with an opportunity to use the worldwide web and specialized software in animal production including ration formulation, management of records and data analysis.



### 95462 Seminar in Animal Production

The aim of this course is to provide the student with an opportunity to synthesize scientific information from the literature and make presentation in front of an interested audience.

### 95463 Animal Biotechnology:

Application of genetic engineering in the field of animal production, cloning and production of genetically modified food, medical uses of biotechnology and its importance in increasing production. Modern techniques in identifying genes affecting important economic traits. In addition the course covers the ethical aspects of biotechnology applications and their acceptance by the society as well as safety issues.

### 95490 Field Training in Animal Production

This course provides the student with an opportunity to gain practical experience via training in the college experimental station as well as in the private animal industry. The student performs the daily husbandry and management practices and hands in reports on these activities.



# DEPARTMENT OF NUTRITION AND FOOD TECHNOLOGY

## TITLE: B.SC. IN NUTRITION AND FOOD TECHNOLOGY

*The plan composed of 151 credit hours distributed as the following:*

No.*	Course type		Credit hours
1	University Requirements		26
2	College Requirements (55 credit hours)	From Faculty of Science	20
		From College of Agriculture	35
3	Department Requirements (70 credit hours)	Compulsory courses	60
		Elective courses	10
	Total		151

Numbers 1 and 2 will be the same for all the departments

### *Admission Requirements*

1. Successful completion of 30 credit hours that must include at least 18 credit hours of the college requirements.
2. Successfully complete General Botany (94101), General Zoology (95101) and Principles of Nutrition (97211) with an average no less than 70%.
3. In case the number of requests exceeds the capacity of the department, students will be selected based on the highest grade averages on General Botany, General Zoology and Principles of Nutrition



**Department requirements (70) credit hours, as the following:**

**A. Compulsory courses (60 credits)**

Course #	Course title	Credit Hours	Hours weekly		Prerequisite
			Theory	Lab.	
23211	Analytical Chemistry	3	3	-	23102 + 23108
23215	Practical Analytical Chemistry	1	-	3	23211 or concurrent
23237	Practical Organic Chemistry	2	-	4	23233 or concurrent
25311	Biochemistry	4	3	1	23233 + 23237
95330	Animal Physiology	3	3	-	95101
97212	Principles of Food Science	3	3	-	97211
97241	Food Processing and Preservation	3	2	2	97212
97313	Food Biotechnology	2	2	-	-
97315	Meal Planning	3	2	2	97332
97321	Food Chemistry and Analysis	3	2	2	97212 + 25311
97332	Human Nutrition	3	3	-	25311 + 97211
97343	Dairy Processing	3	2	2	97212
97416	Food Metabolism	3	3	-	25311
97421	Food Microbiology	3	2	2	94220
97433	Nutritional Diseases	3	3	-	97332
97447	Food Quality Control	2	2	-	97241 + 97321
97449	Nutritional Education	3	3	-	97332
97452	Diet Therapy	3	2	2	97332 + 97433
97462	Seminar in Nutrition and Food Technology	1	1	-	
97491	Training in Nutrition	4	-	30	
97492	Training in Food Processing	4	-	30	

**b. Elective courses (10 credit hours)**

Course #	Course title	Credit Hours	Hours weekly		Prerequisite
			Theory	Lab.	
97322	Nutritional Case Evaluation	2	2	-	97332
97323	Nutrition through Life Cycle	3	3	-	97332
97341	Meat Technology	3	2	2	95210 + 97231
97350	Fruits and Vegetables Processing	3	2	2	97241
97412	Management of Food Service Institutions	2	2	-	97211+ 97212
97414	Food Additives	2	2	-	97212
97415	Special Topics in Nutrition and Food Technology	3	3	-	-
97451	Food Hygiene	3	2	2	97421
94421	Post harvest Physiology	2	2	-	-
95418	Organic Animal Production	2	2	-	95210
51230	Food Institutions Management	2	2	-	-
52233	Economics of Nutrition	3	3	-	-
111510	Legal regulation for plants productions	2	2	-	-
96425	Food Security	2	2	-	96211

## ***Courses Description:***

### **95330 Animal Physiology**

Study of the physiological functions of the respiratory, digestive, urinary, reproductive and endocrine systems. The course also covers the hormonal and nervous regulation and blood supply of these systems and the physiological relationships among them.

### **97212 Principles of Food Science**

Principles and methods of preparation and qualities, composition, and uses of food. The use of heat in processing of food.

### **97241 Food Processing and Preservation**

Studying the various scientific methods of food processing including the methods of fermentation, dehydration, cooling and freezing, the use of high temperature and radiation, and the use of food additives. The practical part of this course comprise applications of some processing methods on local foods

### **97313 Food Biotechnology**

Definition of biotechnology and developments in food biotechnology. Principles of fermentations, genetic engineering, cloning and other modern techniques of biotechnology. Introducing the use of biotechnology in the production of fermented foods, production of enzymes, vitamins and proteins, and treatment of food plants wastes.

### **97315 Meal Planning**

Psychological, sociological, and historical aspects of food patterns. The proper approaches to plan and prepare a healthy meal for the family. Nutritional education programs.

### **97321 Food Chemistry and Analysis**

Chemistry of milk, meat, fruits, vegetables, cereals, legumes, spices, and other food ingredients. Different procedures to analyze food components.

### **97322 Nutritional Case Evaluation**

Nutritional assessment of a nutritional case. Factors affecting the case; social, economical, health, nutrition, clinical, and biometrical.

### **97323 Nutrition through Life Cycle**

Nutrition application for growth, biochemical and behavioral changes at all age levels. Psychological, economic, and cultural implication of food.

### **97332 Human Nutrition**

The course deals with the study of applied human nutrition and nutritional care, the role of the dietitian, concepts of dietary guides, health diet system. Nutrition standards, and nutrients requirements under various physiological conditions. The course also discusses malnutrition, evaluation and management, drug-nutrient interactions, and nutrition and physical fitness.

### 97341 Meat Technology

This course illustrates the importance of meat nutritionally and economically, studying the structure of meat and its constituents. Factors that determine meat characteristics and palatability. Studying the slaughtering methods and postmortem changes of different animals. Studying the common operations of meat processing and the methods of meat processing and preservation. Studying the spoilage and deterioration factors and how could be controlled. The practical part comprise the application of some theoretical methods of slaughtering and meat processing.

### 97343 Dairy Processing

Studying the constituents of milk and their chemical and physical properties. Studying the micro organisms of milk and dairy product and its effect on human health and milk spoilage. Studying the theoretical methods of milk processing and dairy products. The practical part of this course includes the application of milk processing methods and its products.

### 97350 Fruits and Vegetables Processing

The preparatory steps for processing of fruits and vegetables such as grading, transportation, and storage. Methods of processing such as drying, freezing, fermentation, concentration, evaporation, and canning. Testing for quality; factors affecting quality of processed fruits and vegetables.

### 97412 Management of Food Services Institutions

Classification and structure of food services institutions. Kitchen services, equipment, and labor management, handling, storage, and delivery of foods. Planning of menus, quality and pricing of ready foods.

### 97414 Food Additives

This course is a study of types, structure, components, forms, and mode of action of the food additives. It also discusses advantages and disadvantages of food additives and means of their evaluation.

### 97415 Special Topics in Nutrition and Food Technology

This course will cover many topics that will be not covered in your plan in the field of nutrition and food technology

### 97416 Food Metabolism

Food composition of nutrients, Nutrient absorption use. Metabolism of mail in body, of proteins, fats, soluble carbohydrates and energy use as well as mineral and vitamins metabolism. Metabolic disorders related to food consumption.

### 97421 Food Microbiology

Food spoilage. safety and preservation as they pertain to the microbiology of bacteria, yeasts and molds. Conditions favoring the growth. survival and death of these microorganisms, their immediate and long range effects on foods safety.

### 97433 Nutritional Diseases

The course is an explanation of eating habits, symptoms of mal-nutrition; diseases of affluence such as obesity, cancer, diabetes mellitus; healthy food symptoms, epidemiology and prevention of these diseases.

### 97447 Food Quality Control

The course is a discussion of systems of quality control for foods and food industries and official scales; understanding of food laws and standards; institutions in charge of controlling production lines of various foods.

### 97449 Nutritional Education

Factors affecting type of food consumption by community and individuals. preparation of programs to educate people for proper eating. Food treatment, handling, and cooking as related to nutritious meals

### 97451 Food Hygiene

The course deals with concepts of food safety and hygiene; food-borne diseases and diseases transmitted through food residues; hygienic standards for food production and harvesting, handling, processing, preparing, and storage. Food firm's hygiene and health requirements, cleaning and disinfection and pest control, and application of hazard analysis critical control point (HACCP) systems.

### 97452 Diet Therapy

Diseases that requires diet therapy (i.e. diseases of infants, gastrointestinal tract, cardiovascular system, renal system, diabetes mellitus, cases of major surgeries, burns, accidents, cancer, etc.) and role of nutrition in controlling physiological, biochemical, and clinical abnormalities; applications of diet therapy, dietetic, nutritional guidance during illness.

### 97462 Seminar in Nutrition and Food Technology

This course is an opportunity for the student to collect and analyze data about a particular subject related to his/her interest. This will train him/her to link information, in various fields, and put it in a scholarly fashion. In this seminar, each student is expected to make a presentation and discuss the topic of his/her choice.

### 97491 Training in Nutrition

Field training of students in different institutions mainly hospitals to be familiar with different diets according to patient cases.

### 97492 Training in Food Processing

Field training of student in food processing institutions including meat, milk Agricultural processing factories around the country.



### 94421 Post harvest physiology

Postharvest biochemical changes in fruits, vegetables, and flowers. Physical and physiological basis for handling and storage practices, perishable organ ontogeny and physiological disorders. Postharvest environment requirements including handling, refrigerated storage, and chemical treatments.

### 95418 Organic Animal Farming

Introduction to organic farming in the field of animal production, laws and regulations for production of organic food, importance of organic food, systems used in production of organic food from animals, animal welfare, and marketing organic food.

### 51230 Food Institutions Management

This course is designed to develop a basic understanding of main functions, concepts and elements of the managerial process (specially planning, organizing, directing and controlling functions), along side with their applications in food institutions. Related activities and functions; such as production, marketing and human resources; are key areas that the course will examine and tackle. The paper endeavors to develop students' capabilities and skills to take and carry out strategic decisions within the industry to accomplish competitive advantages in the domestic market, and reinforce the share of Palestinian food institutions and industry in the international markets.

### 52233 Economics of Nutrition

In this course, students get acquainted with concepts and analysis procedures to generate cost data for production planning and control. It deals specifically with accounting systems used in food industry, where specific features of costs elements and classifications are to be discussed. The course also examines issues such as cost allocation and control, variance analysis, budgeting, and forecasting. Finally, the course covers the use of some mathematical models, such as linear programming and probability theory, in management decision making process.

### 111510 Legal regulation for plants productions

There are many faces for protections plants which concern the definition of rarely or improved plants and to present their owners. Also it concerns the legal roceedings for recording these productions in home land and outside. It concerns the effects of the feeding production on consumer's health and rules that protect the human health from damages or false propaganda. It also contains the trade mark for the productions: proceedings recording and its legal protection.

### 96425 Food Security

This course covers a number of topics: strategic elements of food security, food security approaches, food security and policies and their tools, fully integrated food plans, population reproduction laws, food budget, green revolution and food security, food assistance, basics of self-reliance, food security from an international perspective, Arab and Palestinian food security, food and poverty, international experiences, economic inflation and nutrition.

# COLLEGE OF

# PHARMACY



# COLLEGE OF PHARMACY

## *Background & Mission:*

An-Najah University College of Pharmacy is well recognized for its impact on pharmacy practice and on the health care needs of approximately 3 million Palestinians through its contributions in education, training, scholarship, service and research. The College will serve an integral role within the University by providing a culturally diverse and intellectually stimulated community of scholars engaged in the collective creation and dissemination of knowledge.

The mission of An-Najah College of Pharmacy is the development of student and faculty scholars who will impact the health care needs of people in Palestine. The College will provide a strong foundation in the knowledge, integration and application of the biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences resulting in practitioners who are committed to humanistic service, capable of providing patient-centered care and leaders in advancing the pharmacy profession. The College embraces the mission of the University to educate individuals from economically or educationally disadvantaged backgrounds to strengthen the simultaneous provision of culturally competent care and reduction of health care disparities.

An-Najah National University College of Pharmacy awards a B.Sc. degree in pharmaceutical sciences, after successful completion of 164 credit hours that include:

- (20) credits of compulsory university courses
- (6) credits of university electives
- (123) credits of college compulsory courses
- (15) credits of college electives



### University Compulsory Courses (20 credits):

Course #	Course title	Credit hrs	Pre-requisite
10103	English Language 1	3	
10322	English Language 2	3	
10101	Islamic culture	3	
10102	Arabic Language	3	
10105	Palestinian studies	3	
10100	Introduction to computer science	3	
10117	Communication skills	1	
10108	Community Service	1	

### B. University elective courses (6 credits)

### C. College Compulsory courses (123 credits)

Course #	Course title	Credit hrs	Pre- requisite
21104	Mathematics for Pharmacy	3	_____
23105	General Chemistry I	3	_____
23106	General Chemistry II	2	23101
23109	General Chemistry I (Lab)	1	_____
24121	General Biology	3	_____
24122	General Biology I (Lab)	1	_____
25202	Biostatistics	3	21104
101321	Medicinal Chemistry I	3	_____
101421	Medicinal Chemistry II	3	_____
101481	Nutrition	2	_____
102211	Organic chemistry for Pharmacy I	3	23102, 23101
102219	Organic chemistry for Pharmacy I (Lab)	1	23108
102213	Organic chemistry for Pharmacy II	3	102211
102215	Analytical Chemistry for Pharmacy	3	23108, 23102
102216	Analytical Chemistry for Pharmacy (Lab)	1	23108
102217	Physical Pharmacy	3	23102
102218	Physical Pharmacy (Lab)	1	23108
102311	Pharmaceutics I	3	102217
102312	Pharmaceutics I (Lab)	1	_____
102313	Pharmacy Legislations & Practices	1	102321
102320	Pharmacy Practice & OTC	1	102321
102315	Pharmacology I	3	105311
102317	Instrumental Analysis	2	102215, 102214
102321	Pharmaceutics II	3	102311
102411	Industrial Pharmacy	3	102321
102413	Pharmacology II	3	102315
102416	Biopharmaceutics and Pharmacokinetics	3	102321
102511	Clinical Pharmacy	3	_____
103331	Pharmacognosy	3	102213, 102214

Course #	Course title	Credit hrs	Pre- requisite
103332	Pharmacognosy (Lab)	1	102214
103431	Phytochemistry	3	_____
105201	Public Health and First Aid	3	_____
105261	Human Anatomy	3	24108, 24102
105311	Biochemistry I	3	102214, 2213
105312	Biochemistry I (Lab)	1	102219
105313	Biochemistry II	3	105311
105342	Medical Microbiology	3	24108, 24102
105343	Medical Microbiology (Lab)	1	24108
105345	Immunology	2	105343
105346	Drug Information and Dispensing	2	_____
105362	Human Physiology I	3	105311
105363	Human Physiology I (Lab)	1	105312
105364	Human Physiology II	2	105362
105413	Clinical Biochemistry	2	102414
105423	Pathology	3	105362
105447	Toxicology	2	102315
105999	Pharmacy Training	3	102511 or 101423 or 106323
102415	Pharmacology III	2	102314
102322	Pharmaceutics III	2	102311
101423	Medicinal Chemistry III	2	101321
102319	Instrumental Analysis Lab	1	102216
105225	Pharmacy research	3	25202 + 102415
102325	Quality Control	1	102216
105990	Pharmacy Research Project	3	-

#### D. College elective courses: (15 credit hours)

Course #	Course title	Credit hrs	Pre-requisite
22103	General Physics for Pharmacy	3	-
52121	Accounting	3	-
102412	Industrial Pharmacy (Lab)	1	102411
102414	Pharmacology (Lab)	1	102413
105210	History of Pharmacy & Medicine	1	College approval
105211	Ethics of Medical Professions	2	College approval
105214	Clinical Pharmacy II	3	102511
105213	Pharmaceutical Technology	2	102411
105217	Cosmetics	2	College approval
105220	Pharmaceutical Care	3	
102323	Pharmaceutical Excipients	2	102321
102316	Marketing & medical Promotion	1	
105448	Toxicology lab	1	105447
102420	Drug Metabolism	2	102315
105449	Environmental Toxicology	2	
105424	Infectious Diseases	3	102413 + 105342
103435	Green Pharmacy	2	103331
105314	Biotherapy	2	102413 + 105313
105424	Hematology	2	105423
105450	Vet. Medical products	2	102415
103440	Alternative Medicine	2	
102418	Drugs in Pregnancy & Lactation	3	102413
102326	Pharmaceutical Sterilization	2	105342
102221	Chemical functional group	3	102213
105266	Parasitology	2	24121



## Course Description

### MTH25202 Biostatistics

Topics covered in this course include classification of statistical data and methods of presentation; collection, organization and analysis of data; sampling; techniques in hypothesis; correlation and analysis of variance; simple linear regression, medical and biological applications on all of the above.

### PHA101321 Medicinal Chemistry I

Concerned with the study of the physiochemical properties of drugs, their absorption, distribution, metabolism and elimination, this course also covers preservatives, disinfectants, anti-fungal drugs and antibiotics.

### PHA101421 Medicinal Chemistry II

It is basic medicinal chemistry; the course covers topics in autonomic drugs, central nervous system, drugs and hormones.

### PHA101423 Medicinal Chemistry III

This course is an investigation into the structure/activity relationship and chemical aspects in all major groups of drugs. Introduction to new methods of drug synthesis and evaluation will also be taught.

### PHA101481 Nutrition

Concerned with the relationship between nutrition and other sciences; food nutrition, and food analysis; sources of food and consumption; human body and digestive system, water metabolism; food energy; soluble and insoluble carbohydrates; fats and fat metabolism; proteins metabolism, vitamins, minerals, nutrient requirements in special conditions and disease situations.

### PHA102211 Organic Chemistry for Pharmacy I

A study of chemical properties and reaction mechanisms of non-cyclic compounds, with an explanation of the nature of correlations in molecules.

### PHA102219 Organic Chemistry for Pharmacy I (Lab)

This is a laboratory course designed to cover theoretical biochemical concepts. Students will learn practical techniques used in lab experiments. Experiments on separation techniques, identification of organic compounds of interest will be conducted.

### PH2A102213 Organic Chemistry for Pharmacy II

This course includes the study of cyclic, non-aromatic and aromatic compounds and their chemical reactions, types of displacement, reaction mechanisms and analytical methods of different types; identification of compounds, binary structure; the course is also a study of functional groups such as acids, and their derivatives, heterocyclic compounds, amines, carboxylic acid reactions; phenols, alkenes and reaction mechanisms of the aforementioned.

## PHA102215 Analytical Chemistry for Pharmacy

This course covers some basic concepts in chemical analysis and their application in the pharmaceutical field; errors in chemical analysis; evaluation of analytical data in terms of accuracy and consistency; the course also covers gravimetric and titrimetric methods of analysis; theory of neutralization; titrations; precipitation titrimetry; complex-formation titrations; theory of molecular absorption spectroscopy; analytical separation by solvent extraction and an introduction to chromatographic methods.

## PHA102216 Analytical Chemistry for Pharmacy (Lab)

An application of Chemistry 102215 with students conducting experiments in analytical chemistry labs. These experiments include treatment of analytical data, determination of acid content of vinegar, determination of purity of soda ash, determination of water hardness by using EDTA, determination of iron ore content of a razor blade; determination of vitamin C in dehydrated juice or in tablets; determination of sulphate by using absorption indicator; gravimetric determination of sulphate separation by paper chromatography, spectrophotometric methods of analysis: analysis of commercial hypochlorite solution.

## PHA102217 Physical Pharmacy

This course covers six major topics: states of matter; thermodynamics; solutions of non-electrolytes; solutions of electrolytes; kinetics, and solubility and distribution phenomena. The course includes a considerable number of subtopics related to each of the six major topics.

## PHA102218 Physical Pharmacy (Lab)

Experiments cover a number of topics: solubility and activity coefficient heat of solution; three component phase diagram; phase diagram of a binary liquid vapor system; Kinetics of the persulphate iodide reaction (effect of ionic strength or reaction rate); Kinetics of the hydrolysis of methyl acetate (first order reaction); Kinetics of the hydrolysis of hydrazones (specific acid catalysis); stability of aspirin; viscosity; absorption isotherms; electrolytic conduction; Clarius-claypron equation; partition coefficient, and determination of formation constant of I<sub>2</sub> complex.

## PHA102311 Pharmaceutics I

This course covers several topics: different pharmaceutical calculations (including calculation of concentration, reductions and quantities) pharmaceutical solutions (isoosmosis ...); ways of calculating children's dosages; Latin abbreviations; methods of drug storage; introduction to pharmaceutical forms; ways of calculating date of expiry; ways of drug decomposition; drug stability; introduction to movement of drug in human body; methods of taking drugs.

## PHA102321 Pharmaceutics II

Students are introduced to a number of topics: Pharmaceutical compounding principles of various dosage forms: solid, semi-solid and liquid dosage forms; selection of ingredients, mechanisms of action; packaging, storage, closures and tests.

### PHA102312    **Pharmaceutics I (Lab)**

This practical course aims at introducing students to basic pharmaceutical dosage forms: liquid, semi-solid, and solid types. The lab sessions involve the basic principles of compounding, preparation skills, and basics underlying the selection of formulating ingredients, packaging, labeling and storage conditions for final selection of finished products.

### PHA102313    **Pharmacy Legislation and Practices**

This course is a study of laws and regulations related to all aspects of the profession of pharmacy, namely legal and ethical principles. Emphasis is placed on the evaluation of non-prescription medications and appliances.

### PHA102320    **Pharmacy Practice & OTC**

This lab aims at introducing students to medications that can be dispensed to patients without prescription. These drugs include antacids, anthelmintics, antidiarrhea, laxative products, emetic and anti-emetic drugs; hemorrhoid products; cold, cough and allergy products; asthma products; analgesics and NSAIDS; vitamins and minerals; infant formula products; weight control products; menstrual products, dental products, insect sting and bite products; burns and sunburn products, skin products, infant products, foot care products. This will be in addition to answering questions raised by patients seeking self-treatment concerning symptoms, aspects of patient counseling in the safe and effective use of products dispensed to him/her and side effects of this class of drugs.

### PHA102315    **Pharmacology I**

This course investigates into the pharmacokinetic properties. The course is also a study of all drugs affecting the human being's nervous system. Sedatives and hypnotics; anti-convulsants and migraine drugs will be discussed.

### PHA102413    **Pharmacology II**

This course is a study of some drugs and their working mechanism. Drugs to be studied include anti-hypertensive drugs, asthma medication, rheumatoid arthritis treatments, NSAID'S and salicylates, autacoids, histamines and antihistamines, steroids, thyroid and antithyroid drugs, diabetes, insulin; estrogens and progestins; agents affecting calcification and bone fragility.

### PHA102414    **Pharmacology (Lab) (E)**

This course is an application of pharmacological knowledge taken in Pharmacology 102413. Students will conduct selected experiments in a practical setting. They will also do presentation of commonly encountered groups of medications. Emphasis is placed on site and mechanism of action.

### PHA102318    **Instrumental Analysis**

This course focuses on several modern methods used in chemical analysis by using advanced equipment that helps in making pharmaceutical analysis in quality control

labs as well as in research. Both identification and quantitative methods are described. Methods used include principles of UV-Visible spectrometry, IR, fluorescence, atomic absorption, flow injection, electrochemistry, in addition to different types of chromatographic separative methods of high performance gases and liquids. Other examples are GLC, HPLC and SFC.

### **PHA102411 Industrial Pharmacy**

This course aims at introducing students to the world of pharmaceutical industry; principles and basis of good manufacturing in addition to unit operations preparation techniques that affect the manufacturing of various pharmaceutical dosage forms. Students also learn about preformulation tests, stability protocols and quality control and GMP regulations to be followed in pharmaceutical plants in order to produce products with satisfactory if not good quality and deliver these products in the required form and manner.

### **PHA102412 Industrial Pharmacy (Lab) (E)**

This is a laboratory course and it aims at introducing students to the world of pharmaceutical industry in all its aspects. Students will work in an environment similar to that in a pharmaceutical plant, particularly in the research and development department. Experiments, in different topics, are designed to study many factors involved in the processing of products throughout their lifetime until production stages by using small scale equipment available in the lab. Of the experiments, students will conduct mixing, milling, granulation, tableting, capsule filling and quality control tests.

### **PHA102416 Biopharmaceutics and Pharmacokinetics**

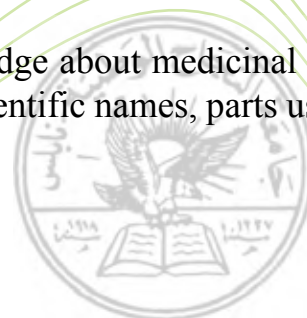
This course is a description of the bases of therapeutic drug monitoring by discussing the pharmacokinetics of drugs following intravenous administration, intravenous infusion, oral and/or extra vascular administration of drugs that undergo first-order and zero-order elimination kinetics, emphasizing one-compartment and two-compartment models. The basis of bioavailability and bioequivalence studies will be emphasized. This science is considered the basis of therapeutic drug monitoring.

### **PHA102511 Clinical Pharmacy**

This course covers the concepts of clinical and therapeutic effects, the role of pharmacist using clinical care modules on the following: cardiovascular system; respiratory system; infectious diseases; nervous system; endocrinological disorders, and gastrointestinal diseases.

### **PHA103331 Pharmacognosy**

This course provides the students with basic knowledge about medicinal plants in terms of their types, ways of collection and storage, scientific names, parts used, uses of each plant, active constituents, and mode of action.



### PHA103332 Pharmacognosy (Lab)

This course is an application of theoretical knowledge in lab. Practical lab sessions will be conducted which involve microscopic, macroscopic and chemical tests used in the identification of crude drugs.

### PHA103431 Phytochemistry

This course focuses on classification of medicinal plants, ways of identifying their chemical constituents, methods of separation. The course is also a study of physico-chemical properties; methods of structure determination (MS, NMR, IR, UV).

### PHA105201 Public Health and First Aid

This course investigates principles of preventive medicine, and public safety; vulnerability to emergency situations; first aid procedures; mother and child health care. The course also examines communicable diseases and social medicine.

### PHA105261 Human Anatomy

This course covers general anatomy (terminology, body organization and body tissues). This is in addition to skeletal, muscular, and cardiovascular, nervous, gastrointestinal, urinary, and genital systems.

### PHA105311 Biochemistry I

This is an introductory biochemistry course and it deals briefly with the biological compounds (carbohydrates, proteins and fats) in human body and their metabolism reactions, and the way the body gets energy. The course also covers enzymes, ways of controlling enzyme reactions and enzyme supporters.

### PHA105312 Biochemistry I (Lab)

This course includes comprehensive range of basic experiments in various topics in biochemistry. These experiments include identification of carbohydrates, proteins, fats, vitamins. Different methods, namely chromatography (paper and thin layer) and enzyme assay, will be used. There will be also a study of the effect of different conditions on the activity of enzymes.

### PHA105313 Biochemistry II

This course is a study of all pathological changes that occur in human being's biological operations. The course also includes interpretation of clinical laboratory results and their relationship with the state of illness. There is also a study of changes in pH and its different influences.

### PHA105342 Medical Microbiology

This course is a study of basic aspects of microbial genetics, structure, and metabolism of microorganisms; principle of immunology, with emphasis on diseases caused by microorganisms.



### **PHA105343 Medical Microbiology (Lab)**

This lab course covers several topics: preparation of microbial growth culture; staining, metabolism, identification and anti-microbial susceptibility of microorganisms. There is also a study of principles of sterilization and disinfections and quantitative measurement of bacterial growth.

### **PHA105345 Immunology**

This course focuses on immunology terminology and basic principles of immunology. Emphasis is placed on biological and biochemistry aspects of host resistance, immunity types of hypersensitivity and suggested treatment; body resistance to different types of diseases.

### **PHA105346 Drug and Information Dispensing**

This course examines medical prescriptions, their types and how to deal with them; common pharmaceutical forms. The course also studies modern medications & their mechanism of work. Students also learn about retrieval and dissemination of drug information and common drug interactions.

### **PHA105362 Human Physiology I**

This introductory course deals with the human body as separate systems. The students get an understanding of the mechanisms governing the function of different human organs. The following systems are studied in this course: central nervous system, cardiovascular system, skeletal system, respiratory system and renal system.

### **PHA105364 Human Physiology II**

This course completes the study of function of different organs as separate systems. The following systems are studied: gastrointestinal tract, endocrine system, genital system and special senses.

### **PHA105363 Human Physiology (Lab)**

This lab course is concerned with designed practical experiments to cover the theoretical course of the human physiology to guide students to reality of cell functions and organs of the body.

### **PHA105412 Clinical Biochemistry**

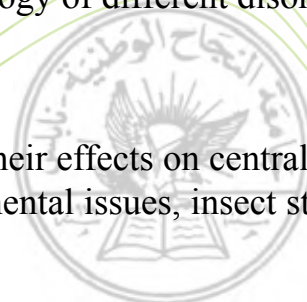
This course teaches clinical application of biochemical aspects in the form of different lab interpretations and applications.

### **PHA105423 Pathology**

This course deals with the basic knowledge in pathology of different disorders and their effects on body organs and systems.

### **PHA105447 Toxicology**

This course involves teaching toxicity of drugs and their effects on central nervous system and cardiovascular system. Important environmental issues, insect stings and general and specific antidotes are also studied.



### PHA105210 History of Pharmacy and Medicine (€)

This is a historical study of medicine and pharmacy throughout the ages. The course highlights the Muslim Arab scientists' contributions to these two fields.

### PHA105211 Ethics of Medical Professions (€)

This course, as the title suggests, emphasizes the ethical principles upon which the medical professions and pharmacy in particular rest. The course looks at the nature and place of pharmaceutical services in society, and the moral standards and professionalism expected from a pharmacist.

### PHA105214 Advanced Clinical Pharmacy (€)

This course is an in-depth clinical study of significant drug categories used in treatment at the primary care level. Emphasis is placed on adverse effects and drug-drug interactions and the task of selecting an appropriate medication for specific patients.

### PHA105213 Pharmaceuticals Technology (€)

This course covers a number of special topics in the pharmaceutical field: new drug development; approval and registration processes of new drugs, and new drug delivery systems (transdermal, ophthalmic, aerosoles, ...). The course also surveys principles underlying drug design, mechanism of action, problems, and attempts of enhancement of delivery.

### PHA105217 Cosmetics (€)

Students in this course get acquainted with the basics of cosmetics preparation. They also study required specifications for cosmetic materials, mechanism of their effectiveness and influence. Students will get training on how to prepare some of these cosmetic materials according to standard specifications.

### PHA105266 Parasitology

The main purpose of this course is to provide the students with up-dated information in clinical Parasitology with emphases on parasites of medical importance in the Middle East, particularly, in Palestine . The course covers subjects that include classification of parasites, morphology and life cycle, pathogenesis, clinical symptoms, treatment and prevention.

### PHA105314 Biotherapy:

This course discusses the various methods for obtaining complex drugs from biological origins and the different therapeutic and medical applications for these bio-products.

### PHA102415 Pharmacology III (2 credits)

This pharmacology course will cover the following main topics:

Drugs used to treat infectious diseases, including: antibiotics, antifungal agents, antiviral agents, antiprotozoal drugs, antiparasitic drugs, anthelmintic drugs.

Cancer chemotherapy

Immunopharmacology

Dermatological drugs

Drugs used in gastrointestinal disorders

New drugs.

### PHA105424 Infectious diseases (3 credits) (€)

This course is designed to explore the proper use of antimicrobials to treat infectious diseases. Infections of different organ systems will be covered including: respiratory, gastrointestinal, genitourinary, CNS, skin, wound infections, fungal infections, tuberculosis, sepsis and AIDS.

### PHA102418 Medications during pregnancy and lactation (3 credits) (€)

this course covers several aspects including the physiological changes during pregnancy, the pharmacokinetics of medications in pregnancy, medications secreted in breast milk, utilization of medications during pregnancy for several diseases such as upper respiratory tract infection, urinary tract infection, gastrointestinal disease, pain, infections, diabetes, hypertension, acne, dental problems. It also covers the use of complementary and alternative medicine in pregnancy.

### PHA105449 The Effect of Poisons on the environment: (2 credits) (€)

This course focuses mainly of the effect produced by poisons on the environment (humans, animals, plants, soil, water,...etc). It includes detailed studying of the groups of environmental pollutants, the need to further research and investigation in this area, bioaccumulation, the effect of poisons on all levels of the universe, and the methods and pathways leading to contamination and the methods of calculating or estimating them.

### PHA102319 : Practical Instrumental Analysis for Pharmacy

(1 credit hour, 3 hours duration in lab.)

This course is composed of 12-14 experiments, covering the main subjects studied in the theoretical instrumental analysis:102318. This laboratory begins with one experiment in spectrometrical determination of a mixture in the visible region, and ion-exchange chromatography of a salt. This practical course was designed to enhance the practical background of students with respect to instrumental analysis. The first two experiments are done by all students in pairs. The remaining experiments are periodical, one experiment for each two students, covering mainly electrochemical analysis. The course consists of 14 weeks: first week is for necessary preparations and regulations, while the last week is for a visit to the Quality Control laboratory for drugs in the university.

### PHA102221: Spectral and chemical elucidation of functional groups (€) (2 theoretical & 1 practical)

This course aims to sort out organic compounds due to their functional groups, using many methods for analysis as: solubility, tests for halogens, nitrogen and sulfur, chemical reactions and acceptance of substitution in addition reactions.

### PHA102325: Quality Control (1 hour)

In this course, quality of the pharmaceutical products is defined and the plans for improving this quality by the quality assurance and the quality control departments are discussed. The tests are carried on raw materials, bulk products and finished products. The course defines also the methods of work in the laboratories referring to BP or USP or other pharmacopoeas.

### PHA105405 Veterinary drugs (2 hours) (€)

The course covers the mechanism of action of veterinary drugs and their kinetic, drugs withdrawal time, toxicity and their adverse effects on human. The dosage form and doses of these drugs is also be covered.

### PHA102323 Pharmaceutical excipients (2 hours) (€)

The aim of this course is to improve the knowledge of students about the pharmaceutical excipients that are involved in the manufacturing of dosage forms, cosmetics and food. The adverse effects, toxicity and daily intake of these excipients is also discussed.

### PHA102322 Pharmaceutics III. (2 hours) (€)

The aim of this course is to teach pharmacy students the basic principles of manufacturing, quality control, stability and bioavailability of capsules, sterilized products and inhalers. The packaging material of these preparation should be discussed.

### PHA102326 Pharmaceutical sterilization (2 hours) (€)

This course clarifies the different methods of sterilization and focuses on the new steps that must be followed in order to prepare sterile products according to the new international standards.

### PHA105448 Toxicology Lab (1 hour) (€)

In this course, practical information are given to the students in the form of cases. Students are expected to solve the cases and write up a report in this regard. Several cases are discussed in this laboratory especially those that has to do with the most common conditions.

### PHA105225 Research methods (3 hours)

In this course the students will be trained on research methods including data analysis, types of research, graphic presentations and research ethics. the course will be designed such that faculty members will participate in supervising the students while doing there research projects. Emphasis will be made on the use of computer in data analysis and statistical methods and their interpretation using computerized statistical software.

### **PHA105220 Pharmaceutical Care (3 hours) (€)**

This course emphasizes on drug therapy assessment, creating a pharmacy care plan, monitoring the care plan, communicating recommendations in an inpatient setting. Introductory clinical experience and patient case presentations utilize the drug information and patient monitoring skills learned earlier. Three hour classes a week.

### **PHA102322 Pharmaceutics III. (2 hours)**

The aim of this course is to teach pharmacy students the basic principles of manufacturing, quality control, stability and bioavailability of capsules, sterilized products and inhalers. The packaging material of these preparation should be discussed.

### **PHA103440 Alternative Medicine (2 hours)**

Studies some aspects of alternative medicine; such as acupuncture, traditional homeopathy, herbalism, yoga, biogeddback, meditation and others.

### **PHA102316 Marketing & medical Promotion (1 hour)**

To have a full understanding of the meanings of commonly used terms in the world of marketing and promotion, and to have a basic knowledge of marketing strategies and to understand the basics of pharmaceutical promotion and selling skills.

### **PHA 105990 Pharmacy Research Project (3 hours)**

Students in this course are to do a scientific project about different branches of pharmaceutical studies such as:

Pharmacology, poisoning, medicinal chemistry, pharmacognosy, pharmaceuticals, biochemistry, analatical chemistry or pharmaceutical practice.

Where the pharmacy college staff control all of these projects and make sure that everything is done according to fine scientific research methods.



# PHARM. D PROGRAM

## Graduation Requirements for Pharm. D Program:

Required University Courses (20 + 6) credits.  
Required College Courses (172) credits.

Specialty	Course number	Course name	Crd.	No. of hrs per week		Pre-Req.	Y: S
				Theory	Practical		
Sc.	24121	Biology for ph st.	3	3	---		1: 1
Sc.	23105	Chemistry for ph st.	3	3	---		1: 1
Sc.	23109	Chemistry lab for ph st	1	---	3		1: 1
Pharm.	105210	History of Pharmacy and Medicine	1	1			1: 1
Pharm.D	106111	Pharmacy Ethics and Professionalism	1	1			1: 1
Pharm.	105261	Human Anatomy	3	3	----		1: 1
Sc.	25202	Bio-Statistics	3	3	---		1: 2
Pharm.D	106211	Pharmaceutical Organic Chemistry	3	3	---	23105	1: 2
Pharm.D	106225	Molecular Medical Genetics	2	2	---	24121	1: 2
Pharm.	105311	Biochemistry I	3	3	---	24121	2: 1
Pharm. D	106342	Medical Microbiology I	3	3	---	24121	2: 1
Pharm. D	106222	Med. Chem. Pharmacology I	3	3	---	10322	2: 1
Pharm. D	106362	Human Physiology I	3	3	---	24121	2: 1
Pharm.	105345	Immunology	2	2		24121	2: 1
Pharm.	105313	Biochemistry II	3	3	---	105311	2: 2
Pharm. D	106343	Medical Microbiology II	3	2	3	106342	2: 2
Pharm.D	106363	Human Physiology II	3	3	---	106362	2: 2
Pharm. D	106223	Med. Chem. Pharmacology II	3	3	---	106222	2: 2
Pharm.	101481	Nutrition	2	2		105311	2: 2
Pharm. D	106215	Analytical Chemistry and Instrumental Analysis	3	2	3	23105	3: 1
Pharm. D	106322	Med. Chem. Pharmacology III	3	3	---	10622	3: 1
Pharm. D	106423	Pathophysiology I	3	3	---	106423	3: 1
Pharm.	102217	Physical Pharmacy	3	3	---	23105	3: 1
Pharm.	103331	Pharmacognosy	3	3	---		3: 1
Pharm. D	106310	Pharmaceutical Calculation	2	2	---		3: 1
Pharm.	102311	Pharmaceutics I	3	3	---	102217	3: 2
Pharm.	105314	Biotechnology and Biotherapy	2	2	---	105311	3: 2
Pharm. D	106424	Pathophysiology II	3	3	---	106424	3: 2
Pharm. D	106431	Herbal Therapeutics	2	2	---	103331	3: 2
Pharm. D	106440	Complementary and Alternative Medicine	1	1			3: 2
Pharm. D	106323	Med. Chem. Pharmacology IV				106222	3: 2
Pharm.	105999	Community Pharmacy Clerkship	3		12 weeks		Sum
Pharm. D	106511	Pharmacotherapy I	3	3		106323	4: 1
Pharmacy	105220	Pharmaceutical Care					4: 1
Pharm. D	106410	Basic Clinical Skills	2	1	3		4: 1
Pharmacy	102321	Pharmaceutics II	3	3	---	102311	4: 1
Pharmacy	102416	Biopharmaceutics and Pharmacokinetics	3	3	---	106323	4: 1

Specialty	Course number	Course name	Crd.	No. of hrs per week		Pre-Req.	Y: S
				Theory	Practical		
Pharm. D	106520	Hospital Pharmacy I	2	1	3		4: 1
Pharm. D	106510	Patient Education and Counseling	1	1			4: 1
Pharm.	105221	Advanced Pharmaceutical Care	3	3			4: 2
Pharm.	105413	Clinical Biochemistry	2	2		105311	4: 2
Pharm. D	106320	Over-the-Counter Medications	3	3			4: 2
Pharm. D	106417	Clinical Pharmacokinetics and TDM	2	2		102416	4: 2
Pharm.	102322	Pharmaceutics III	2	2		102321	4: 2
Pharm. D	106512	Pharmacotherapy II	3	3		106511	4: 2
Pharm. D	106521	Hospital Pharmacy II	2	2		106520	4: 2
Pharm.	105225	Pharmacy Research	3	3			5: 1
Pharm. D	106513	Pharmacotherapy III	3	3		106512	5: 1
Pharm. D	106447	Clinical Toxicology	3	2	3	106323	5: 1
Pharm. D	105346	Drug Information and Evidence Based Therapy	2	2		106512	5: 1
Pharm.	102316	Pharmaceutical Marketing and Drug Promotion	1	1			5: 1
Pharm. D	106412	Compounding and Dispensing Lab.	1	1		102322	5: 2
Pharm. D	106447	Clinical Toxicology	3	2	3	106323	5: 2
Pharm. D	106514	Pharmacotherapy IV	3	3		106513	5: 2
Pharm.	102313	Pharmacy Law and Regulations.	1	1			5:2
Pharm. D	106515	Selected Cases in Clinical Chemistry and Pharmacotherapy	2	1	3	196514	5: 2
Pharm. D	106600	Pharm. D Project	1	To be completed at the end of 6th year			5: 2
Pharm. D	106601 - 106606	Clinical Pharmacy Training.					5th and 6th year



## Pharm. D Curriculum

### First Year

#### First year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
10202	Arabic language	3	3	---
24121	Biology for ph students.	3	3	---
106111	Pharmacy Ethics and Professionalism	1	1	---
23105	Chemistry for ph students	3	3	---
23109	Chemistry lab for ph students	1	---	3
105210	History of Pharmacy and Medicine	1	1	---
105261	General Anatomy	3	3	---
Total		15	14	3

#### First year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
106211	Pharmaceutical Organic Chemistry	3	3	---
106225	Molecular Medical Genetics	2	2	---
10103	English Language I	3	3	---
25202	Bio-Statistics	3	3	---
10105	Palestinian Studies	3	3	---
	University Elective	2	2	---
Total		16	16	

#### First year: Summer Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
	University Elective	2	2	---
10108	Social Service	1	1	---
10117	Communication and Leadership Skills	1		
10322	English Language II	3	3	---
Total		7		

Total (38)



## Second Year Second Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105311	Biochemistry I	3	3	---
105342	Medical Microbiology I	3	3	---
106222	Med. Chem./ Pharmacology I	3	3	---
106362	Human Physiology	3	3	---
105345	Immunology	2	2	---
10101	Islamic Culture	3	3	---
Total		17	17	

## Second Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105313	Biochemistry II	3	3	---
106363	Human Physiology II	3	3	---
106343	Medical Microbiology II	3	2	3
106223	Med. Chem / Pharmacology II	3	3	---
101481	Nutrition	2	2	---
	University Elective	2	2	---
Total		16	15	3

Total (33)



### Third Year Third Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
106215	Analytical & Instrumental Chemistry	3	2	3
102217	Physical Pharmacy	3	3	---
106322	Med. Chem. / Pharmacology III	3	3	---
106310	Pharmaceutical Calculation	2	2	---
103331	Pharmacognosy	3	3	---
106423	Pathophysiology I	3	3	---
Total		17	16	3

### Third Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
106431	Herbal Therapeutics	2	2	---
106323	Med. Chem. / Pharmacology IV	3	3	---
106424	Pathophysiology II	3	3	---
105314	Biotechnology and Biotherapy	2	2	---
106440	Complementary and Alternative Medicine	1	1	---
102311	Pharmaceutics I	3	3	---
10100	Computer Science	3	3	----
Total		17	17	

### Third Year: Summer Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105999	Community Pharmacy Training	3		12 weeks
Total		3		

Total (37)

## Fourth Year Four Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105220	Pharmaceutical Care	3	2	3
106511	Pharmacotherapy I	3	2	3
106410	Basic Clinical skills	2	1	3
102321	Pharmaceutics II	3	3	---
106520	Hospital Pharmacy I	2	1	3
102416	Bio-pharmacokinetic	3	3	---
106510	Patient Education and Counseling	1	1	---
Total		17	13	12

## Fourth Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	Practical
106417	Clinical Pharmacokinetics & TDM	2	2	---
106521	Hospital Pharmacy II	2	1	3
106512	Pharmacotherapy II	3	3	---
105221	Advanced Pharmaceutical Care	3	2	3
106320	Over-the-Counter Medications	3	3	---
102322	Pharmaceutics III	2	2	---
105413	Clinical Biochemistry	2	2	---
Total		17	15	6

## Four Year: Summer Semester

Course number	Course name	Credit hrs.	Number of hrs./per week	
			Theory	practical
105999	Hospital Pharmacy training	cont	12 weeks	
Total				

Total (34)



## Fifth Year

### Fifth Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
102313	Pharmacy Law and Regulation	1	1	---
105225	Pharmacy Scientific Research	3	3	
106513	Pharmacotherapy III	3	2	3
105346	Drug Information and Evidence Based Med.	2	2	---
102316	Pharmaceutical Marketing and Promotion	1	1	---
106601	Clinical Clerkship I	6	24 hrs per wk for 14 wks	
Total		16	9	27

### Fifth Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	Practical
106412	Compounding and Dispensing lab	1	---	3
106514	Pharmacotherapy IV	3	2	3
106515	Clinical cases in Clinical Chemistry and Pharmacotherapy	2	1	3
102313	Pharmacy Law and Regulation	1	1	---
106447	Clinical Toxicology	3	2	3
106600	Pharm. D Project	1	To be completed at the end of 6th year	
106602	Clinical Clerkship II	6	24 hrs / wk for 14 wks	
Total		16	6	36

Total (32)

## Sixth Year

### First Semester:

12 credit hours 106603, 106604 (Clinical Clerkship III, IV)

48 hrs per week for 14 weeks

### Second Semester:

12 credit hours 106605, 106606 (Clinical Clerkship V, VI)

48 hrs per week for 14 weeks

## **Course Description**

### **Medicinal Chemistry / Pharmacology I. (Pharm. D 106222)**

This course is concerned with the study of the physicochemical properties of drugs, their absorption, distribution, metabolism and elimination. This course also includes the principles of structure activity relationship of drugs. The course is also a study of all drugs affecting the Autonomic Nervous System.

### **Medicinal Chemistry / Pharmacology II. (Pharm. D 106223)**

This course is a study of certain classes of drugs and their mechanism of action and their structure activity relationship. Drugs to be studied include cardio-vascular drugs, asthma medications, rheumatoid arthritis treatment, NSAID'S, autacoids, histamine and antihistamines, endocrine medicine & finally agents affecting calcium homeostasis

### **Medicinal Chemistry / Pharmacology III & IV. Pharm. D 106322, 106323**

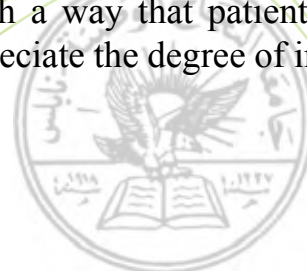
Continuation of drug classes, chemistry and therapeutic aspects. Anti-infective agents, Cancer and Immune modulating drugs, & central nervous system drugs are also discussed.

### **Analytical Chemistry and Instrumental Analysis. (Pharm. D 106215)**

This course covers some basic concepts in chemical analysis and their application in the pharmaceutical field. The course also covers gravimetric and titrimetric methods of analysis; theory of neutralization; titrations; precipitation titrimetry; complex-formation titrations; theory of molecular absorption spectroscopy; analytical separation by solvent extraction and an introduction to chromatographic methods. Errors in chemical analysis; evaluation of analytical data in terms of accuracy and consistency

### **Clinical Pharmacokinetics & T. D. M. (Pharm. D 106417)**

This course will discuss Principles of clinical Pharmacokinetics and their application to the therapy of various states of disease. Changes in pharmacokinetic parameters due to diseases and therapeutic drug monitoring are also discussed. The course will also provide the student with literature review of the pharmacokinetic parameters for many of the most commonly monitored drugs. The principles of Therapeutic Drug Monitoring (TDM) will be emphasized through effective use of class lectures, presentations and referring to patients' records to present it as case studies. Such presentations and case studies will be steered so that it will emphasize the need to obtain accurate plasma level measurements in such a way that patient-specific pharmacokinetic parameters can be derived and to appreciate the degree of inter- and intra-subject variability.



### Pharmacotherapy I. (Pharm. D: 106511).

This course is designed to introduce the pharmacy student to the study of pharmacotherapy. It will provide introductory information designed to assist the student to begin understanding the rationale upon which many drug therapy decisions are based. Principles, concepts, processes, and skills in pharmacotherapy will be emphasized. Therapeutic topics and case studies will be used to provide students with the opportunity to apply these skills.

### Pharmacotherapy II. (Pharm. D 106512)

The purpose of this course is to provide didactic framework for the therapeutic management of a number of common diseases, including cardiovascular diseases, renal diseases, and pulmonary diseases. With a thorough background established in pathophysiology, pharmacology, pharmacokinetics and other courses in the curriculum, the goal of this course is to prepare students to develop rational drug therapy plans for patients, identify conditions for monitoring pharmacotherapy in patients, and identify conditions associated with these common diseases that require referral. Therapeutics of gastrointestinal diseases will be covered in this part.

### Pharmacotherapy III. (Pharm. D: 106513)

This is the third course in a sequence of 4 pharmacotherapy courses in the curriculum. The areas of therapeutic focus in this part include; Infectious Diseases. Hematology and Oncology, and Endocrine/Metabolic Disorders.

### Pharmacotherapy IV . (Pharm. D: 106514)

The areas of therapeutic focus in this part include; Neurological and Psychiatric diseases; bone and joint diseases, women's health and dermatological conditions.

### Clinical Cases in Clinical Chemistry and Pharmacotherapy. (Pharm. D. 106515)

In this course, various case reports in clinical chemistry and pharmacotherapy for patients admitted to the hospital or cases published in medical and pharmaceutical journals will be presented by the students as seminars.

### Herbal Therapeutics: (Pharm. D. 106431)

This course focuses on diseases as treated by medicinal plants. Drug interactions, adverse effects of commonly utilized herbs are also covered.

### Medical Microbiology I & II: (Pharm. D. 106342, 106343)

The first part is an introduction to the microbial world; place of organism in the living world; origin and classification of microbes; applied areas of Medical Microbiology, morphology and fine structure; cultivation; reproduction; growth; cultural characteristics; introduction to yeasts, algae, moulds, protozoa, viruses and parasites. In the second part. pathogenesis of diseases caused by microbes are discussed in details.

### **Pharmaceutical Organic Chemistry for Ph. St: (Pharm. D. 106211)**

The course aims to present the fundamentals of certain topics in organic chemistry and applications in a brief and suitable manner in relation to the pharmaceutical field of study. It covers the pharmaceutical importance of functional groups: aliphatic & aromatic hydrocarbons, alkyl & aryl halides, alcohols, ethers and epoxides, phenols, amines, carboxylic acids and esters, and heterocyclic compounds. The course will emphasize the pharmaceutical importance of these functional groups, their molecular structures and properties, classification, conformations, nomenclature, physical properties, preparation and reactions

### **Complementary and Alternative Medicine: (Pharm. D. 106440)**

This course is concerned with the different methods of therapy other than the classical modern medications. Focus will be made on acupuncture, homeotherapy, herbal medication fasting, aromatherapy, exercise, bold letting, and traditional Arabic medicine.

### **Pharmacy Ethics and Professionalism: (Pharm. D 106111)**

This course, emphasizes the ethical principles upon which the medical professions and pharmacy in particular rest. The course looks at the nature and place of pharmaceutical services in society, and the moral standards and professionalism expected from a pharmacist.

### **Molecular Medical Genetics. (Pharm. D. 106225)**

This course provides students with comprehensive view of the science of genetics. It covers the history and development of genetics, structure and function of genes, chromosomes and their anomalies, patterns of single gene inheritance, types and mechanisms of mutations and tools of human molecular genetics. Common inherited diseases are also discussed.

### **Hospital Pharmacy I and II. (Pharm. D. 106520, 106521)**

Hospital pharmacy will discuss the development, functions, organization and administration of pharmaceutical services within the hospital. Methods of drug distribution are emphasized. In the first part, intravenous preparations are discussed regarding their therapeutic uses. In the second part, preparations of sterile medications, preparations of chemotherapy mixtures and total parenteral nutrition are discussed.

### **Patient Education and Counselling. (Pharm. D 106510)**

The course explores the basic principles and concepts of medication education. It also focuses on the methods used for healthy or sick individuals and/or group(s) in the community or in health care institutions.

### **Compounding and Dispensing Lab. (Pharm. D 106412)**

This course involves processing a prescription or medication order, the preparation and dispensing of pharmaceutical solution, emulsion, suspension, semi-solid and

solid dosage forms and the development and practice of the patient counseling skills necessary for proper use of the compounded product. During the laboratory session, emphasis will be placed on the selection of proper inactive materials, based on physico-chemical properties, for use in the extemporaneous compounding preparation. Acute and nephritic syndrome dose calculations and TPN patients.

### **Pharmaceutical Calculation: (Pharm. D 106310)**

This course will discuss the most important aspects of pharmaceutical calculations required to perform better pharmaceutical services. These calculations include dose adjustment, dilution & concentration, isotonic solution, electrolyte solution, rate of flow of I.V solutions and mathematical conversions.

### **Over-the-Counter Medications. (Pharm. D. 106320)**

The rational dispensing over the counter (OTC) drugs will be covered in this course. Emphasis will be given to the pharmacotherapy of simple medical conditions which can be handled by the clinical pharmacist.

### **Basic Clinical skills. (Pharm. D 106410)**

This course introduces the concepts of history taking and physical diagnosis skills and techniques. The practicum includes simulated clinical experiences through the use of small group discussion, case studies, audio visual aids using fellow students, and simulated patient models. This course exposes students to the principles of clinical work and serves as a building block for osteopathic clinical skills which are used throughout a lifetime of practice.

### **Clinical Clerkship 1 – 6:**

Clinical training in all departments will be carried out.

Community and Hospital Pharmacy Practice/Clerkship. (Pharmacy 105999)

In this course the student will spend 16 weeks (two summer sessions) of continuous practical training of 8 weeks in a community & 8 weeks in the hospital pharmacy during the regular working hours (8 hours a day). The student will be supervised by the pharmacist running the pharmacy and a faculty member. The student is will go through structured training where he/she has to cover different aspects of pharmacy organization and prescription handling as well as some administrative and financial affairs related to pharmacy practice. The major part of the practical training will require the student to know all the important classes of medications used in the treatment of various diseases. That will also involve the knowledge of trade names, manufacturers, suppliers and distributors of such medications and other related medical products. The student will not be allowed to register for other classes during the practical training session.



### Advanced Pharmaceutical Care II. (Pharmacy 105221)

This course introduces the students to medical terminology, abbreviations, communication with patients, drug data collection in the clinical environment. Students will be given drug profiles and virtual prescriptions and will be trained on how to interpret and analyze the profile from all aspects.

### Pathophysiology 1 and II. (Pharm. D 106423, 106424)

This two-course sequence is designed to prepare the student with an understanding of the functions of the human body at the molecular, cellular, organ, and organ system level. Additionally, the students are introduced to the major disease processes that disrupt normal body function. Emphasis is placed on the integration of all levels resulting in the health or disease of the individual. This knowledge base will serve as foundation for their study of pharmacology and therapeutics

### Clinical Toxicology. (Pharm. D 106447).

This course includes the basic and clinical principles of toxicology. Absorption and mechanism of intoxication by all types of toxicants are studied. Poison management and proper clinical measures for treatment of poisoning is included. Analytical and clinical investigation of poisoning is also discussed.

### Pharm. D Project. (Pharm. D. 106600)

The students will register for this course on the second semester of the fifth year. The work on the project will continue until the second semester of the sixth year. He student has to present his work in front of a committee and passing grade or a continue will be assigned to the project.



# FACULTY OF LAW



## A Study Plan for Faculty of Law for the Year 2008/2009

### The Study Plan to grant a B.A degree in Law

Students wishing to obtain a B.A. degree in Law must successfully complete 143 credit hours according to instructions granting bachelor's degree and the academic plan conditions at the faculty of Law.

### *The required credit hours are distributed as follows:*

Type of Requirement	Credit Hour
University	26
College	24
Faculty: Compulsory	57
Faculty: Elective	30
Free Languages	6
Total	143

### *Requirements for obtaining a B.A degree in Law:*

#### *First: University Requirements (26 C.H)*

##### Obligatory Requirements (20 C.H):

Course #	Course Name	Credit Hour	Prerequisite
10101	Islamic Culture	3	None
10105	Palestinian Studies	3	None
10102	Arabic Language	3	None
10103	English Language (University Eng 1)	3	Pass the level exam or English100
10325	English Language (University Eng 2)	3	10103
10100	Introduction to Computer	3	None
10108	Social Service	1	None
	Leadership and Communication Skills	1	None

Elective Courses (6 C.H): Every student is to choose 6 C.H among different courses offered by different faculties provided that they should not be chosen from law faculty.

#### *Free Courses (language)(6 C.H): Students choose among the following courses:*

Course #	Course Name	Credit Hour	Prerequisite
32321	English for Law"1"	3	10325
32322	English for Law"2"	3	32321
38111	French for Law"1"	3	None
38224	French for Law"2"	3	38111
31259	Hebrew for Law"1"	3	None
31260	Hebrew for Law"2"	3	31259

**Second: Faculty Requirements (24C.H):**  
**Students must successfully complete 30 credit hours:**

Course #	Course Name	Credit Hour	Prerequisite
111101	Introduction to Law and Legal Processes	3	None
111107	Principles of Commercial Law and Commercial Contracts	3	None
111104	Civil Law/Sources of Obligations	3	111101
112104	Principles of Public International Law	3	None
112105	Criminal Law I	3	None
112107	Constitutional Law1 “General Theory”	3	None
112130	Administrative Law 1	3	None
41117	Fundamentals of Jurisprudence	3	None

**Third: Faculty Compulsory Requirements (57C.H):**  
**Students should complete successfully 57 credit hours:**

Course #	Course Name	Credit Hour	Prerequisite
111201	Civil Law “Provisions of the Obligation”	3	111104
111250	Company Law and Bankruptcy	3	111107
111301	Commercial Law(Banking & Commercial Papers)	3	111101
111369	Civil Procedure	3	111201
111366	Law of Evidence	3	111369
111365	Civil Law (Nominated Contracts 1)	3	111201
111402	Private International Law	3	111369
111404	Rights in Rem	3	111365
112215	Criminal Law 2	3	112105
112324	Public Finance and Tax Law	3	112130
112325	Law and the Criminal Process	3	112215
112365	Crimes Against the Person	3	112215
112366	Crimes Against Property	3	112365
112352	Administrative Law2	3	112130
112476	Administrative Judiciary	3	112352
41220	Personal Status Law 1	3	41117
112228	Research Methods	3	None
111305	Enforcement Law	3	111366
111405	Civil and Commercial Trials	1	111369
112483	Criminal Procedure Trials	1	112325
111454	Legal Drafting	1	111365



**Fourth: Faculty Elective Courses (30C.H):  
Students should complete successfully 30 credit hours from one of  
the following groups:  
Group A: Private Law”**

Course #	Course Name	Credit Hour	Prerequisite
111367	Nominated Contracts II	3	111201
111360	Arbitration Law	3	111365
111453	Intellectual Property	3	111101
111362	Internet and Electronic Transactions Laws	3	111101
111361	International Commercial Law	3	111107
111455	Laws of Land and Real Estate	3	111365
111363	Insurance Law	3	111201
41320	Personal Status Law 2	3	41220
111351	Personal Status Law for None Muslims	3	None
111368	Law of Labor and Social Security	3	111101
111311	Marine Law	3	111101
112471	Forensics	3	None
111241	Legal Terms in English and French	3	None
31320	Language skills	3	10102
112364	Palestinian Legislative History	3	111101
111456	Rights in Rem: Dependency:	3	111404
111457	Donation Contracts	3	111365
111458	Updated Contracts	3	111365
111459	Legal Ethics	3	None

**Group B: Public Law**

Course #	Course Name	Credit Hour	Prerequisite
112148	Human Rights Law	3	112104
112360	Diplomatic Law	3	112104
112406	Constitutional Law 2 “Political systems”	3	112107
112353	The Palestinian Constitution	3	112106
112474	Criminology	3	112215
112226	International Organizations	3	112104
112267	International Humanitarian Law	3	112104
112408	International Economic Law	3	111201
112362	Local Administration- Local Governance	3	112352
112363	Law and Military Justice	3	112107
112480	Nationality Law and the Status of Aliens	3	112107
112481	EU Law	3	112104
112478	Environmental Legislations and Urban Planning	3	111101
112471	Forensics	3	None
111241	Legal Terms in English and French	3	None
112364	Palestinian Legislative History	3	111101
31320	Language skills	3	10102
112367	Crimes Violating the State Security	3	112215
111459	Legal Ethics	3	None

## **Course Description :**

### **111101 Introduction to Law and Legal Processes**

The purpose of this course is to introduce students to the nature, development and sources of law. Students will learn the skills necessary to interpret and draft legal regulations. The course will cover principles of legal theory together with civil rights and the legal mechanisms which are place to safeguard them.

### **111107 Principles of Commercial Law and commercial Contracts**

In this course students study the nature and development of commercial law, merchandising, and general laws which regulate business.

### **111104 Civil Law (Sources of Obligation)**

This course introduces students to the foundations of civil law. It particularly focuses upon individual, rem and pecuniary rights and sources of obligation. The course defines contract law, including types of contracts, conditionalities, individual will, detrimental acts, and responsibilities. The course also covers dishonest assistance, misrepresentation and unjust enrichment.

### **112104 Principles of Public International Law**

This course mainly focuses general theories, sources of international law and the development law making processes. Emphasis will be placed upon the role of law in times of peace. Within this framework students learn about States' rights and duties, and the legal means of settling inter-state conflicts.

### **112105 Criminal Law I**

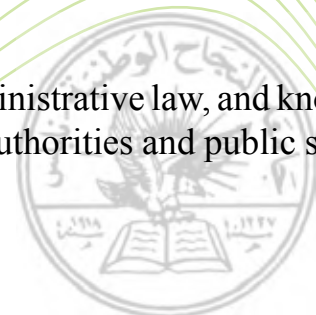
This course discusses general legal rules applicable to criminal convictions. It addresses reasons for disclosure and the liability of the culprit, instigator and accomplice. Students will examine the personal and territorial jurisdiction of penalty law.

### **112107 Constitutional Law I "General Theory"**

This course provides a definition of constitutional law. The course introduces students to different constitutional systems, methods of granting power, electoral procedure, individual rights and public freedoms. The seperation of powers between the legislature, judiciary and executive – is examined, addressing the philosophy behind the seperation and the respective responsibilities and areas of influence of each of these organs of government.

### **112130 Administrative Law I**

This course provides students with a definition of administrative law, and knowledge of its origins and sources. The rules governing public authorities and public spending will be examined.



## 41117 Fundamentals of Jurisprudence

The meaning and definition of Fiqh, its evolution, purpose and varied aspects will be examined. The course will discuss types of governance, license and determination, the topic concerning the Holy Koran in terms of its miracles, as well as signs, the uses of words and characters. Topics related to Sunnah, unanimity and measurement (definitions, elements and conditions) as well as reason and consequences will be discussed. Subsidiary evidence will also be covered such as: desirability, reclamation, filling pretexts and practices of the people of Almadinah and teachings of the Prophet Mohammad according to his followers, diligence, tradition, incompatibility and weighting.

### **Faculty Compulsory Requirements:**

## 111201 Civil Law "Provisions of the Obligation"

In this course, students will study the effects and means of enforcing obligations, namely payment, settling accounts, means of compulsory implementation - real implementation and implementation through compensation - means of protecting execution, urgent cases-direct and indirect trials, modified definitions of obligation effects, rights in prison, conditions, terms and clearance, and time limits on hearing lawsuits.

## 111250 Company Law and Bankruptcy

This course covers a number of topics: definitions of a company, types, establishing and dissolving companies, administration (management) and liquidation. Further, the course provides definitions of bankruptcy, its causes, conditions, legal effects-including penalties imposed on bankrupt traders, particularly in fraud induced bankruptcy.

## 111301 Commercial Law (Banking & Commercial Papers)

In this course students will cover a range of topics including definitions of commercial papers, characteristics, types and policies. In addition, the course tackles banking law; examining the role it plays in the economy, development, external and internal trade as well as types of loans, conditions and interest rates.

## 111369 Civil Procedure

This course covers the implementation of civil procedures law in terms of time and place, and the important principles on which the litigation system is based, formation of courts, and degrees of litigation in these courts, including urgent litigation. The course also deals with the rules of jurisdiction, conflict of jurisdiction and its types, and international jurisdiction of the judiciary. Further, the course will examine lawsuit theory and litigation procedures: bringing legal action, its conditions, notifying the appellee, trial proceedings, considerations of cases, requests, motions of defense, intervention, adjournment and termination of a lawsuit, types of sentences and appeal procedures.

## 111366 Law of Evidence

This course covers the law of evidence according to the different Fiqh schools. It also includes a study of evidence: written evidence, testimony, and the new argument of Quran in proof, besides admission, the right, preview, and experience in accordance with the rules set out in civil law and evidence law.

## 11365 Civil Law (Nominated Contracts 1):

This course covers the two most common contracts: contracts of lease and sale. The course will provide students with a definition of sale contracts, elements, rules, impacts and expiration. Landlord and tenant law will also be covered.

## 111402 Private International Law

This course begins with the definition of private international law, its nature, general theory of law of conflict, sources of law, analysis of evidence base, and Private International Law in relation to the Fiqh theory of conflict.

## 111404 Rights in Rem:

This course is a study of two main branches of property rights: original rights in rem, and dependent rights in rem. The course discusses specific types of ownership: public ownership, upper and lower ownership, apartment and floor ownership. The course will also cover issues relating to inheritance. The course concludes with an examination of the rules relating to adjacency.

## 112215 Criminal Law 2

Topics covered in this course include an analysis of penalty in terms of purpose and effectiveness.

Different types penalty will be compared together with the reasons for light and strict punishment, precautionary measures, and exemption.

## 112324 Public Finance and Tax Law

This course includes a theoretical and practical study of the foundations of revenue collection, public budget and expenditure. The course will cover principles of public finance and tax theory with an emphasis on tax regulation within Palestine. The course carries an element of legal ethics as it highlights the role of taxes as a revenue tool for the state and as an instrument of social justice.

## 112325 Law and the Criminal Process

This course begins with an examination of the criminal process and the relationship between criminal law and other laws, particularly focusing on the penal code. The course explains the scope of procedure rules at different stages of criminal lawsuits from the preliminary investigation to court proceedings. Students will study the legal process in relation to public interest litigation, prosecution and defence. In addition, the course examines civil lawsuits resulting from criminal trials, and the relationship between these two legal processes. There is also a study of juries in terms



of composition, proceedings of criminal courts, ways of submitting evidence before a judge. Students will gain knowledge of a types of sentences clients may potentially receive and strategies for contesting them.

### **112365 Crimes against the Person**

This course addresses the categories of crimes against the person. The course will cover; murder (premeditated, depraved and felony), abuse, indecent assault, rape, abortion, false imprisonment, threats, defamation, forgery and bribery.

### **112366 Crimes against Property**

This course will address crimes against property such as theft and embezzlement, fraud, misrepresentation and the crime of endorsing a cheque without funds.

### **112352 Administrative Law II**

This course examines the laws governing public office and administration in light of abrogation and non-retroactivity. The course further examines the rules of administrative contracts.

### **112476 Administrative Judiciary**

This course introduces the administrative judiciary, traces its development and explains the principle of legitimacy, accountability, and means of controlling the administration, particularly the unelected judiciary. The course will provide examples from Egypt, France and Jordan. Students will also be introduced to the Supreme Court of Justice in Jordan, its areas of expertise, abrogation, conditions for acceptance, aspects its judgment.

### **112228 Research Methods**

This course aims to teach students how to use the library and how reference material when they write academic papers. The course also teaches students how to collect, analyze and classify data. In addition, the course introduces students to different methods of research and internet resources which may prove useful in their academic and professional life.

### **41220 Personal Status Law I**

This course tackles two subjects: divorce and marriage. Topics covering marriage include its definition, and engagement, elements of the marriage contract, legal conditions for its completion, conditions tied to the contract, effect of marriage contract on dowry, adequate support of the wife, fair treatment of the wife in case of polygamy, and loyalty to husband and decision-making at home. In the second part of the course, students will learn about divorce, its forms, khulu' (initiating divorce by the wife), its prescriptions or rules, custody (of infant children ) and its rules, and kinship expenses.

### **111305 Enforcement Law:**

This course addresses powers of the executive council; its responsibilities, authority, structure and competence. Along with methods of enforcement, it also covers executive bonds and methods of executing the local and foreign judgments, funds may be excluded, custody and consequences.

### **111405 Civil and Commercial Trials:**

This course covers the practical side of civil and commercial procedural law, the course aims to enable students to learn how to raise a lawsuit and conduct the proceedings according to the procedure expected by the court in question.

### **112483 Criminal Procedure Trials:**

This course aims to examine the practical and applied side to the Code of Criminal Procedure, by examining some practical issues to enable the student to see how the suit is raised and conduct of the proceedings before the Public Prosecutor and the courts at different levels.

### **111501 Legal Drafting:**

In this course students will study the art of legal drafting, through learning the skills of drafting contracts, legal conventions and legal drafting skills in general.

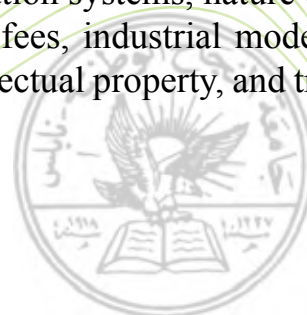
### ***Faculty Elective Courses:***

### **11367 Nominated Contracts II:**

This course includes a detailed examination of the four civil contracts: Agency, Guarantee, Contracting and Assignment. In the first type of contract, the course examines the creation of the Agency and its implications and expiration. In the second type of contract, students are introduced to the meaning, elements, types and effects of the contract, particularly between the guarantor and the lender, and between the guarantor and the borrower. In the third type of contract, the course will focus the contractor's obligations vis a vis the employer's obligations, and expiration of contracting contracts. In the fourth contract, the course addresses the types of agency and its creation, implications and expiration.

### **111453 Intellectual Property**

This course provides an historical background of the origin of commercial, industrial and intellectual property, its protection at the international level, significant legislation during Ottoman and Jordanian rule; patent law, registration systems, nature of patent rights or intellectual property, methods of protection, fees, industrial models, rules governing trade names and titles, commercial and intellectual property, and trading in intellectual property.



### 111360 Arbitration Law:

This course deals with commercial arbitration as an alternative means of resolving disputes. Conditions of an arbitration agreement are covered along with procedures, issuance of an award, objections to implementation, and appeal, all in the context of Palestinian Arbitration Law. The course deals with the definition of international commercial arbitration and what is distinguishing it from domestic arbitration, and its role in international trade relations.

### 111362 Internet and Electronic Transactions Laws:

This course aims to identify importance of electronic commerce and the evolution of international laws in this area. Students will study the establishment of the electronic contract and the problems these can cause in relation to validity.

### 111361 International Commercial Law:

This course examines the international trade law, its sources and evolution. The most important international trade contracts are addressed, including: the international sale of goods, and the most important international conventions and norms in international trade law.

### 111455 Laws of Land and Real Estate:

The main part of this course is concerned with land law. This includes the classification of estates, registered and unregistered conveyancing, co-ownership and trusts of land, leases, licenses, easements, covenants and mortgages.

### 111363 Insurance Law:

This course covers the fundamentals of insurance, its emergence, evolution and types of insurance. In addition to studying the effects, and obligations of the insurer and the insured according to the insurance contract, legal solutions, direct matter and obsolescence will be covered.

### 41320 Personal Status law 2

Topics covered in this course include legacy and rights pertinent to it, reasons and conditions for inheritance, men and women heirs, reduction of heirs' shares, distribution of remaining shares among heirs, greed, and abolishment as well as kinship inheritance. Another topic covered in this course is the will in terms of its wisdom, pillars, conditions, voiding, retraction, acceptance, rejection and obligatory will. The last topic is the wakf (endowment). The course will look at the meaning, conditions and rules governing wakf.

### 111351 Personal Status Law for Non-Muslims

Topics covered in this course are breast feeding, custody, inheritance and wills.

### **111368 Law of Labor and Social Security:**

Students will study the Jordanian labor law, so that they will be introduced to the definition of this law; its historical development, sources, contracts arising from it, and their conditions of validity, and the consequent obligations of each employer and employee, and the reasons for the end of the individual employment contract, and the collective labor contract. The students will also be introduced to union organizations, and ways to settle labor disputes, with reference to the most important rights, the advantages and the disadvantages.

### **111311 Marine Law**

This course introduces students to the shipping law, identity, nationality and registration. Students will also learn about ship ownership, rights in rem pertinent to it and confiscation. Further, the course will cover the legal responsibilities of ship proprietors, captains, and maintenance officers. Students will be introduced to specialist contracts: marine work contracts, marine insurance contracts, ship-rescue contracts, and marine responsibility in terms of collision, insurance, and rescue.

### **111456 Rights in Rem: Dependency:**

This course covers the study of mortgage insurance and possession in terms of construction, effects and expiry, also includes research into privilege rights, including privilege rights on real state.

### **111457 Donation Contracts:**

This course is an analytical study of: the gift, bare trust, and the loan, in terms of the establishment, legal effects and expiry. It also includes a study of Fiqh different points of views on such contracts.

### **111458 Updated Contracts:**

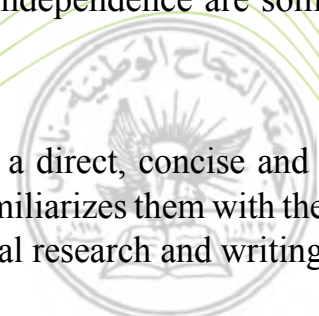
This course covers the study of the most important drafts of the new commercial contracts such as: project finance contracting, commercial credit contracts, concession contracts, and intellectual property and technology transfer contracts.

### **111459 Legal Ethics:**

This course requires students to consider the moral aspects of a career in law. The ethical values and practices of judges, lawyers, prosecutors, legal advisers and law professors will be considered along with the disciplinary procedures applied in cases of misconduct. In respect of client confidences, candor toward the tribunal, truthfulness in statements to others, and professional independence are some of the defining features of legal ethics.

### **31320 Language skills**

This course gives law graduates the skills to write in a direct, concise and succinct manner, and advice on how to avoid common errors. It familiarizes them with the rules of linguistic interpretation in order to improve students' legal research and writing skills.



### 111241 Legal Terms in English and French

This course aims at enriching student's vocabulary in legal English and French (particularly for private law). Students will read legal texts and are expected to analyse them, discuss them and translate sections.

### 112148 Human Rights Law

This course will address human rights, history and development of these rights particularly after the WWII. The course illustrates types of human rights and their divisions, human rights implementation from international conventions, and the most important guarantees for the implementation of human rights, public freedom, and mechanism of its implementation within the same country.

### 112360 Diplomatic Law

This course introduces students to the origins and development of diplomatic law, it also discusses diplomatic immunity and the privileges enjoyed by the diplomatic and consular corps. The course ends with an examination of Vienna treaties of 1961 and 1963 which laid the modern legal foundations for Diplomatic Law, immunity and consular and diplomatic privileges.

### 112406 Constitutional Law 2 (Political Systems)

This course explores the origins and evolution of the system of constitutional governance and the nature and objectives of the Palestine constitution. It also addresses the real practice of political sovereignty and responsibilities and accountability mechanisms in place of the various public authorities.

### 112353 The Palestinian Constitution

This course addresses the historical development of the Palestinian political system. Students will learn about the current constitutional system in effect under the Palestinian Authority and the Basic Law amended in 2003. Students will be exposed to the workings of Palestinian political system and freedoms set forth within it. Finally, students will study the Oslo agreements and their impact on the constitution and political system in Palestine.

### 112474 Criminology

This course is a study of the definition, history, and development of criminology. It also covers the link between criminology and the penal code, the factors behind individual and group criminal behavior and the different theories regarding the causes of such behaviour.

### 112226 International Organizations

This course is a study of both regional and international organizations in terms of development, history, types, and leaders. It is also a study of general theory of an international organization, its legal status and its role in the international community. International organizations considered are the UN, UNESCO, WHO, UNICEF, and other United Nations agencies. Regional organizations examined will include the Arab League, Organization of African Unity, and the Organization of American States.

## **112267 International Humanitarian Law**

This course traces the historical development of the laws of war from the second half of the 19th century. The course examines the most important sources of this law: customary and treaty based. The most significant legal obligations of disputing parties will be discussed together with duties of occupying powers towards the population under its control. The course ends with an illustration of the characteristics of Belligerent Occupation Law and its shortcomings.

## **112408 International Economic Law**

This course will give an introduction to the major themes and issues of international economic law. It will examine the roles of the principal actors in the economic field: states; international economic organizations and multinational corporations and transnational economic transactions. The course will address the issue of globalization and the resulting unbalanced economic relations between northern and southern states under the current economic order.

## **112362 Local Administration- Local Governance:**

Looking at topics related to local administration, the course will cover the rules governing local administration, competences and the relationship with the central administration. Students will learn about the expertise of each administrative body, systems of practice, types of administrative control in the context of democracy and accountability. Students will come away with a sound theoretical basis of Administrative Law and its relationship with ensuring respect for rule of law and protecting public interests.

## **112363 Law and Military Justice:**

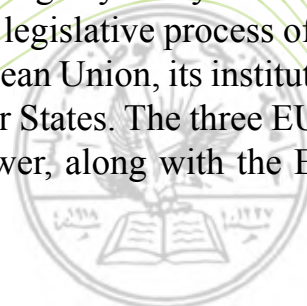
This course examines Palestinian military laws, laws of the security services, judiciary and military courts in terms of types and competences.

## **112480 Nationality Law and the Status of Aliens:**

This course focuses on the general theory of citizenship in terms legal nature, basic rules underlying the system and ways to prove citizenship in cases of: duplication, absence, loss, retrieval. It also includes a study of the status of aliens, their rights and obligations.

## **112481 EU Law:**

The course will provide students with a sound knowledge of the fundamental processes of European law and legal institutions, including any treaty frameworks of the European Union and the Council of Europe and the legislative process of the EU. Students will learn about the establishment of the European Union, its institutions and the legal system that regulates its relations with Member States. The three EU powers will be discussed: legislative power and executive power, along with the European judicial system.



## 112478 Environmental Legislations and Urban Planning

Students in this course will learn about local legislations aimed at the protecting the environment and preventing pollution. The course will aims to increase students knowledge about ways to protect the environment and principals sustainable development. Further, students will be introduced to international environmental laws, particularly those related to water and natural resources. Students will learn about urban planning laws related to planning in both cities and villages, and different committees charged with planning, their powers and their formation.

## 112367 Crimes Violating the State Security:

In this course students will study crimes perpetrated against the State, for example; conspiracy, treason, espionage and crimes against the constitution, terrorism and others.

## 112364 Palestinian Legislative History:

The course addresses legislative developments within modern Palestine from the late Ottoman rule to the British Mandate, through periods of Jordanian and Egyptian rule to the current Israeli occupation, identifying the characteristics of legislative policy during these periods.

## 112471 Forensics

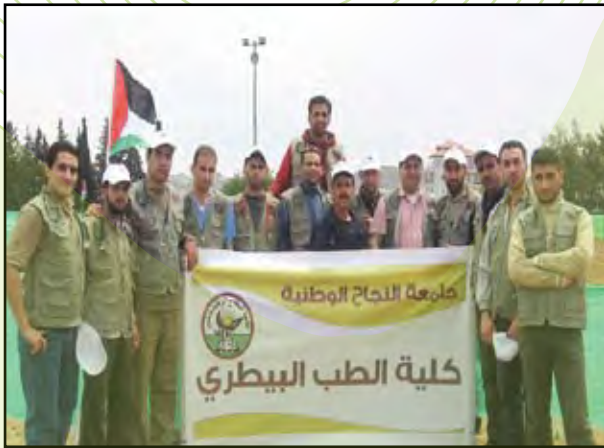
This course is a study of various forms of suspicious deaths, for example, murder, honour crimes, rape and methods of identification including fingerprinting, use of forensic doctors and their specialties. The course will further teach students techniques used in discovering forgery and fraud.

## Commercial Law 111251

In this Course, the student studies the principles of commercial law regrading its definition, commercial deeds, stores, merchants.

In addition, this course tackles the general rules for commercial companies, bankruptcy and general rules for commercial papers Bill of exchange (drawal documents)cheques, and Banking operations such as: current, account Banking deposits, documentary credit.

# COLLEGE OF VETERINARY MEDICINE





# COLLEGE OF VETERINARY MEDICINE:

## Introduction

The College of Veterinary Medicine was established on the land of Khadouri, Tulkarem, in 1999, as a response to the national need for the improvement of animal health and the increase of productivity by increasing animal numbers, and the reduction of production costs. This college, the first in Palestine, hopes to make significant contribution to the improvement of national income, provide food security and maintain safe public health. At present, the college has two departments: Basic Veterinary Sciences, and Clinical Veterinary Sciences. In addition, the college is home to a number of facilities, labs, clinics, centers and units. These facilities are used to provide training for college students and veterinarians in the private and public sectors. The college facilities also provide services and consultancies to institutions and farms concerning animal health problems.

## Specialization Requirements:

To join the College of Veterinary Medicine, a student must have completed high school (tawjihi), scientific stream, with an average of no less than 75%. To obtain a B.Sc. degree in veterinary medicine, a student must successfully complete 174 credit hours distributed as follows: University Requirements 23, and College Requirements 151. These include both compulsory and elective courses

Course #	Course title	Credit hrs	Prerequisite
24101	Biology 1	3	-
24107	Biology 1 lab	1	24101
24102	Biology 2	3	24107+24101
24108	Biology 2 lab	1	24102
23101	Chemistry 1	3	-
23107	Chemistry 1 lab	1	23101
23102	Chemistry 2	3	23101
23108	Chemistry 2 lab	1	23102
23233	Organic chemistry	3	23102
23237	Organic chemistry lab	2	23233
25202	Biostatistics	3	-
27120	Introduction to computer	3	-
Total		27	

## B. Obligatory courses from College of Veterinary Medicine (119 credit hours)

Course No.	Title	C.H (T+P)	Prerequisite
12221	Animal physiology 1	4(3+1)	24101,24102
12222	Animal physiology II	3(2+1)	12221
12223	Biochemistry	4(3+1)	23233,23273
12225	Animal Husbandry	3(2+1)	24102
12226	Genetics and breeding	2(2+0)	12225
12231	Veterinary anatomy I	3(1+2)	24102,24108
12232	Veterinary Histology and embryology	3(2+1)	12231
12241	Veterinary anatomy 2	3(1+2)	12231
12242	Basic Vet. Microbiology	3(2+1)	24102,24108
12258	Poultry management	2(1+1)	12225
12382	Animal nutrition	3(2+1)	12223,12222
12341	Veterinary immunology	3(2+1)	12242
12342	Veterinary virology	3(2+1)	12242
12343	Veterinary parasitology 1	3(2+1)	12242
12344	Veterinary parasitology II	3(2+1)	12343
12345	Veterinary Bacteriology & Mycology	4(3+1)	12242
12352	Veterinary Pathology I	4(3+1)	12232,12222
12372	Veterinary Pharmacology & Toxicology	4(3+1)	12222,12223
12399	Practical training I	3(0+9)	Dept. approval
12451	Veterinary Pathology II	4(2+2)	12352
12454	Vet. Clinical pathology	2(1+1)	12345,12352
12455	Poultry diseases	3(2+1)	12258,12345
12461	Dairy hygiene	3(2+1)	12345
12464	Meat hygiene	3(2+1)	12352, 12345
12473	Vet. Internal Medicine I	3(2+1)	12352,12241
12474	Vet. Infections diseases	3(3+0)	12345
12482	Veterinary surgery 1	3(2+1)	12372, 12241
12484	Theriogenology I	3(2+1)	12222,12241
12499	Practical training	6(0+18)	Dept. approval
12554	Forensic Medicine	1	12372,12451
12562	Epidemiology	3	12474,12451
12571	Vet. Internal Medicine II	3	12473
12572	Small Animal's Medicine and Surgery	3(2+1)	12482, 12473
12581	Veterinary surgery II	3(2+1)	12482
12583	Theriogenology II	3(2+1)	12484
12591	Clinic 1	4(0+4)	12451,12482
12592	Clinic 2	4(0+4)	12591
12511	Ethics and laws in Vet. Medicine	1	12554
12515	Animal and environment	1	12345



### **C. Elective courses from the College of veterinary medicine (5) credit hours from the following:**

Course No.	Title	C.H
12471	Clinical Pharmacology	2(1+1)
12522	Clinical chemistry	2(1+1)
12552	Fish Sciences Ichthyology	2(1+1)
12570	Drug evaluation	2(1+1)
12574	Equine medicine & surgery	2(1+1)
12584	Vet. Anaesthesiology	2(1+1)
12585	Diagnostic Imaging	2(1+1)
12576	Ophthalmology	2(1+3)
12521	Molecular biology	1
12513	Veterinary Economic	1
12553	Bee diseases	1
12517	Special topics	1

#### **Course descriptions:**

#### **VET12221 Animal Physiology I**

This is a general physiology course in which the major organ systems are described: the nervous system, the cardiovascular system, blood components and the digestive system.

#### **VET12222 Animal Physiology II**

This is a continuation of Animal Physiology I. Topics highlighted are the respiratory system, renal system, endocrinology, animal reproduction, acid-base balance and thermal regulation.

#### **VET12223 Biochemistry**

This is an introductory biochemistry course which covers the general structure and function of proteins, carbohydrates, lipids and nucleic acids. In addition, the different metabolic pathways and information pathways are discussed.

#### **VET12225 Animal Husbandry**

In this course, different methods of handling and controlling domestic animals, such as cows, sheep, goats, horses and camels, in addition to small animals (dogs and cats), are discussed. The course also covers the identification of different anatomical body organs. Besides, the students will be introduced to methods of writing short essays and reports related to issues and problems in animal husbandry. The students will be evaluated partially on their writing performance.

#### **VET12226 Genetics and Breeding**

This course begins with an introduction to improving animal breeds through the study of cellular structures, such as chromosomes and genes as well as methods of mating selection to obtain genetically improved breeds.

## VET12231 Veterinary Anatomy I

This course covers embalming of animals including bone preparation for study, osteology, arthrology, mycology and cardiovascular systems of different domestic animals. Additionally, the innervation of thoracic, pelvic limbs of the horse, the peritoneum with its reflection and all parts of the digestive system are discussed.

## VET12232 Veterinary Histology & Embryology

This course introduces glass slide preparation, methods of study by light microscope, different intracellular structures such as epithelium, glands, C.T., muscular, nervous, and all animal systems of different domestic animals. Furthermore, electron microscopy photographs, desmosomes and cell to cell pictures and embryonic development starting from fertilization to implantation inside the uterus are presented.

## VET12231 Veterinary Anatomy II

This course covers the pleura and its reflection, respiratory, urinary, male and female genitals, in addition to the anatomy of the nervous system, lymphatic, eye and hoof. A brief description of poultry anatomy is also given.

## VET12242 Basic Veterinary Microbiology

This course deals with the structure, physiology, growth, nutrition classification of microbes, their mode of infection, virulence, and hosts with emphasis on veterinary health aspects.

## VET12258 Poultry Management

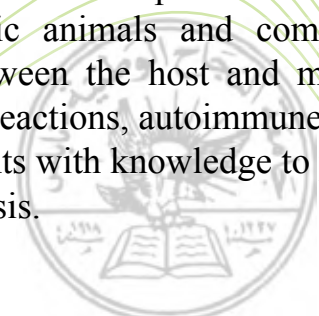
This course is designed to provide basic and applied knowledge on sound management of various poultry enterprises: breeder, layer, broiler flocks, hatcheries and feed mills. It also covers poultry house design, ventilation systems, drinking, feeding systems, environmental management, sanitation, disinfection and vaccination. The role of bio-security in the poultry industry is defined.

## VET12382 Animal Nutrition

This course is a study of basic nutritional requirements for all species of domestic animals and the metabolic differences. Further, it covers ration components and the diagnosis of diseases resulting from under-or-overfeeding of different constituents with emphasis on sick animals' rations.

## VET12341 Veterinary Immunology

This course begins with an overview of the fundamental concepts of immunology with emphasis on the immune system of domestic animals and comparative immunology. Then, it moves to the interaction between the host and microbial pathogens, mechanisms that underlie hypersensitivity reactions, autoimmune disease and immune deficiency. In addition, it provides students with knowledge to perform different serological techniques used in disease diagnosis.



### VET12342 Veterinary Virology

This course covers general virology, systemic virology and practical virology. The general virology unit includes virus evaluation, host range, and virus classification. The systemic virology unit includes important viral diseases of cattle, sheep, goats, equine, poultry and canine. The practical virology unit includes the proper collection, presentation and submission of specimens for laboratory diagnosis of viral diseases.

### VET12343 Veterinary Parasitology I

This course highlights general aspects of parasitic infection in different animals, in addition to classification, description of external features of parasites, internal parasites, molecular infection and epidemiology of parasitic infections.

### VET12344 Veterinary Parasitology II

This course covers external parasites and ticks in particular. In addition, the course teaches classification of parasites, epidemiology, and methods of tick control.

### VET12354 Veterinary Microbiology

The course deals with the study of different groups of aerobic and anaerobic bacteria, spirochetes, mycoplasmas, Chlamydia, fungi, yeast and mold, with emphasis on their methods of classification, virulence and distribution in different animal species.

### VET12372 Veterinary Pharmacology and Toxicology

This course deals with the principles of drug action, including pharmacokinetics, mode of action, drug interactions, major side effects and important drug toxicities. Emphasis is placed on the general principles of drugs that alter tissue and system functions and antimicrobial and anti-parasitic drugs, the effects of common toxic chemicals, plants and poisons on animals with special emphasis on clinical manifestation, diagnosis prevention and treatments.

### VET12352 Veterinary Pathology I

Main anatomical and functional changes which found in animal diseases are discussed. Besides, cellular identification, inflammation and tamers are covered.

### VET12399 Practical Training

The students will be trained in veterinary laboratories, off the university campus, to learn clinical laboratory methods.

### VET12451 Veterinary Pathology II

This course will expose students to the pathological changes of different body systems, with emphasis on congenital, bacterial infections, metabolic, nutritional and immunological disturbances.

### VET12454 Veterinary Clinical Pathology

This course covers methods of hematological and body fluid examination, liver, pancreas and kidney function tests in order to make laboratory interpretations.

## VET12455 Poultry Diseases

This course is designed to give basic and practical knowledge on diagnosis, treatment, and preventative measures against bacterial, parasitic, fungal, and nutritional diseases that occur in chickens, turkeys and caged birds.

## VET12461 Milk Hygiene

Students learn about physical and chemical properties of adulteration, quality evaluation of milk, sources of contamination, heat treatment, zoonotic diseases transmitted through milk and milk products. The course ends with an examination of milk for drug residues.

## VET12464 Meat Hygiene

Students, in this course, are introduced to meat inspection for bacterial, viral, and parasitic infections of slaughtered animals. Detection of chemical residues in meat and poultry, and judgment of fitness of the meat for human consumption are covered.

## VET12473 Veterinary Internal Medicine I

The purpose of this course is to provide the students with a basic understanding of the general systemic status and the clinical approaches of diagnosis and treatment of common medical diseases of domestic animals.

## VET12474 Veterinary Infectious Diseases

This course covers diseases caused by viruses, bacteria, parasites, and fungi affecting different domestic animals, in addition to the causative agents, clinical symptoms, diagnosis, treatment and control.

## VET12482 Veterinary Surgery I

This course offers the basic knowledge of veterinary surgery and anaesthesiology. It discusses the general principles of pre-surgical, surgical and post-surgical considerations.

## VET12488 Theriogenology I

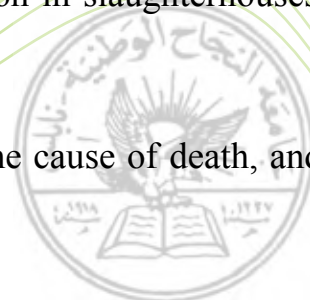
This course covers male and female genital systems, puberty follicular development, genesis, ovulation, fertilization and estrous in domestic animals, in addition to semen collection, evaluation, preparation, freezing and artificial insemination.

## VET12499 Practical Training

This course deals with diseased cases presented to the university Veterinary Health Center, as well as those presented to specialized clinics and farms outside the university. In addition, students will be trained for meat inspection in slaughterhouses, and in morbid anatomy.

## VET12554 Forensic Medicine

This course deals professionally with the study of the cause of death, and legally with crimes against animals.



### VET12562 Epidemiology

This course includes the epidemiology and prevention of infectious and chronic diseases and their effects on human health and environment. Also, it includes the basis of biostatistics related to veterinary medicine and animal productivity.

### VET12571 Veterinary Internal Medicine II

This is an extension of 12473.

### VET12581 Veterinary Surgery II

The course includes general knowledge of common surgical problems in domestic animals, and lameness diagnosis in horses using the X-ray method.

### VET12583 Theriogenology II

This course covers the physiology, pathology of pregnancy, and methods of pregnancy diagnosis in farm animals. Additionally, congenital anomalies, parturition, dystocia, sterility and their treatment are included.

### VET12591 Veterinary Clinic I

This course covers skills concerning diagnosis and treatment of diseases in different animal species referred to the Veterinary Health Center or through field services.

### VET12592 Veterinary Clinic II

Continuation of Veterinary Clinic I.

### VET12511 Ethics and Laws in Veterinary Medicine

The course covers the development of the veterinary profession among ancient civilizations. Description of laws related to the veterinary profession in all mentioned civilizations, with emphasis on activities related to animals and their production, at national, regional and international levels are covered.

### VET12515 Animals and Environment

This course focuses on the inter-relationship between animals and the environment in addition to the effect of animals on the environment and vice-versa. Animal Diseases resulting from environmental changes are also covered.

## ACADEMIC STAFF

### *Associate Professors*

Salameh Barhom

(Veterinary Microbiology)

Ph.D. In Veterinary Medicine,  
Hungarian Academy of Science, Hungary, 1983.

### *Assistant Professors*

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Ph.D. In Veterinary Medicine,  
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### *Instructors:*

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MPVM. In Preventative Medicine

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M.V.Sc. (Surgery and Anesthesia)

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### *Assitant Researcher:*

Bassam Ali Abu Shanab

B-Pharm, R-Pharm,

University of Karachi, Pakistan 1980.





# FACULTY OF INFORMATION TECHNOLOGY



# FACULTY OF INFORMATION TECHNOLOGY

The establishment of the Faculty of Information Technology in 2000 came in full harmony with the university's philosophy of providing high quality education to Palestinian students. It came also as a response to the needs of local, regional, and international markets for I.T. graduates.

At present, the Faculty has three departments: the Department of Computer Science, the Department of Management Information Systems and the Department of Computer Information Systems. All three departments have undergraduate programs. The Faculty is home to several computer labs, equipped with high-tech equipment, for the training of students and for conducting research.

The Faculty has plans to offer new academic programs in the future, to accommodate the changing needs of Palestinian society.

Faculty Requirements: 24 credit hours

Course #	Course Title	Credit Hours	Prerequisite
21101	Calculus I	3	
21102	Calculus II	3	21101
21231	Methods of Statistics I	3	
131101	Principles of Programming I	3	
131102	Principles of Programming II	3	131101
131201	Technical Report Writing	3	10103
132219	Introduction to Management Information Systems	3	
133204	Web Programming I	3	131102

## **Course Descriptions**

### **MTH21101: Calculus I**

Topics covered in this course include analytic geometry, continuity, limits, definite and indefinite integration, applications of integration and differentiation.

### **MTH21102: Calculus II**

This course introduces integration and differentiation of exponential and logarithmic functions, trigonometric and partial trigonometric functions, and methods of integration, polar coordinates, conic sections, extraordinary integration and indefinite quantities.

### **STAT21231: Methods of Statistics I**

Topics covered in this course are statistical data classes, measures of central tendency and variability, probability, concepts and calculations. In addition, the course covers discrete and continuous random variables and probability distributions, as well as binomial and normal distributions and sampling distributions. The course ends with point and interval estimates for population means and testing hypothesis for population means.

### **COM131101: Principles of Programming I**

This course begins with an introduction to computers, hardware and software and problem solving. This course also includes an introduction to programming using C/C++ including; I/O; expressions and arithmetic; if, while and for statements; one-dimensional arrays, string handling, functions, scope, recursion, and matrices.

### **COM131102: Principles of Programming II**

This course covers more advanced C/C++ programming features including pointers, dynamic memory, structures, text files, binary files, classes and objects.

### **COM131201: Technical Report Writing**

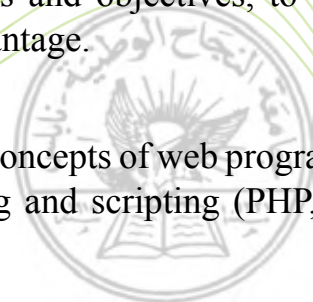
This course focuses on report writing skills. It is designed to equip students with the principles of scientific and business writing. By the end of the course, students are expected to have mastered the process of professional report writing.

### **MIS132219: Introduction to Management Information Systems**

This course is an introduction to management information systems and information technology. It provides a foundation for the intelligent use of computers as management tools. This course will assist business students in learning how to use and manage information technology to support business operations and objectives, to improve managerial decision-making and gain competitive advantage.

### **CIS133204: Web Programming I**

This is an introduction to internet applications, basic concepts of web programming, HTML, XHTML, Javascript, server-side programming and scripting (PHP, XML), and web site creation case studies.



# DEPARTMENT OF COMPUTER SCIENCE

Admission into the B.Sc. Program in Computer Science:

To major in Computer Science, the student must satisfy the following conditions:

1. Completion of Calculus (21101) and (21102).
2. Completion of the computer science courses: Principles of programming I (131101) and Principles of programming II (131102) with an average of 70% or more.
3. Completion of 30 or more credit hours.

In case of competition among applicants, priority of admission will be given to higher averages in the two programming courses: 131101 and 131102.

Graduation requirements for the B.S. degree in Computer Science:

The student has to complete 131 credit hours distributed as follows:

- a. 26 credit hours as university requirements.
- b. 24 credit hours as college requirements.
- c. 81 credit hours as department requirements (60 Compulsory + 21 Elective ).

## Department requirements:

### A. Compulsory requirements (60 credit hours):

Course #	Course Title	Credit Hours	Prerequisite
21201	Calculus III	3	21102
21241	Linear Algebra I	3	21201
22211	General Physics I for CS	3	-----
22212	Lab for General Physics I for CS	1	-----
131210	Data Structures	3	131102
131212	Design and Analysis of Algorithms I	3	131210 or 131211
131230	Unix environment and tools	3	131102
131231	Discrete Mathematics	3	131102 or 131112
131241	Digital Logic Design	3	131102 or 131112
131242	Digital Logic Design Lab	1	131241
131243	Computer Organization and Assembly Language	3	131241
131311	Programming Languages	3	131210 or 131211
131314	Object Oriented Programming	3	131210 or 131211
131321	Computer Architecture	3	131243 + (131210 or 131211)
131351	Software Engineering	3	131210 or 131211
131353	Database Management Systems I	3	131210 or 131211
131362	Introduction to Compilers Design	3	131210 or 131211
131421	Operating Systems I	3	131243
131453	Database management systems II	3	131353
131473	Computer Networks	3	(131210 or 131211) +131241
131497	Graduation Project I	1	Department approval.
131498	Graduation Project II	3	131497

**B. Elective requirements: 21 credit hours chosen from the following:**

Course #	Course Title	Credit Hours	Prerequisite
21321	Numerical Analysis I	3	21241
21322	Linear Programming	3	131102 + 21241
22231	Electronics (1)	3	22211
131312	Design and Analysis of Algorithms II	3	131212
131317	Advanced Programming	3	131210 or 131211
131358	Multimedia Systems and Applications	3	131314
131361	Automata Theory	3	131210 or 131211
131371	Computer Graphics	3	131210 or 131211
131372	Computer Simulation	3	(131210 or 131211) + 131231
131375	Introduction to Geospatial Information Systems	3	131353
131391	Special Topics I	3	Department approval.
131422	Operating Systems II	3	131421
131431	Graph Theory	3	(131210 or 131211) + 131231
131474	Networks Programming	3	131473
131480	Distributed Systems and Parallel Processing	3	131421 + 131473
131483	Artificial Intelligence	3	131210 or 131211
131491	Special Topics II	3	Department approval.

**Courses for non-majors:**

Course #	Course Title	Credit Hours	Prerequisite
131120	Introduction to Computers for Non-Majors	3	-----
131221	Programming in BASIC	3	-----
131222	Programming in FORTRAN	3	-----
131223	Programming in COBOL	3	-----
131224	Programming in PASCAL	3	-----
131271	Application Software	3	Department approval.
131111	Computer Programming I	4	-----
131112	Computer Programming II	4	131111



## **Course Descriptions:**

### **COM131101: Principles of Programming I**

This course begins with an introduction to computers, hardware and software and problem solving. This course also includes an introduction to programming using C/C++ including; I/O; expressions and arithmetic; if, while and for statements; one-dimensional arrays, string handling, functions, scope, recursion, and matrices.

### **COM131102: Principles of Programming II**

This course covers more advanced C/C++ programming features including pointers, dynamic memory, structures, text files, binary files, classes and objects.

### **COM131201: Technical Report Writing**

This course focuses on report writing skills. It is designed to equip students with the principles of scientific and business writing. By the end of the course, students are expected to have mastered the process of professional report writing.

### **COM131210: Data Structures**

This course is an introduction to various data structures using an object oriented language such as Java. The course covers lists, stacks, queues, heaps, trees, search trees, hash tables, analysis and implementation of data structures, recursion, sorting, and searching.

### **COM131212: Design and Analysis of Algorithms I**

Students are introduced to techniques used in analysis of algorithms and design methods: divide and conquer, dynamic programming, greedy algorithms, recursive, searching and sorting algorithms, complexity analysis.

### **COM131221: Programming in BASIC**

This course involves problem-solving using BASIC, flowcharts, input and output statements, control statements (if statement and loops), data types, subprograms.

### **COM131222: Programming in FORTRAN**

This course highlights problem-solving using FORTRAN, flowcharts, input and output statements, control statements (if statement and loops), data types, subprograms.

### **COM131223: Programming in COBOL**

This course focuses on problem-solving using COBOL, flowcharts, input and output statements, control statements (if statement and loops), data types, subprograms.

### **COM131224: Programming in PASCAL**

This course involves problem-solving using PASCAL, flowcharts, input and output statements, control statements (if statement and loops), data types, subprograms.

### **COM131230: UNIX environment and tools**

Introduction to UNIX operating system, interface, environment, commands, tools, and applications. Also, students are introduced to programming under UNIX environment.

### **COM131231: Discrete Mathematics**

Topics covered are set theory, statements, mathematical induction, propositional and predicate logic, Boolean algebra, relations, functions, counting methods, graph theory, recurrence relations and examples applicable to computer science.

### **COM131241: Digital Logic Design**

Students are introduced to Boolean algebra, minimization of Boolean functions using Karnaugh map and Quine-Mc-Cluskey methods, design of combinatorial circuits, design of complex digital circuits, sequential circuits, state assignment and minimization, design of a simple computer incorporating general registers, common addressing modes and conditional instructions.

### **COM131242: Digital Logic Design Lab**

A continuation of Digital Logic Design 131241, this course will be devoted to the implementation of lab experiments on some of the basic digital circuits studied in Digital Logic Design.

### **COM131243: Computer Organization & Assembly Language**

Topics covered are the organization and operation of a conventional computer, including principal instruction types, data representation, addressing modes, program control and I/O, assembly language programming, including instruction mnemonics, symbolic address, assembly directives, system calls and macros, the usage of one and two pass assemblers, debuggers, linkers and loaders, embedding assembly code in high level language.

### **COM131271: Application Software**

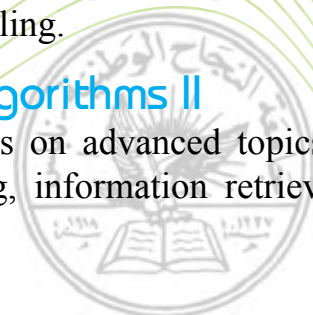
This course introduces students to modern software packages applicable to different fields.

### **COM131311: Programming Languages**

This course dwells on syntax and semantics specification, discussion and comparison of basic programming styles and their underlying paradigms, such as imperative, functional, logic, and object oriented programming, data types, subprograms, run-time stack, parameter passing methods, exception handling.

### **COM131312: Design and Analysis of Algorithms II**

A continuation of COM131212, this course focuses on advanced topics: graph theory, searching in constant strings, task scheduling, information retrieval, data compression, and parallel algorithms.



## COM131314: Object-Oriented Programming

This course introduces object-oriented programming concepts using C#. The course covers: class derivation, inheritance, dynamic polymorphism, object oriented analysis and design using UML language.

## COM131317: Advanced Programming

Students, in this course, learn about construction of large multi-module software systems using object oriented programming. Also, students learn about an Integrated Development Environment (IDE) that support graphical user interface, produce different kinds of applications using different even driven techniques.

## COM131321: Computer Architecture

This course is an introduction to computer system organization and architectures, description of computer systems, memory hierarchy, central processing unit (CPU), instructions set and cycle, pipelining and super-pipelining, control unit, micro-programming, parallel computers.

## COM131351: Software Engineering

This course examines the software development process; analysis, specification, design, implementation, integration, testing, and maintenance. It covers software processes, project management, people management, software requirements, system models, architectural and detailed design, user interface design, programming practices, verification and validation, and software evolution. Structured software engineering techniques will also be examined.

## COM131353: Data Base Management Systems I

Students are introduced to database system concepts and architecture, data modeling using E-R Model, Relational model, Normalization, Operations on Relational model, Relational constraints and Relational Algebra, SQL-the relational database standard, security in SQL and a PL/SQL overview. Furthermore an overview of the Oracle system, Distributed databases and client-server Architecture will be provided.

## COM131358: Multimedia Systems and Applications

This course gives an introduction to multimedia (MM) contents and the tools that produce MM contents. It also covers the design of a MM system considering the necessary resources in the form of CPU power, memory, bandwidth and storage system. The students will be able to produce MM applications that can run locally and over a network.

## COM131361: Automata Theory

Topics covered include formal models of computation such as finite state automata, push down automata, Turing machines along with the corresponding elements of formal languages, including regular expressions, context-free languages, and recursively enumerable languages, un-decidable problems and related topics.



## COM131362: Introduction to Compilers Design

In this course, students learn about formal language and automata, overview of compiler phases, context-free grammars, syntax, directed translations, techniques used in lexical scanning, parsing and symbol table implementation, error diagnosis and recovery.

## COM131371: Computer Graphics

This course covers basic graphics operations and their implementations in 2 dimensions, introduction to OpenGL, devices for construction and display of computer-generated images, windowing and clipping, 2D geometric, transformation and viewing, 3D object representation, transformation and viewing.

## COM131372: Computer Simulation

This course examines simulation and queuing models, random numbers generation, statistical sampling and analysis of data, simulation languages and selected applications.

## COM131375: Introduction to Geospatial Information System

This course includes an introduction to GIS, GIS applications and Geospatial data, digital representation of Geospatial data, VECTOR Based GIS and RASTER based GIS.

## COM131391: Special Topics I

Modern topics in computer science are chosen by the department.

## COM131421: Operating Systems I

This course covers operating systems history, basic issues in concurrency, deadlock control, synchronization, scheduling, memory management, process management, resource management, protection, access control, implementation of parts of a small operating system.

## COM131422: Operating Systems II

This course covers advanced topics in operating systems, comparative studies of different types of operating systems and studies of a modern operating system in depth.

## COM131431: Graph Theory

Topics include graph types and representation, trees and fundamental cycles, network flows, matching, graph coloring and scheduling.

## COM131453: Database Management Systems II

Students will study advanced concepts in creating and managing tables. In addition, they will learn Distributed DB concepts, create and maintain constraints, and create views, PL/SQL block and its sections. They also learn about Triggers, functions, procedure and packages, along with Database connectivity (ODBC, OLE, and ADO), managing users. Practical tools are used to implement the different concepts. Form builder, report builder and Oracle 10g are used.

### COM131473: Computer Networks

This course begins with an introduction to basic notations of communications, protocols, network topologies and 802.xx IEEE standards. Detailed descriptions of network layer models (IOS and TCP/IP) include; Application, Transport, Network, Data link and physical. Local area networks setting and configuration (case study) and introduction to NW security.

### COM131474: Network Programming

Students in this course learn how to use network protocols in transferring data between different applications, TCP and UDP protocols, uni-casting, multicasting and broadcasting. Introduction to socket API, construction of distributed applications, error detection and design of Internet applications.

### COM131480: Distributed Systems and Parallel Processing

This presents an introduction to Distributed systems, the Internet as a case study, introduction to parallel processing, multithreading, parallel processing interfaces and applications.

### COM131483: Artificial Intelligence

Students receive instruction on basic concepts and techniques of artificial intelligence. Emphasis is placed on problem solving methods: blind and informed search, game playing: minimax and alpha beta pruning algorithms, representation of knowledge using predicate logic, resolution, backward-chaining and Prolog, forward-chaining systems, inductive learning, decision trees, neural networks, planning and reasoning under uncertainty.

### COM131491: Special Topics II

Students are introduced to advanced selected topics in different areas of computing.

### COM131497: Graduation Project I

In Fourth year, students are required to form groups, choose the subject of their project, and make initial investigations and analysis, and layout the architecture of their project. This course also helps the students to determine the necessary tools for implementing their project.

### COM131498: Graduation Project II

In Fourth year, students are required to make a complete investigation, analysis, programming and implementation of a selected system. The students are required to deliver a presentation and demonstrate their work in front of a 3 person committee from the department.

# DEPARTMENT OF MANAGEMENT INFORMATION SYSTEMS

Admission into the B.Sc. Degree in Management Information Systems (MIS):

To major in Management Information Systems, the student must satisfy the following conditions:

Completion of Introduction to Management Information Systems (132219);

Completion of Principles of Programming I (131101) and Principles of Programming II (131102);

The student must score an average of at least 70% in the three courses: 132219, 131101, and 131102;

Completion of 30 credit hours.

Priority for admission is given to those students having the highest average of the 3 courses: 131101, 131102, and 132219.

Graduation Requirement for the B.Sc. Degree in Management Information Systems:

The student has to complete 134 credit hours distributed as follows:

⇒ University requirements: 26 credit hours;

⇒ Faculty requirements: 24 credit hours;

⇒ Department requirements: 84 credit hours (66 Compulsory + 18 Elective).

⇒ Department Requirements:

## A. Compulsory Requirements (66 credit hours)

Course #	Course Title	Credit Hours	Prerequisite
21232	Methods of Statistics II	3	21231
51121	Principles of Management	3	
51410	Strategic Management	3	Dept. approval
52124	Skills in Accounting	3	
56121	Principles of Finance	3	
131210	Data Structures	3	131102
132222	Organizational Development and Behavior	3	51121
132260	Operations Management	3	133256
132270	Database Management and Application	3	131210 or 131211
132320	Business Communications	3	
132324	Security of Information Technology Systems	3	131353 or 132270
132334	Quality Assurance Models and Standards for Software Development	3	131210 or 131211
132335	Business Networking And Telecommunication Technology	3	132219 or 132220
132336	System Analysis	3	132270 or 132333
132338	Visual Programming	3	132270
132414	Advanced Database Application	3	132270
132413	Expert Systems and Decision Support Systems	3	132270
132423	Project Management	3	132260 or 132223
132436	Internship In MIS	3	Dept. approval
132430	MIS Project	3	Dept. approval
133256	Operations Research	3	21232
133383	Web Programming II	3	133204+ (132270 or 131353)

## B. Elective Requirements (18 credit hours) chosen from the following:

Course #	Course Title	Credit Hours	Prerequisite
51360	International Business	3	51121
56313	Financial Management	3	56121
132426	Topics in Information Technology	3	Dept. approval
132432	Multimedia Technology	3	133204 or 132225
132434	Marketing Management Information Systems	3	132260 or 132223
132438	E-Commerce	3	133204
132437	Decision Analysis	3	Dept. approval
133203	Information Technology Infrastructure	3	132219 or 132220 or 133201
133440	Object-Oriented Analysis and Design	3	131210 or 131211
132380	Business Technology Ethics	3	132219

### Course Descriptions:

#### MIS132219: Introduction to Management Information Systems

This course is an introduction to management information systems and information technology. It provides a foundation for the intelligent use of computers as management tools. This course will assist business students in learning how to use and manage information technology to support business operations and objectives, to improve managerial decision-making and gain competitive advantage.

#### MIS132222: Organizational Development and Behavior

This course introduces the basic concepts of organizational development including human resources development, institutional development tools, streamlining of individual and organizational objectives, and leadership and motivation.

#### MIS132260: Operations Management

Several important aspects of operations management will be addressed in this course. These include forecasting, business planning, master scheduling, materials planning, capacity planning, inventory and purchasing systems, sales and supply chain systems, just-in-time productions and related topics. Emphasis will be placed on computer-use for solving large scale problems.

#### MIS132270: Database Management and Application

The course provides basic coverage of data modeling (entity-relationship diagrams, recursive relationship and binary relationships), the relational data model, the data dictionary, normalization (up to 3NF), and implementation of using a relational DBMS such as Oracle, My SQL, Informix or Sybase.

#### MIS132320: Business Communications

In this course, the basic skills of communications will be presented including listening and comprehension, speech presentations, barriers to communications, technical writing skills including report writing, commercial correspondence, and use of computer for the production of high quality presentation materials.

## **MIS132324: Security of Information Technology Systems**

The course explores the security, privacy and ethics of information, examining viruses to data privacy, hackers and firewalls. The trade-off between security and accessibility will also be investigated.

## **MIS132334: Quality Assurance Models and Standards for Software Development**

This course will address topics in quality concepts such as quality control and quality assurance with applications to software production. Certain models such as capability maturity models (CMM) and software process improvement (SPI) will be presented, as well as management standards such as ISO/IEC 12209. The implications of these systems in organizations will also be presented.

## **MIS132335: Business Networking and Telecommunications**

This is a detailed coverage of system administration in both centralized and distributed I.S. installations, including operation and maintenance of hardware and software resources. Technology and management of computer networks, covering types of networks, protocols and topologies will also be covered. Unix Systems or MS-Windows systems for servers and workstations will be used to set up and administer a small network.

## **MIS132336: Systems Analysis**

After highlighting information systems analysis and logical system design in organizations, the course moves to cover application development strategies, life cycle phases and analysis, gathering techniques, requirements for determination and analysis of an existing program using CASE tool (Oracle's Designer 2000 or others).

## **MIS132338: Visual Programming**

This covers new programming concepts, such as visual programming, that become increasingly the principal tool for business programming, event-driven programming, user interface programming and interfaces with database environments.

## **MIS132380: Business Technology Ethics**

The purpose of this course is to harmonize business decisions with legal and ethical concerns and forecast results of ethical and legal decisions. Students will encounter a variety of 'crossroad' choices involving situations in which they will have to decide when to allow the law to guide their decisions and when to rely upon their understanding of business ethics to channel their actions. Taking decisions beyond litigation components, students will learn to incorporate ethical elements into their legal decisions and forecast the consequences of those decisions.

## **MIS132413: Expert Systems and Decision Support Systems**

This course will look at the definition of the concepts of modern knowledge base systems, the technology required to use these systems, the introduction of methods

in artificial intelligence applications in business, the different types of smart systems such as decision support systems and expert systems, the specifications for systems knowledge base and the acquisition of knowledge representation and reasoning methods and tools to develop expert systems.

### **MIS132414: Advance Database Applications**

The course focuses on the core concepts, methodologies and skills that enable students to develop a database management system for a business case. Through tutorials, students will work on modern database systems and development tools.

### **MIS132423: Project Management**

This course provides an introduction to project development and control. Topics covered include estimating, proposing, scheduling, quality, cost control and reporting of a project through the use of management information systems.

### **MIS132426: Topics in Information Technology**

Advanced topics selected in different areas of Information Technology are chosen by the Department.

### **MIS132430: MIS Project**

This course will give the student the opportunity to solve a real MIS problem related to the business community in Palestine. All problem aspects will be included in the project including project management, hardware and software requirements, performance evaluation of the MIS system and comparison among MIS alternatives.

### **MIS132432: Multimedia Technology**

This course will look at aspects of hardware and software in utilizing and developing multi-media applications and devices. These include standard and specialized devices, as well as formats used in recording, modifying, combining, and playing digital video and audio materials.

### **MIS132434: Marketing Management Information Systems**

The course will address management aspects of the marketing functions in the organization, with respect to automating these functions using a computerized environment. Personnel training and data requirements will be emphasized.

### **MIS132436: Internship in MIS**

During the period of internship, the students will be employed and supervised by firms and are expected to participate in various types of I.T. work in accordance with a plan approved by the Department and the Faculty. The student must complete a four-week period of training during the regular working hours of the firm. This course can be taken in the summer between the student's junior or senior years.

## MIS132437: Decision Analysis

This is an introductory course in decision analysis. It is intended to provide basic knowledge of the main elements involved in decision making, decision making under certainty, risk and uncertainty, decision trees and value information, the Bayesian approach, game theory, integer linear programming, dynamic programming and other relevant topics.

## MIS132435: E-Commerce

The course provides coverage of the various categories of e-commerce, the various e-commerce markets, their limitations and their benefits. Various models and infrastructures that enable e-commerce, its challenges such as legal issues, fraud and security regarding electronic payments will also be discussed. The course also covers the various supplier-buyers models, such as B2B & B2C.



# DEPARTMENT OF COMPUTER INFORMATION SYSTEMS

Admission requirements for the B.Sc. Program in Computer Information Systems (CIS):  
To major in Computer Information Systems, the student must satisfy the following conditions:

1. Completion of Calculus 21101 and 21102.
2. Completion of the computer science courses: Principles of Programming I (131101) and Principles of Programming II (131102) with an average of 70% or more.
3. Completion of 30 or more credit hours.

In case of competition among applicants, priority of admission will be given to higher averages in the two programming courses: 131101 and 131102

Graduation requirements for the B.S. degree in CIS:

The student has to complete 135 credit hours distributed as follows:

- a. University requirements: 26 credit hours.
- b. College requirements: 24 credit hours.
- c. Department requirements: 85 credit hours (67 compulsory + 18 elective).

## Department requirements:

### A. Compulsory requirements (67 credit hours):

Course #	Course Title	Credit Hours	Prerequisite
21232	Methods of Statistics II	3	21231
51121	Principles of management	3	-----
52124	Skills in Accounting	3	-----
131210	Data structures	3	131102
131353	Database management systems I	3	131210 or 131211
131483	Artificial intelligence	3	131210 or 131211
132324	Security of Information Technology Systems	3	132270 or 131353
132334	Quality assurance models and standards for software development	3	131210 or 131211
133205	Introduction to computer organization	3	131210
133203	Information technology Infrastructure	3	133201 or 132219 or 132220
133281	Multimedia systems I	3	133203
133383	Web programming II	3	133204+(131353or 132270)
133334	Information Networks	3	133203
133340	Functional and structural design	3	131210 or 131211
133360	Building systems using RAP	3	131353
133361	Software project management	3	133203+133340
133371	Computer Operating systems	3	133205 or 131211
133400	Practical training	1	Department approval.
133440	Object-oriented analysis and design	3	131210 or 131211
133444	Human computer interaction and user interface design	3	133440+133340
133453	Database administration	3	131353
133464	Information retrieval systems	3	131353
133499	Graduation project	3	Department approval.



## ***B. Elective requirements: 18 credit hours chosen from the following:***

Course #	Course Title	Credit Hours	Prerequisite
131375	Introduction to geospatial information systems	3	131353
131453	Database management systems II	3	131353
132438	E-commerce	3	133204
133256	Operations research	3	21232
133381	Multimedia systems II	3	133281
133467	Data mining	3	131353
133471	Health information systems	3	133440
133480	Distributed systems applications	3	133334
133490	Intelligent information systems	3	131483
133491	Knowledge based systems	3	131483+131353
133492	Special topics	3	Department approval.

## ***Course Descriptions:***

### **CIS133201: Introduction To Computer Organization**

This course provides an introduction to computer architecture, CPU components, instruction life cycle, hard disk organization, main memory types and technologies, internal data representation and instruction set.

### **CIS133203: Information Technology Infrastructure**

This course covers Information technology strategies, infrastructure planning, technology standards and organizations, basic components of an IT infrastructure (architecture, resources, budgeting, strategic and capacity planning, organizational structure, security measures, metrics, vendor relations, etc.), global information infrastructures and the globalization of IT infrastructures (local vs. regional vs global), IT service management, legal aspects of managing IT infrastructures, IT transfer problems and future trends.

### **CIS133204: Web Programming I**

This is an introduction to internet applications, basic concepts of web programming, HTML, XHTML, Javascript, server-side programming and scripting (PHP, XML) and web site creation case studies.

### **CIS133256: Operations Research**

An introduction to the principles and practice of operations research and its role in human decision making, mathematical programming techniques such as linear programming (the simplex method, concepts of duality and sensitivity analysis) and network optimization (transportation and assignment problems).

### **CIS133281: Multimedia Systems I**

Multimedia concepts and terminology, interactive multimedia technology, multimedia data types and formats (graphics, images, animation, audio, video, etc.), desktop publishing,

hypermedia, presentation media, integrated multimedia authoring techniques, techniques for designing and producing multimedia applications, using multimedia-authoring tools, industry standards and future directions in interactive multimedia technology.

### **CIS13334: Information Networks**

This course provides an introduction to; networks, their goals and applications and network scales; signal transmission, synchronous and asynchronous, channel performance measures, transmission media and bandwidth; network layering, OSI and TCP/IP models; network applications and protocols, the internet, DNS and FTP, routing algorithms and addressing, framing and IEEE standards.

### **CIS13340: Functional and Structured Design**

Topics covered include basic concepts, structured languages and evolution of the structured design approach, function-oriented vs. object-oriented design approaches, process modeling and functional decomposition using data flow diagrams (including the mechanics and principles of data flow diagramming), logic modeling using structured NL, decision tables, decision trees, and state-transition diagrams and tables, conceptual data modeling using E-R diagrams, data dictionaries, program and process design using structure charts, top-down decomposition and refinement, transaction analysis, coupling and cohesion, specifying the contents of modules, applications and case studies, CASE tools.

### **CIS13360: Building Systems Using RAP**

Students will be using Modern Application Programming, RAP, tools, modern scripting languages such as Python, Ruby, Loe to create complete data base information systems including GUI .

### **CIS13361: Software Project Management**

This course will cover basic concepts, planning techniques and tools, policies and standards, users needs and requirements, reports and proposals, hardware and software evaluation, economic issues, cost-benefit analysis, managing and organizing system resources, protecting data and programs, project management techniques, non-traditional development techniques, CASE tools, problems of conversion and human-system interface, systems maintenance and re-engineering and system documentation.

### **CIS13371: Computer Operating Systems**

This is a hands-on introduction to different operating systems and tools. Students will gain an understanding and will use the basic concepts of operating systems common to most computer systems such as, processor management and scheduling, memory management, file systems, virtual memory and kernel systems.

## **CIS133381: Multimedia Systems II**

Topics include design and implementation considerations of multimedia systems, storage issues of multimedia systems, and object-oriented and distributed multimedia architectures. Also included are multimedia applications; multimedia databases and information retrieval systems, educational multimedia systems, multimedia in GIS, pattern and image processing concepts, programming for the multimedia, programming sound, image effects etc., using a suitable multimedia and/or programming language, applications and case studies.

## **CIS133383: Web Programming II**

This course reviews the Internet and Internet programming concepts, web servers and web application servers, design methodologies with concentration on object-oriented concepts, Client-Side Programming, Server-Side Programming, active server pages, database connectivity to web applications, adding dynamic content to web applications, programming common Gateway Interfaces and programming the user interface for web applications.

## **CIS133400: Practical Training**

Students will spend 6 weeks of IT related training in a company or an organization.

## **CIS133440: Object-Oriented Analysis and Design**

Topics covered include object-oriented design concepts, features and problems of complex systems, evolution of the object-oriented model, foundations and elements of the object-oriented model, classes and objects, relationships among classes, relationships among objects, the interplay of classes and objects, approaches to identifying classes and objects, object-oriented design methodologies, methodology notation (elements of UML or any other selected notation, class and object diagrams, interaction diagrams, state transition diagrams, process and module diagrams, etc.), the object-oriented software development process (analysis, design and implementation), code reusability, management issues, applications and case studies, CASE tools.

## **CIS133444: Human Computer Interaction and User Interface Design**

Concepts include human information processing (cognition, perception, movement, culture, communication, human diversity, motivation for computer interaction, human performance models, etc.), user interface design principles, information presentation, visual, auditory and tactile displays, speech communication, data entry, controls, tools and feedback, human factors in computer programming, workspace design, environmental and legal considerations.

## **CIS133453: Database Administration**

Students will study database administration issues such as planning, views integration, data dictionary, integrity and security, and database implementations using embedded SQL for various enterprises. Students will learn how to create an operational database, manage users, privileges, resources and database files, start up and shut down, and manage table spaces, segments, extents, and blocks.

### CIS133464: Information Retrieval Systems

Functional view of information retrieval, types of IRS, design issues of IRS (keyword-based retrieval, file structures, thesaurus construction, etc.), IR data structures and algorithms (lexical analysis, stemming, term weighting, associative indexing, Boolean operations, string searching and matching techniques, etc.), relevance feedback and query modification, applications and case studies.

### CIS133467: Data Mining

Knowledge discovery fundamentals, data mining concepts and functions, data pre-processing, data reduction, mining association rules in large databases, classification and prediction techniques, clustering analysis algorithms, data visualization, mining complex types of data (text mining, multimedia mining, Web mining, etc.), data mining languages, data mining applications and new trends.

### CIS133471: Health Information Systems

Sources of health information systems and their relation to health agencies; the origin and purpose, content, assembly, analysis and use of medical records; health care delivery systems, health information management profession, regularity and accrediting requirements of patient care data, health care data development, content structure and use, data collection, quality, access and retention of paper based records, electronic information, image based records, methods of compiling, numbering, filing, and retention of health information.

### CIS133480: Distributed Systems Applications

Basic concepts of distributed systems, design and implementation issues of distributed applications, enterprise client-server architectures, distributed object architecture, object request brokers, software performance engineering and its activities, workload, locality, sharing, efficiency, database, parallelism, middleware and performance, performance tools, data replication, data warehousing, transaction management, transaction monitors.

### CIS133490: Intelligent Information Systems

Intelligence in natural and artificial systems, framework and theoretical foundations of Intelligent Information Systems, knowledge representation, design and architecture, goals and value judgments, Intelligent Information Systems and learning, planning of actions, programming for Intelligent Information Systems, applications and case studies.

### CIS133491: Knowledge Based Systems

This introduces a broad coverage to the concepts of knowledge based systems, demonstrates and overviews the technology needed for using such systems, applications of artificial intelligence in business, types of decision support systems, using expert systems in organizations, major characteristics of knowledge based systems, knowledge acquisition and representation, inference methods, expert systems, development tools and case-based reasoning.

### **CIS133492: Special Topics**

Topics are selected from different areas in Computer Information Systems that are not covered in the description of the courses listed above.

### **CIS133499: Graduation Project**

In Fourth year, students are required to make a complete investigation, analysis, documentation, programming and implementation of a selected system.



# FACULTY OF

# MEDICINE



## **Instructions for the MD degree -the school of medicine at an Najah National University**

Article 1: These are the instructions necessary to obtain the MD degree from the school of medicine at an-Najah University starting from 2009-2010

### **Chapter one The study plan**

Article 2: The council of deans approves this study plan recommended by the school of medicine council

Article 3:

1. this study plan is based on two stages: by the end of the first one the student gets a degree of biomedical sciences bachelor (by the semester system) whereas by the end of the second stage the student gets an MD degree (by the annual system).
2. Each course requires a certain number of credit hours approved by the council of deans and recommended by the school of medicine council. All the courses have their own serial numbers. Moreover, the study plan explicates in detail number of credit hours, number of lectures, seminars, number of lab hours per week, number of field practice hours, or number of clinical training weeks.
3. The credit hours for each course of the first stage (bachelor of biomedical sciences) are assessed on the basis that each 16 hours of lectures, and seminars equals one credit hour, while lab and field practice hours will be assessed separately (according to different courses).
4. 4-What has to do with the second stage (MD), each week of clinical training will be equal to one credit hour. Of course, different training qualifications will match different courses.

Article 4

a-The minimum number of credit hours for obtaining the degree of bachelor in biomedical sciences is 135 credit hours distributed as following:

1. compulsory university courses (20credit hours). All the compulsory courses at an Najah National University and their criteria apply to the medical students
2. The elective courses (6credit hours) will be chosen from a variety of such courses offered by the university and in a manner that is suggested by the school of medicine.
3. The school of medicine's general compulsory courses plus the compulsory and elective specialization requirements (109 credit hours).

- b-The minimum of credit hours needed for completion of the second stage (MD) are 135 credit hours and all are specialization courses in clinical sciences.

## **Chapter two** **Organizing and managing the study process at the first stage** **(the biomedical sciences)**

### Article 5:- Period of study and study load

- a. The school of medicine organizes studying for the bachelor of biomedical sciences that forms a prerequisite for the second stage (MD)
- b. The minimum of the study length is 3 years, while the maximum is 5
- c. The maximum number of credit hours per one year must not exceed 52 credit hours while not more than 21 credit hours per semester, and never more than 10 credit hours per the summer session.
- d. The academic year starts at the beginning of the university academic year and ends by the end of the summer session of the same one. All alterations in the academic calendar are applicable.

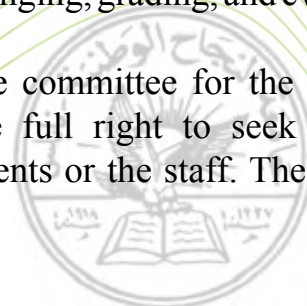
### Article 6: Persistence

- a. It is very important in all lectures, discussions, practical training, and field visits according to certain schedules (each for each course) as pointed out in the study plan.
- b. Unexcused absence must not exceed 12.5% of the total hours of each course.
- c. If the absence exceeds the allowed percentage without any justified EXCUSES, the student will get an F that will be put into his annual records for that very year, yet he will be able to move to the next academic year following the instructions.
- d. Withdrawal is when a student's justified absence exceeds 25% of the total hours. Accordingly, this fact will be put into his records.
- e. The faculty dean in addition to department chairs, teaching staff and dean of admission are all responsible of the implication of all these rules.

## **Article 7: Exams, Grades, and Averages**

### **Firstly:**

- a-The faculty of medicine council is responsible of arranging, grading, and evaluating the exams.
- b-The dean appoints a special committee called the committee for the bachelor of biomedical sciences examinees that has the full right to seek answers to COMPLAINTS posed either by one of the students or the staff. The resulted recommendations will be referred to the dean.





- c-Each final grade for each course will be recorded both in numerals and letters.
- d-1: All final grades received by the student (including university compulsory courses) are the sum of the final exam grades in addition to the grades for the work throughout the semester.
- 2-Some courses such as first aid, and history of medicine are given no grades. Instead, they are evaluated as FAILED or PASSED and are not calculated into the year's average and so are some university compulsory courses as computer and community service courses.

### Secondly:

The general outline for the exams for students of the bachelor of the biomedical sciences will be as following:

a-Grade distribution for the basic medical sciences:

- 1-Semester work receives 50% of the final grade provided by that two written semester tests each with weight of 25% of the total grade, or one single test will be carried out with weight of 25% of the total grade and the rest of the 25% will be graded for short tests and other work.
- 2-The final exam weighs 50% of the total grade and is carried out after the completion of the entire course. This final exam will include a practical part that will be given a proper evaluation.

b-1; The sum of the credit hours for taken courses will make the semester grade for each semester (except article 7-firstly and d-2).

2-The school of medicine council is the body responsible for appointing exams (except the university compulsory courses)

c-1-Appointing exams, grading, and such will be set in approval of the interested department and the consent of the school of medicine council (whether these are written records or electronic ones accredited by the university)

2-In case of joint courses among more than one department, the school of medicine council will appoint an educational unit that would involve all the staff members that teach that very course. Also, a coordinator will be appointed in order to facilitate the educational process and the necessary follow-up in addition to grading and preparing exams.

d-when a student fails a course, he will have to register again for the very course and pass it.

### Article 8

Approving the grades and keeping model answers

- 1-Once the department council approves grades, they will be sent to the deanship
- 2-Records of the final grades will be sent to the admission deanship, and therefore

announced according to the regulations.

- 3-Copies of students' answers along with two exam papers and a copy of model answers are kept at the deanship for 2 months and then are discarded in accordance with the dean of the school of medicine and dean of admission.
- 4-Students' final exams answers are not returned to students and are discarded in a year time.

### **Article 9:**

1- Absence during exams

- 1-All who do not sit for exams because of some urgent reasons must prove that in three day time for the dean. In case of consent, a new exam will be appointed.
- 2-anyone who does not sit for an announced final exam without accepted justification will fail it.
- 3-In case that does not sit for a final exam, but his justification is accepted by the dean, will have his final rescheduled by the chair in ten day time. Following, the dean will inform the admission deanship.
- 4-When a student does not sit for a final, yet has an accepted justification, he will receive INCOMPLETE until he gets his exam according to article 9-part 3

### **Article 10 Grade reviewing and complaints**

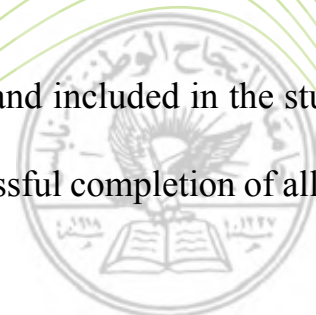
- 1-Any student can ask the admission deanship to double-check his grades in three day time after the announcement of the results, and the dean will double-check if there has been any mistake in grading, or whether there have been any upgraded questions. All that will be carried out by the dean, the chair, and the teacher of the given course. In such cases, the student will have to pay fees for this service.
- 2-students have the right to send an exceptional complaint to the dean of the admission in no longer than two week time after the results have been announced, therefore the school of medicine dean will double-check if there are any mistakes in the paper ,all that via the committee for the biomedical examinees. As well, student will pay the necessary fees.

### **Article 11**

- 1-The minimum grade to pass any compulsory or elective college requirements is D+
- 2-The minimum grade to pass a general college requirement or a compulsory university course is D (except for article 7-d-2)

Article 12: GPA

- a-All university requirement studied by the student and included in the study plan will be calculated in the GPA
- b-The GPA for each year is calculated after the successful completion of all courses required for that year.



c- The GPA is calculated by multiplying each letter (according to the following table) by the number of the credit hours and then by summing up all the results and dividing them by the entire number of the credit hours that have been studied. The semester average is calculated similarly, but according to the courses been taken during that semester.

Letter value	grade in letters	the result
Pass	A	4
PASS	A-	3.75
PASS	B+	3.5
PASS	B	3.0
PASS	B-	2.75
PASS	C+	2.5
PASS	C	2
PASS	C-	1.64
PASS	D+	1.5
PASS	D	1
FAIL	D-	0.75
FAIL	F	0.0

### **SECONDLY: GPA evaluations for the BA students:**

GPA	EVALUATION
3.65 AND ABOVE	EXCELLENT
3-3.64	VERY GOOD
2.5-2.99	GOOD
2-2.49	ACCEPTED
LESS THAN 1.99	WEAK

Article 13: Tthe system of warning and DISMISSAL at the bachelor of biomedical sciences program

Students should successfully complete all requirements in no longer than five years

1-Any student whose GPA is below 2 by the end of first semester will be warned and he has to cancel that warning in no longer than three semesters from the date of it. In case the student is unable to cancel the academic warning, he will get DISMISSED.

2-Failing any required course means the student has to repeat it and pass it. Three successive failings in one course lead to the student's suspension from the program.

- 3-Any student who received C and above can not repeat this course.
- 4-Any student who has completed successfully 42 credit hours is regarded a sophomore, while any student who has completed successfully 90 credit hours is regarded a junior.
- 5-Regarding the terms above, any student who has failed all required courses in 2 successive semesters is regarded to be suspended.

#### Article 15:

A-A student may delay studying a semester in no longer than 4 weeks from starting that semester if he has one of the following reasons that would persuade:

- 1-Dean of the college; if the delayed semester is only one.
- 2-The school of medicine council; if the delayed semesters are two and do not exceed two successive or separate ones.

b-Any student whose excused absence exceeded 25% of the credit hours of that course is considered to be withdrawn and this is recorded in his records. In case of a student's withdrawal from all courses, his studying for that semester will be considered delayed.

c-The period of delayed studying must not exceed two successive semesters during the basic stage whether these semesters are separated or successive. also any transferred or new student may not delay his studies before one whole semester of studying at the school of medicine.

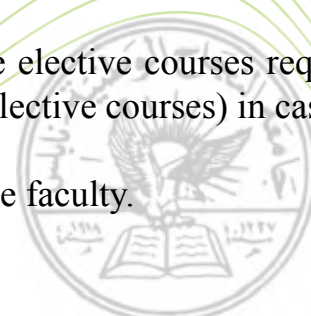
### **Chapter Three**

Organizing and managing the educational process at the clinical stage  
The MD program

#### Article 16: Conditions for admission at the MD program

In order to reach this level, the student has to have completed successfully the bachelor of biomedical sciences stage according to the following criteria:

- a-The student must have completed successfully the first stage no longer than 8 studying semesters with an average of C+ as minimum
- b- The student must have c+ as minimum in the college specialization requirements.
- c-The student must have completed successfully the elective courses required by the administration of the MD program (from the elective courses) in case he did not take them, he has to study them as courses.
- d-Passing the medical test and other criteria set by the faculty.



## **Article 17: Study system**

- a-The MD program is annual system.
- b-The maximum time spent for studying the MD program is 6 years
- c-The maximum load per academic year is 52 credit hours
- d-The academic year starts on August 15 and ends on July 15 of the following year.

## **Article 18: Persistence**

- a-It is very important for all MD program students including continuous presence at discussions, lectures, field training...etc. in case of absence, the student must inform the chair or the dean's assistant for clinical affairs of a reasonable excuse (as soon as the absence takes place) because unexcused absence will be punished
- b-students may not miss more than 10% of the training days even if the absences were excused or urgent and approved by the dean's assistant for clinical affairs.
- c-if the absence exceeds 15% of the entire training days, (whether excused or not) the student will be deprived from sitting for the final exam and consequently will get an F. this grade will be put into his annual GPA for that year. Still, he will move to the next academic year.
- d-students' clinical training will be monitored through the log book for each of the clinical departments, that will be received by the student and returned to the chair as soon as the training ends.
- e-students will be evaluated according to such log books and other reports.
- f-all of the dean, chairs, teaching staff, full-time and part-time specialists, in addition to coordinators and clinical administrative workers are to implement all these terms and conditions mentioned above.

## **Article 19: Exams, Grades and Averages**

Firstly:

- a-the school of medicine is the body responsible for arranging, performing, grading and evaluating the exams.
- b-the dean requires the school of medicine council to appoint a committee for clinical examinees that sees and seeks solutions to exam and other problems or complaints.
- c-the approval of the interested department's council and the consent of the school of medicine council are vital for preparing, grading, and evaluating exams
- d-each course's grades will be calculated and recorded in letters.

Secondly:

A-the final grade of any of the medical and clinical courses is composed of the sum of all the evaluation grades in addition to both of the written and clinical parts of the final test that may include an oral part.

B- The school of medicine council names the courses that the exam at the end of training will include in addition to those included in the written final exam.

C-grades for the medical and clinical courses will be distributed as follows:

1-the clinical part that includes:

a-25% is left to the instructor's evaluation or if there is more than one instructor, to the average of their evaluation of the student's performance during the clinical training period.

b-25% is left for the clinical test at the end of the training.

2-The written exam, since there is 50% for the written one that will be held either at the end of the training or the academic year end.

d-Students pass only if they pass the two parts of the exam (evaluation and clinical) in addition to the written exam.

a-30 points Are left for the instructor's evaluation during the student's training

b-70 points are left the final multiple clinical exam and which is carried out after the completion of training period at the end of every course. The exam is carried out by the specialized department at the school of medicine at the Najah University. It weighs 40 points at least out of 70. students pass it if they receive C as minimum.

### ***Article 20: Approving grades and keeping model answers:***

1-All results are sent to the college deanship after being approved by the department council and will be announced within 48 hours after being approved by the admission deanship.

2-All records are sent in letters to the admission deanship to be announced properly.

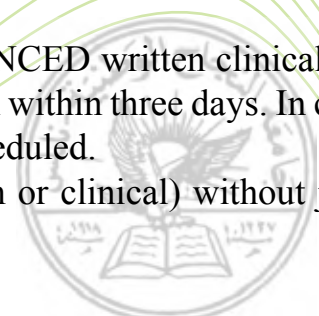
3-Students' answers are kept for each test with a copy of model answers and two copies of question papers at the college deanship for one year and then will be treated properly.

4-Students' final exam papers are not returned to the students.

### ***Article 21: Absence during exams***

1-any student who is absent for any of the ANNOUNCED written clinical exams, (with an urgent excuse) has to prove that to the dean within three days. In case this excuse has been accepted, the exam will be rescheduled.

2-any absence for an announced final exam (written or clinical) without justified excuses will receive an F.



3- ANY STUDENT WHO IS ABSENT FOR AN ANNOUNCED FINAL EXAM WITH AN ACCEPTED EXCUSE will be given another chance within ten days and the admission deanship.

4-incomplete is put for the student absent for a final exam with an accepted justified excuse till the final is taken.ofcourse the new grade is recorded.

**Article 22: Reviewing exam results and making complaints:**

a-any student can send complaints to the admission deanship in case of any problems related to exams within three days from the announcement of results. In such situations, the college dean will double-check if there were any mistakes via a committee composed of the college dean, and the instructor's. the student will pay fees for each separate complaint.

B-any student send an exceptional complaint to the admission deanship in no longer than two week time after the announcement of results. Any problems or mistakes will be double-checked by the committee for the clinical examinees appointed by the college dean. The student will have to pay fees.

**Article23:**

The minimum grade to pass any of the clinical courses is C .GPA will be recorded in letters and numerals as following:

GPA	EVALUATION
3.65	EXCELLENT
3-3.64	VERY GOOD
2.5-2.99	GOOD
2-2.49	ACCEPTED
LESS THAN 1.99	WEAK

**Article24 :**

The GPA is calculated by multiplying each letter (according to the following table) by the number of the credit hours and then by summing up all the results and dividing them by the entire number of the credit hours that have been studied. The semester average is calculated similarly, but according to the courses been taken during that semester.

Result	grade in letters	value in numbers
Pass	a	4
Pass	a-	3.75
Pass	b+	3.5
Pass	b	3
Pass	b-	2.75
Pass	c+	2.5
Pass	c	2

Fail	c-	1.75
Fail	d	1
Fail	d-	0.75
Fail	f	0.0

Article 25: Terms and conditions for moving from the first clinical year to the second

a-The criteria are

- 1-Passing all the courses of the first clinical year
- 2-GPA in the first year should be 2 and above

b-Those who failed a course or more (not exceeding 8 credit hours) can sit for an exam appointed by the authorized department. In case he passes, a new grade (c+ as top) will be recorded.

c-the following are the cases when a freshman fails:

- 1-Failing the first year's courses that exceed 8 credit hours.
- 2-Failing the exam mentioned in 25-b
- 3-GPA below 2.

Article 26: terms and conditions for moving from the second to the third clinical year:

a-The criteria are:

- 1-Passing all courses except forensic medicine and research methods in medical sciences that can be taken again in the third year.
- 2-GPA for the second year should be 2 and above.

b-Students who failed one of the following courses: selected medical specialties, selected surgical specialties, clinical and therapeutic reviews, and medical specialties elective ,and special surgery elective , can sit for an exam appointed by the specialized department with a grade that does not exceed c+

c-Students fail the second clinical year if;

- 1-The student fails any two courses from the ones mentioned in 26-b
- 2-The student fails the repetition exam
- 3-TheGPA is below 2 in the second clinical year

d-If a student fails the second year, he will have to repeat all the courses he failed and a new grade will be considered.





### **Article 27: The third clinical year**

Passing criteria are;

1-Passing all the courses of that year.

2GPA should be 2 and above

b- If a student's GPA was 2, yet he failed one of the courses, he may sit for a repetition exam for that course. In case of passing ,a new grade (c+ as maximum will be recorded) the exam takes place in two week time if there was no need to repeat clinical training as whole or partially.

c-a student fails in the following cases:

### **Article 28: Dismissal from the MD program:**

1-Failing more than one of the courses, no matter the GPA.

3-Failing the exam mentioned in b

Any student is considered to be dismissed in case he fails to pass any of the study years in no longer than two academic years.

### **Article 29: Delay and withdrawal at the clinical stage.**

Any student may ask for a delay in no longer than two week time from the beginning of the academic year in case of having strong reasons that will persuade the specialized party e.g. the college dean (in case of one academic year delay).

b-Any student whose excused absence exceeded 15% of the entire hours of all courses is considered to be withdrawn from all these, therefore his studying for that academic year will be delayed.

c-any student can ask the college dean to delay a semester four weeks before the beginning of the academic year, (at least). In case of the dean's approval, that academic year will be considered to be delayed.

d-The delay in the MD program should never exceed one year.

e-The delay will never be considered as part of the maximum time for obtaining the MD degree.

### **Chapter Four Private Terms**

Article 30: Moving from other schools to the school of medicine at an Najah University.

Entering MD program starts by passing the first stage (bachelor of biomedical sciences) in addition to fulfilling the criteria needed to be admitted at the MD program

according to an Najah University criterion. So, any student coming from any other school at an Najah University should fulfill this very criterion.

Article 31: The criteria for moving from any school of medicine to the school of medicine at an Najah University.

**Firstly:**

Students moving to our school of medicine can be considered (bachelor of biomedical sciences) in case there were vacancies according to:

- a-The previous university must be acknowledged by an Najah University.
- b-The student's Tawjihi average should be in the range of the approved ones that qualify the student to enter the bachelor of biomedical sciences stage at an Najah. Also his GPA at the former medical school should be not less than B and the taken credit hours taken there should not exceed 50% of the total credit hours needed
- c-In case of entering the MD program, the student must have passed the bachelor of biomedical sciences stage, in addition to meeting the requirements of the MD program at an Najah

**Secondly:**

- a- A special committee is formed appointed by the vice president for academic affairs and the dean of admission for discussing new students' applications.
- b-The school of medicine at an Najah will decide the suitable academic year for the newcomer according to the study plan and the opinions of the specialized departments.

The school of medicine might ask such students to study some prerequisites needed, and this student can not move to the following year before passing such courses. Thirdly:

Applications for those who move will be sent to the dean of admission, consequently, a decision will come out whether positive or negative. Any way, moving from another school of medicine into ours can be done only once.

**Article 32: Te clinical training outside the an Najah university hospital**

- A-Students may train and practice outside an Najah hospital (any other hospital or medical institutions) according to certain standards approved by the president of the university in cooperation with the school of medicine.
- b-Second and third clinical year students may train in any university medical facilities or clinical institutions outside Palestine no longer than 2 months and

no less than one month for each subject. Such students write an application (at least 2 months before training) and send it to the specialized department chair, who will send it later to the dean for final decision. The university does not pay any of the expenses and such students must register for the intended courses and sit for exams for them at an Najah University.

### **Article 33: The comprehensive exam**

At the end of the sixth year, a comprehensive exam is held for the clinical stage at an Najah University for all students who completed successfully the 6 years. The exam is held at the end of the academic year to classify those who are eligible for the specialization programs run by an Najah University, in addition to scholarships supervised by the same university and T.A. positions.

### **General Terms Requirements for obtaining the MD degree**

#### **Article 34:**

This degree is granted to those students who are persistent in their presence and have registered at the school of medicine after the successful completion of:

- a- Passing all the courses at the MD program study plan.
- b- GPA not below 2 according to the study plan.
- c- Not exceeding the time limit according to the regulations.

#### **Article 35:**

Certificates are granted at the end of every academic year and the graduation celebration will be held once a year.

#### **Article 36:**

The council of deans will decide upon what has not been mentioned in the regulations texts.

#### **Article 37:**

The college dean and the admission dean are responsible for the implementation of all instructions.

## COLLEGE BOARD

Board Members of the Faculty of Medicine - An-Najah National University -  
Academic Year 2009/2010

Title	Name
Dean, Faculty of Medicine	Prof. Anwar Dudin
Head of Anatomy and Embryology	Prof. Ghassan Abu-Hijleh
Assistant Dean for Graduate Studies and Research	Dr. Samar Musmar
Assistant Dean for Clinical Scientific Phase	Dr. Khalil Issa
Assistant Dean for Basic Biomedical Sciences Phase	Dr. Rami Al-Zagha
Coordinator of Internal Medicine Department	Dr. Abdullah Al-Khatib
Coordinator of Pediatric Department	Dr. Hasan Fitian
Coordinator of General Surgery Department	Dr. Kamal Abed
Coordinator of Obstetrics and Gynecology Department	Dr. Hisham El-Nana
Coordinator of Medical Sub-specialties Department	Dr. Yassir Abu Safieh
Coordinator of Surgical Sub-specialties Department	Dr. Abdel Hafeez Daghlas
Head of Physiology, medicines & poisons department	Dr. Belal Rahhal
Head of Pathology and clinical chemistry and Medical Laboratory Department	Dr. Husni Maqboul
Head of Microbiology and Immunology Department	Dr. Waleed basha
Head of Biochemistry and Molecular Biology and Genetics department	Dr. Ayman Hussein
Director of Al Watani Governmental Hospital	Dr. Husam Jawhari (invitee)
Director of Rafidia Governmental Hospital	Dr. Khalid Saleh (invitee)

Rema'a Daraghmeh: Executive Secretary

Noor Quadi: Secretary

Mona Al Abed: the computer Lab. Supervisor



## ACADEMIC STAFF OF THE FACULTY OF MEDICINE

Specialty	Academic Title	Name
NeuroPediatrics	Professor	Prof. Anwar Dudin
Anatomy	Professor	Prof. Ghassan Abu-Hijleh
Neurology	Professor	Prof. Rifaat Bashir
Biochemistry	Associate Professor	Dr. Ayman Hussein
psychology	Associate Professor	Dr. Jawad Fatayer
Family Medicine	Assistant Professor	Dr. Samar Musmar
Orthopaedics Spine	Assistant Professor	Dr. Khalil Issa
Pathology	Assistant Professor	Dr. Rami Al-Zagha
Pathology	Assistant Professor	Dr. Husni Maqboul
Hematology	Assistant Professor	Dr. Riad Amer
Biochemistry	Assistant Professor	Dr. Iyad Al-Ali
Microbiology	Assistant Professor	Dr. Waleed Al-Basha
Internal Medicine	Assistant Professor	Dr. Shehab Snobar
Public health & nutrition	Assistant Professor	Dr. Haleemeh sabah
Ophthalmology	Lecturer	Dr. Mazen Khwaira
Forensic Medicine	Lecturer	Dr. Rayan Al-Ali
Internal Medicine	Lecturer	Dr. Sahar Mansour
Anatomy	Teacher	Dr. Malik Sabubeh
Physiology	Teacher	Dr. Abdul-Rahman Aqraa
MD	Teaching Assistant	Dr. Hanood Abu-Ras
MD	Teaching Assistant	Dr. Taysir AlSadder

# **BACHELOR DEGREE PROGRAM IN BIO-MEDICAL SCIENCES**

## ***I- Introduction:***

This program is called: Bachelor program in Bio-medical sciences, it is organized under the responsibility of Faculty of Medicine at An-Najah University. Students who successfully pass the third year completing the requirements of this program can obtain its certificate; Bachelor in Bio-medical sciences “BBMS” either they chose to continue to the clinical part to obtain the degree of Doctor of Medicine or if they were unable or not willing to go forward for the program leading to obtain the degree of Doctor of Medicine at An-Najah University.

Required courses to have BBMS are delivered through basic departments at the faculty of medicine and faculties of health and sciences.

Student is graduated after completing 135 CH of courses divided as following: 26 CH as University requirements, 21 CH as compulsory faculty requirements (basic sciences), 24 CH as optional requirements and 64 CH as compulsory speciality requirements.

Students are accepted for this program when they fulfill the requirements to enter Faculty of Medicine according to the University rules, as well as students of faculty of pharmacy and pharmacy doctor and those who are referred from bio-scientific programs at the University, making sure that they are fulfilling the requirements to join the program and that they have already scored a minimum of 90% in the high school national exam (Tawjihi) in the scientific branch and only after passing a special entrance exam to the program.

As soon as the student is accepted in this program, an academic advisor is assigned to follow his/her progress till graduation.

This program is linked to high education studies’ program (master in basic medical sciences) and PhD afterwards.

After completing this program and graduation, students are capable to continue their studies at faculties of medicine, pharmacy, sciences or optometry according to specific conditions set by each faculty.

Students can shift from this program to any of other specialties in different faculties at the University according to rules set by the University.

## ***II- Why this program?***

We can summarise the goals of this program by the following:

### ***International reorganization of medical education:***

There is a wide international process set recently to organize medical education through two phases; three years each. This is now called: (Process Bologna). These two phases may be separated or mingled (consecutive), yet distinct. The first is completed by obtaining a certificate in Bio-medical or basic medical sciences according to differences in nomenclatures, which gives the graduate a clear capability to choose or

continue his/her process.

Canada and USA are adopting the separate phases while most European countries are adopting the mingled (consecutive) phases; students are prepared for the second phase at the faculty of medicine, this what An-Najah University chose. In the Canadian and USA systems this preparation is accomplished mostly outside medical schools.

### ***Preparing new programs to suite national medical progress needs***

Medical professions demanding high scientific qualifications are still in need to be improved to fulfill the growing needs of the population in the fields of advanced labs of genetics and clinical biochemistry and advanced physiotherapy and rehabilitation in the fields of acoustics, phonics and learning difficulties and neurological examinations, as well as advanced general medical and health technologies.

Improving these capabilities needs new programs based on sound bio-medical program. By its own, the new University hospital project needs the production of tens of these personnel soundly trained and prepared according to this program.

### ***Giving new opportunities to students who chose medicine initially and don't have the desire to continue in this field***

With time, studying medicine becomes more difficult and complicated especially when starting the clinical phase with relations with patients and diseases, such long and demanding study continues to be challenging to students' initial choices and desire to continue in the field. Many become unable to continue or loose the desire although they are scientifically fit and have good wealth of basic medical sciences that makes them qualified to be directed to related fields and research in basic sciences to improve master and PhD programs, the ones that we should start preparing for through this program.

### ***Having the possibility to choose studying medicine when more mature***

Choosing to study medicine as a teenager may reflect a social or familial fantasy in considerable cases; this makes it an obligation rather than a true conscious choice, the matter that so much adversely affects future carrier.

Study through two phases allows more mature decision to study medicine (the mean age to study medicine in Canada and the USA is 25) the thing that will so much positively affect the students' psychology and carrier performance.

### **III- Course Description**

#### **Faculty General Compulsory Requirements**

##### **General biology (140521) (4 CH)**

The focus of this course is basic biological concepts as well as the basic biology of the cell and its relationship to other sciences and biological systems in mammals. The bulk of the course will concentrate on the understanding of the basic biology of living organisms and interactions that lead to life as well as introduce structure function and function/structure relationship of the unit of life the cell, tissues, organs and system. Having completed the course the students should be able to know the basic interactions that lead to life, its need, the cell, the diversity of living organisms and finally the organs and systems that make the living organisms.

##### **Medical Physics (140711) (3 CH)**

Applications of physical sciences in medical technology are the main field of this course. Topics include bio-mechanics, sound and hearing, pressure and motion of fluids, heat and temperature, electricity and magnetism in the body, optics and the eye, biological effects of light, use of ionizing radiation in diagnosis and therapy, radiation safety and medical instrumentation.

##### **Biostatics and epidemiology (140621) (3 Ch)**

The aim of this course is to teach epidemiological and biostatistical methods in clinical research within an integrated framework, and to develop proficiency with computer software for performing the analysis of clinical and epidemiological data sets. Applied Epidemiology and Biostatistics will introduce epidemiologic and biostatistical methods as applied to clinical research.

##### **General Chemistry (23114) (4 CH)**

A comprehensive survey of chemistry for premedical students which emphasize the principles underlying the formation and interaction of chemical substances: stoichiometry, states of matter, thermo-chemistry, atomic and molecular structure, intermolecular forces, solutions, thermodynamics, kinetics, chemical equilibrium, acids and bases, electrochemistry and introduction to organic and biological chemistry. The course includes one credit hour laboratory.

##### **Organic chemistry: (23236) (4 Ch)**

The course comprises a systematic study of nomenclature, structure, properties, and reactions of aliphatic compounds. Attention is given to recent developments in interpretation of structure and reaction mechanisms. The course will address the basic concepts in organic chemistry for students who are planning to study medicine, dentistry, pharmacy or health professions. The course will concentrate on the hybridization theory, molecular geometry and polarity of the covalent bond. Nomenclature of



alkanes, alkyl halides, alkenes, and alkynes as well as their reactivity and mechanism of reactions are included. Stereoisomerism and optical activity will be given special attention since biologically active compounds are often chiral. Oxygen containing functional groups (alcohols, ethers and epoxides) and alicyclic hydrocarbons will be addressed too. The course includes one credit hour laboratory.

### **Lab Methods (140400) (2 Ch)**

This 2 credit hour course lab is designed to introduce students to general and special medical laboratory techniques. Techniques include making and formulating chemical solutions and compounds, processing clinical specimens in all medical laboratory branches including: routine, microbiology, hematology, blood bank, immunology and serology, molecular genetics, histopathology and cytology and clinical chemistry.

### **Faculty Special requirements**

### **Anatomy I (140121) (3 Ch)**

This course delivered by the department of anatomy and embryology concentrates on the study of the thorax, abdomen and pelvis gross anatomical structures. This part of anatomical knowledge is essential for all students of medical sciences. In addition to classic lectures one credit hour anatomy lab (dissection supplemented by special electronic materials) will be delivered by the department of anatomy.

### **General Physiology (140221) (2 Ch), and Medical Physiology I (140222) (4 Ch), and Medical Physiology II (140223) (4 Ch)**

These courses provide students with basic aspects of general physiology (140221) and extensive study of human medical physiology “cardiovascular, pulmonary, renal, gastrointestinal and reproduction”, the control of different organs and the coordination among them. Special emphasis will be on water, electrolyte and acid-base balance, body responses and adaptation to various stress conditions and physiological disorders. The course includes a one credit hour lab that will cover all the systems.

### **Pharmacology I (141131) (4 Ch) and II (141132) (4Ch)**

These courses introduce medical student to the pharmacological concepts of drugs and other xenobiotics action. The classification, mechanism of action, therapeutic uses and toxic effects of pharmacological agents will be stressed. Discussion of representative examples of major drug classes will be emphasized, and treatment modalities, whenever appropriate will be presented. This basic course is planned to assist the student, via lectures, clinical correlative discussions and independent study, to be able to understand pharmacological therapy in the clinical phase of medical education.

## Histology I- (140321) (2 Ch)

This course is designed to give students detailed description of general histology and organology with the emphasis on human material.

## Pathology I (140331) (5 Ch), and II (140332) (5Ch)

These 2 courses delivered over two semesters cover the principles of the discipline of pathology. Disease is presented by organ system. The method of instruction includes lectures, demonstrations, group discussions, laboratories and autopsy participation.

## Basic Microbiology (140431) (4 Ch), and Clinical (140432) (4 Ch)

A two semester course specialized in basic and medical microbiology. The first part introduces medical students to basic concepts in microbiology including, bacteriology, virology, mycology and parasitology. The second part concentrates on medical microbiology and provides core knowledge of infectious disease processes affecting each organ system, as well as working knowledge of the appropriate clinical laboratory investigations. The course has one credit hour laboratory, which covers a variety of microbiological and immunological techniques, with experiments designed to illustrate major concepts of bacteriology, virology, mycology and immunology.

## Human Genetics (140522) (2 CH)

This course provides students with comprehensive view of the science of genetics. It covers the history and development of genetics, structure and function of genes, chromosomes and their anomalies, patterns of single gene inheritance, types and mechanisms of mutations and tools of human molecular genetics.

## Biochemistry – Principle of Biochemistry (140523) (3Ch), Metabolic biochemistry (140524) (3 Ch) and Molecular (140525) (3 Ch)

An integrated function of the human body is considered ranging widely from cellular to higher organ-system levels. This course will cover the molecular composition of living cells, the chemical reactions that biological components undergo the regulation of these reactions and the nutrients that are needed by the living cells. The course material covers bioenergetics and intermediary metabolism of carbohydrates, lipids and proteins and their enzymatic regulation. It is a fundamental biological and medical science course that provides an understanding to cell biology, microbiology, nutrition, pharmacology, pathology and physiology at the molecular level. The course has one credit hour lab.

## Public Health (140631) (3 Ch)

This is a 3 credit hour course offered to third year students. It deals with the dimensions of personal and environmental health and their relationship to social, economic, psychological and political factors, measurements and indices of community health status. Theoretical framework for viewing organizational issues in the delivery of health services is also discussed.

Art and Science of clinical Medicine (142031) (4 Ch)

This course is organized in hospital-based groups of 6 students, and will take place 1/2 day each week of the third academic year. (4 hours /week 16 sessions = 2CH / semester). This course constitutes the first experience of the possible future doctors or health science professionals with clinical medicine.

### Medical Ethics (142731) (1 Ch)

This is a one credit hour offered to second year students. It deals with fundamental ethical principles underlying medical practice. Ethical aspects of decision – making are discussed with special emphasis on moral, cultural and religious issues in addition to confidentiality and respectability in patient management.

(Examples) of Optional Requirements: 28 CH

### Behavioral science for medical students (142723) (3 Ch)

This course introduce important notion in medical psychology and different old and modern approach of behavioral theories applied to the field of patient care and encounter

### First Aid & Patient Encounter (142722) (1 Ch)

This is a one-week introductory course to second year medical students to hospitals. It is designed to introduce students to patients and the hospital environment including the different departments and facilities. Students are also given a brief exposure to first aid.

### Neuroscience (140231) (3 Ch)

An advance course designed to provide the student with basic knowledge in neuroscience mainly neurophysiology and neurochemistry. It covers the autonomic and somatic nervous systems, somatic sensation and sense organs, motor system and brain complex functions, life cycle of neurotransmitters and synaptic integration, in addition to basic mechanisms of neurological disease.

### Neuroanatomy (140131) (3 Ch)

The aim of this course is to provide students with a basic understanding of the structural organization of the human central nervous system in sufficient depth to form the basic for further clinical studies of the nervous system. Students will learn to identify the major features of the brain and spinal cord (using protected specimen's models and cross-sectional images) to understand the structural and functional relationships between these structures and to apply this knowledge to the clinical situation. The course include 1 hour lab that covers also head and neck anatomy.

### History of Medicine (142721) (1 Ch)

The course is organized as seminars to initiate students on the history of medical achievement and the epistemology of medical thinking and ideas. Few lectures will be introduced by prominent local medical figures about the history of medicine and medical institutions in Palestine.

## **Anatomy II (140122) (3Ch), and III (140123) (2 Ch)**

These courses complete the essential notions of human anatomy for spine, lower and upper limbs (II) and head and neck anatomy (III).

## **Embryology (140124) (3 Ch)**

Human embryology from fertilization to the end of the fetal period will be reviewed. Topics include: current concepts in mammalian morphogenesis applied to the development of various organ systems, the principles of teratology; mechanisms of malformation and the etiology and pathogenesis of some of the more common human congenital abnormalities

## **Immunology (140436) (3 Ch)**

This course concentrates on the basic and clinical science of the immune system and its relationship to other sciences and biological systems of mammals. The component of the immune system, their development, structure and functions will be detailed. The clinical and diagnostic input to medical sciences and subjects related to prevention, causation and diagnosis of human diseases such as cancer, autoimmune disease will be then clearly exposed

## **Histology II- (140322) (2 Ch)**

This course is designed to give students detailed description of general histology and organology with the emphasis on human material.

## **Clinical Biochemistry (140544) (3 Ch)**

This course is concerned with the study of biochemical changes occurring in the human body under pathological conditions. Disorders in protein, lipid and mineral metabolism as well as electrolytes, blood gases, haematological diseases and acid base balance are assessed in view of laboratory data. Laboratory work deals with evaluation of biological constituents of the blood, urine and their interpretations.

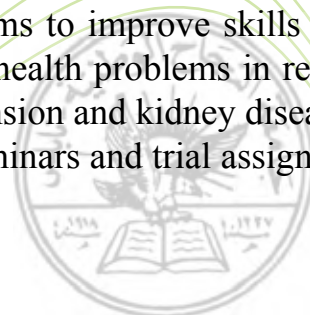
## **Vaccine and Vaccination (140445)(2 Ch)**

This course is designed to afford precise and clear information about the need for vaccines and its great and efficient role in major diseases' prevention. It also gives information about the vaccination protocols, timing and complications as well as methods to save vaccines.

## **Clinical Nutrition (140641)(2 Ch)**

This course concentrates on nutrition and its relation to diseases. It has been designed though 30 lectures of scientific and study cases. It aims to improve skills in using clinical nutrition in disease prevention and managing health problems in relation to nutrition as cardiovascular diseases, diabetes, hypertension and kidney diseases.

This course constitutes of lectures, discussions, seminars and trial assignments



### **Hematology (140342)(3 Ch)**

This course is organized to deal with giving knowledge of the normal blood constitution and values after which students know the normal variants in relation to age and sex. Concentration is then directed to blood pathologies in regards to congenital and acquired causes from its carcinomatous, coagulability and different anaemic aspects.

### **Immunoematology & Blood Banking (140343) (3 Ch)**

This course deals with giving students the knowledge of major and minor blood groups and related antibodies, it also concentrates on the needs for transfusion of blood and its constituents as plasma and platelets unveiling the complications related to transfusion and stressing on the proper methods to save blood ensuring the safety of donors and recipients

### **Science and Art of laboratory Medicine (142032) (4 Ch)**

This course is organized in laboratory-based groups of 6 students, and will take place 1/2 day each week of the third academic year. It will include rotations in major lab divisions dedicated to patient services and in different research labs at An-Najah University and other Institutions in the country.

### University requirements (26CH):

Course	CN	CH(26)	Laboratory
English language 1(UR)	010103	3	0
English language 2 UR	010322	3	0
Computer (UR)	010100	3	0
Islamic culture UR	010101	3	0
Arabic skills UR	010102	3	0
UR obligatory (Social Service)		1	0
UR obligatory		1	0
UR elective		2	0
UR elective		2	0
UR elective		2	0
Palestinian studies UR	010105	3	0

### Faculty Requirements (21 CH):

General Chemistry	23114	4	0
Organic Chemistry	23236	3	1
Medical Physics	140711	3	0
General Biology	140521	4	0
Biostatistics & Epidemiology	140621	3	0
Laboratory methods	140400	0	3
		17	4



### Specialty Requirements: (64 CH)

Anatomy Thorax Abdomen Pelvis	140121	2	1
General Physiology	140221	2	0
Medical Physiology I	140222	4	0
Medical Physiology II	140223	3	1
Pharmacology I	140232	4	0
Pharmacology II	140233	4	0
Histology I	140321	1	1
Pathology I	140331	4	1
Pathology II	140332	4	1
Immunology	140436	3	0
General Microbiology	140431	4	0
Medical Microbiology	140432	3	1
Human Genetics	140522	2	0
Principles of Biochemistry	140523	3	0
Metabolic Biochemistry	140524	3	0
Molecular Biochemistry	140525	2	1
First Aid & Patient Encounter	142722	1	0
Medical Ethics	142731	1	0
Public health	140631	3	0
Science & Art of clinical Medicine	142031	0	4 (hospitals)
		53	11

### Optional (Examples) (24CH):

Anatomy Limbs & Back	140122	2	1
Anatomy Head & Neck	140123	2	0
Embryology	140124	3	0
Neuroanatomy	140131	2	1
Neuroscience	140231	3	
Behavioral sciences	142723	3	
History of Medicine	142721	1	
Vaccines & Vaccination	140445	2	
Clinical Nutrition	140641	2	0
Histology II	140322	1	1
Clinical Biochemistry	140544	3	
Haematology	140342	3	
Immunohaematology & Blood Banking	140343	3	
Science & Art of laboratory Medicine	142032	0	4

## Executive plan for the program

### First Year:

Course	CN	Year	Semester	CH	Lab
General Chemistry	23114	1	1	4	0
General biology	140521	1	1	4	0
Medical Physics	140711	1	1	3	0
English language 1(UR)	010103	1	1	3	0
Computer (UR)	010100	1	1	3	0
Biostatistics & Epidemiology	140621	1	1	3	0
Total S1Y1				20	0
English language 2 UR	010322	1	2	3	0
Organic Chemistry	23236	1	2	3	1
Anatomy Thorax Abdomen Pelvis	140121	1	2	2	1
General Physiology	140221	1	2	2	0
Histology I	140321	1	2	1	1
Human Genetics	140522	1	2	2	0
Principles of Biochemistry	140523	1	2	3	0
Total S2Y1				16	3
Total Y1 S1 S2				36	3

### Second Year:

Course	CN	Year	Sem.	CH	Lab
Anatomy Limbs & Back (OP)	140122	2	1	2	1
Medical Physiology I	140222	2	1	4	0
Histology II (OP)	140322	2	1	1	1
Metabolic Biochemistry	140524	2	1	3	0
History of Medicine (OP)	142721	2	1	1	0
Behavioural sciences (OP)	142723	2	1	3	0
UR elective		2	1	2	0
Palestinian studies UR	010105	2	1	3	0
Total Y2 S1				19	2
Anatomy Head & Neck (OP)	140123	2	1	2	0
Embryology (OP)	140124	2	2	3	0
Neuroanatomy (OP)	140131	2	2	2	1
Medical Physiology II	140223	2	2	3	1
Molecular Biochemistry	140525	2	2	2	1
Public health	140631	2	2	3	0
UR elective		2	2	2	0
Total Y2 S2				17	3
Total Y2 S1S2				36	5



### Third Year:

Course	CN	year	Sem.	CH	Lab
Neurophysiology (OP)	140231	3	1	3	0
Pharmacology I	141131	3	1	4	0
Pathology I	140331	3	1	4	1
Microbiology General	140431	3	1	3	1
Science & Art of clinical Medicine	142031	3	1	0	4
First Aid & Patient Encounter	142722	3	1	1	0
Total Y3 S1				15	6
Pharmacology II	141132	3	2	4	0
Pathology II	140332	3	2	5	1
Immunology	140436	3	2	3	0
Microbiology Medical	140432	3	2	3	1
Science & Art of laboratory Medicine (OP)	142032	3	2	0	4
Total Y3 S2				15	6
Total Y3 S1 S2				30	12

### Summer semester for all years for uncompleted courses

Course	CN			CH	Lab
Islamic culture UR	010101	1,2,3	Sm1	3	0
Arabic skills UR	010102	1,2,3	Sm1	3	0
UR obligatory UR		1,2,3	Sm1	1	0
UR facultative UR		1,2,3	Sm1	2	0
UR obligatory (social service)		1,2,3	Sm1	1	0
Lab methods (FGR)	140400	2,3	Sm2	0	3
Vaccines & Vaccination (OP)	140445	2,3		2	0
Clinical Biochemistry(OP)	140544	2,3		1	2
Haematology (OP)	140342	3		2	1
Medical Ethics (OP)	142731	1,2,3	Sm2	1	0
Immunohaematology & Blood Banking(OP)	140343	3		2	1

## According to Requirements

Course	CN	Y	S	CH	Lab
<b>University Requirements (UR 26)</b>					
English language 1(UR)	010103	1	1	3	0
English language 2 UR	010322	1	2	3	0
Palestinian studies UR	010105	2	1	3	0
Islamic culture UR	010101	1,2,3	Sm1	3	0
Arabic skills UR	010102	1,2,3	Sm1	3	0
UR obligatory UR		1,2,3	Sm1	1	0
UR obligatory (social service)		1,2,3	Sm1	1	0
Computer (UR)	010100	1	1	3	0
UR elective		2	1	2	0
UR elective		2	2	2	0
UR elective		1,2,3	Sm1	2	0
Total UR				26	
<b>Faculty General Requirements (FGR 21)</b>					
General Chemistry	23114	1	1	4	0
Organic Chemistry	23236	1	2	3	1
General biology	140521	1	1	4	0
Medical Physics	140711	1	1	3	0
Biostatistics & Epidemiology	140621	1	1	3	0
Lab methods (FGR)	140400	2,3	Sm	0	3
Total FGR				17	4
<b>Faculty specialty requirements (FSR 64)</b>					
Anatomy Thorax Abdomen Pelvis	140121	1	2	2	1
General Physiology	140221	1	2	2	0
Medical Physiology I	140222	2	1	4	0
Medical Physiology II	140223	2	2	3	1
Histology I	140321	1	2	1	1
Pathology I	140331	3	1	4	1
Pathology II	140332	3	2	4	1
Immunology	140436	3	2	3	0
Microbiology General	140431	3	1	4	0
Microbiology Medical	140432	3	2	3	1
Human Genetics	140522	1	2	2	0
Principles of Biochemistry	140523	1	2	3	0
Metabolic Biochemistry	140524	2	1	3	0
Molecular Biochemistry	140525	2	2	2	1
Pharmacology I	141131	3	1	4	0
Pharmacology II	141132	3	2	4	0
Medical Ethics	142731	2	2	1	0
First Aid & Patient Encounter	142722	3	1	1	0
Public health	140631	2	2	3	0
Science & Art of clinical Medicine	142031	3	1	0	(4)
Total FSR				53	11

Optional courses (OP 24)					
Anatomy Limbs & Back (OP)	140122	2	1	2	1
Embryology (OP)	140124	2	2	3	0
History of Medicine (OP)	142721	2	1	1	0
Behavioral sciences (OP)	142723	2	1	3	0
Anatomy Head & Neck (OP)	140123	2	1	2	0
Neuroanatomy (OP)	140131	2	2	2	1
Neurophysiology (OP)	140231	3	1	3	
Histology II (OP)	140322	2	1	1	1
vaccines & Vaccination (OP)	140445	2,3		2	0
Clinical Biochemistry(OP)	140544	2,3		1	2
Hematology (OP)	140342	3		2	1
Immunohematology & Blood Banking(OP)	140343	3		2	1
Science & Art of laboratory Medicine	142032	3	2	0	(4)

### CH according to years:

	C H	Lab
Total Y1 S1 S2	36	3
Total Y2 S1S2	36	5
Total Y3 S1 S2	30	12
	102	20
Summers 1,2,3	10	3
Total program 135ch	112	23
Faculty General, specialty and optional courses	86	23

## Courses' distribution and tutors

Course	CN	CH	Teacher	Degree	Time
University Req. (26)					
English language 1(UR)	010103	3			
English language 2 UR	010322	3			
Computer (UR)	010100	3			
Islamic culture UR	010101	3			
Arabic skills UR	010102	3			
UR obligatory (Social Service)		1			
UR obligatory		1			
UR elective		2			
UR elective		2			
UR elective		2			
Palestinian studies UR	010105	3			
Total university requirements		26			
Faculty general req. (21)					
General Chemistry	23114	4	F science		FT
Organic Chemistry	23236	4	F science		FT
Medical Physics	140711	3	F science		FT
General biology	140521	4	Sabri nasser	Ass. P	FT
Biostatistics & Epidemiology	140621	3	S. Musmar	Ass. P	FT
Lab methods	140400	3	A Hussein	Asc. P	FT
Total Faculty general requirement		21			
Faculty speciality req. (64)					
Anatomy I Thorax Abdomen Pelvis	140121	3	G. Abuhijleh	FP	FT
General Physiology	140221	2	A. Aqra3	MD	FT
Medical Physiology I	140222	4	B. Rahal	Ass. P	FT
Medical Physiology II	140223	4	B. Rahal	Ass. P	FT
Pharmacology I	141131	4	I. Jarrar	Lect.	FT
Pharmacology II	141132	4	I. Jarrar	Lect.	FT
Histology I	140321	2	H. Maqbul	Ass. P	FT
Pathology I	140331	5	H Maqbul R Zagha	Ass. P Ass. P	FT
Pathology II	140332	5	H Maqbul R. Zagha	Ass. P Ass. P	FT
Immunology	140436	3	W. Basha	Ass. P	FT
Microbiology General	140431	4	W. Basha	Ass. P	FT
Microbiology Medical	140432	4	W. Basha	Ass. P	FT
Human Genetics	140522	2	A Hussein	Asc. P	FT
Principles of Biochemistry	140523	3	I Ali	Ass. P	FT
Biochemistry Metabolic	140524	3	I Ali	Ass. P	FT
Biochemistry Molecular	140525	3	A Hussein	Asc. P	FT
First Aid & Patient Encounter	142722	1	A. Aqra3	MD	FT
Medical Ethics	142731	1	A. Aqra3	Lect.	FT
Public health	140631	3	S. Musmar	Ass. P	FT
Science & Art of clinical Medicine	142031	4	C l i n i c a l Specialists		

Total Specialty requirements		64			
Optional courses (24) (examples)					
Anatomy II Limbs & Back	140122	3	G. Abuhijleh	FP	FT
Anatomy III Head & Neck	140123	2	K. Issa	Ass. P	FT
Embryology	140124	3	G. Abuhijleh	FP	FT
Neuroanatomy	140131	3	M. Sabobeh	Lect.	FT
Neuroscience	140231	3	B Rahal	Ass. P	FT
Behavioural sciences	142723	3	J. Fatayer	Asc. P	FT
History of Medicine	142721	1	A. Aqra3	MD	FT
Histology II	140322	2	H. Maqbul	Ass. P	FT
Vaccine and vaccination	140445	2	S Musmar	Ass. P	FT
Clinical Biochemistry	140544	2	A Hussein	Asc. P	FT
Hematology	140342	3	R Amer	Ass. P	FT
Immunology & blood banking	140343	3	R Amer	Ass. P	FT
Science & Art of laboratory Medicine	142031	4	Kamel adwan	Ass. P	FT
Total optional		24			

## **SECOND (CLINICAL) PHASE: DOCTOR OF MEDICINE**

This phase includes the three clinical years (4th, 5th and 6th medical years previously), study system here is yearly based. Transfer to this phase is according to conditional accumulative score accomplished after the first phase.

Through this phase student is subjected to direct contact with patients. Study concentrates on different clinical sciences.

### ***Clinical phase constitutes from 135 CH, it is distinguished by:***

- Concentration on clinical education through training rotations that have been precisely described including the skills that the student should attain through, and the objectives that should be accomplished.
- Giving peculiar attention to students' behaviour and commitment to professional, ethical, and humanitarian bases as well as creating measuring tools to guarantee accomplishing these goals considering them as basic part of evaluation.
- Training courses are including periods of practical and psychological preparation before starting them.
- Two elective rotations in surgery and medicine are included in the plan to give students the chance to explore preferable fields that may affect or direct their future speciality.
- A clinical research course is included as an introduction to be able to accomplish scientific research in the clinical, basic or general health. Research now is essential in studying medicine and preparing students internationally.
- Courses of therapeutic and medical reviews (I and II) aim to prepare students for comprehensive and generalized thinking in diagnosis and management at "evidence based medicine" bases. Training students on critical thinking and not accepting information which are not well analysed is essential as well as the ability to present logically. They are also trained on the international exams to evaluate the clinical phase.



## ***Plan executive regulations***

It worthies mentioning the following here:

- Although both phases are mingled and consecutive yet there should be
- sort of separation by rules governing transfer from the first phase.

Concerning upgrading to the second phase, students should complete all the requirements of the first phase with accomplishing accumulative score of a minimum of 75% (C+), this same accumulative score should be accomplished regarding the sum of specialty requirements' courses too.

- Students should complete the first phase with a maximum of four years.
- 
- Students can't be upgraded from a clinical year to another unless they score a minimum of 70% (C) as cumulative. The same is applied to graduation.
- 
- Students should complete the second clinical phase with a maximum of six years

## Courses listing for the 1st, 2nd and 3rd clinical years

Course	CN	CH	Year	Wks/Rot
Introduction to clinical Medicine	142141	8	4	8
Internal Medicine	142142	10	4	10
General surgery	142241	12	4	2+10
Gynaecology-Obstetrics	142441	8	4	2+6
Psychiatry	142741	4	4	4
Clinical Nutrition	140641	2	4	2
Research methods in medical sciences	140651	2	5	2
Selected Surgical specialties	142551	10	5	2+8
Selected Medical specialties	142651	10	5	2+8
Elective medical specialties	142652	4	5	4
Elective Special surgery	142552	4	5	4
Paediatrics	142351	12	5	4+8
Forensic medicine	142751	2	5	2
Clinical and Therapeutic reviews I	142051	4	5	0
Clinical and Therapeutic reviews II	142061	4	6	0
Research Project	142752	6	6	8
Senior medicine	142161	8	6	8
Senior surgery	142261	8	6	8
Senior Paediatrics	142361	6	6	6
Senior obstetrics-gynaecology	142461	6	6	6
Community medicine	142761	5	6	5
		135		127wks





## **Clinical Course Description**

### **First clinical year courses**

#### **Introduction to clinical medicine (142141) (8 CH):**

This course constitutes from 8 weeks that includes internal medicine and related subspecialties. This course is taught through lecturing in the first semester of the first clinical year and is considered as a starting point for internal medical sciences and their branches. This course will fortify acquired skills at the third basic year of the first phase as well as assuring the importance of basic sciences in the clinical field.

This course introduces the physiological principles that are essential to understand the rising of signs and symptoms of diseases. The course prepares students to complete clinical sciences through developing skills and accomplishing rich clinical information. There is also concentration on the basic principles to reach diagnosis.

#### **Internal Medicine (142142) (10 CH):**

This course is designed for first clinical year students, it introduces special training on dealing with medical problems concerning adults. Under direct specialist supervision students take the role of a physician taking history from patients, doing physical examination, writing differential diagnosis and asking for routine investigations in relation to the case.

Course includes preparing consecutive oral and written reports concerning patients and the importance of student's performance and team work.

Students participate in seminars, meetings, and lectures in the department he/she are trained in. Students also share on call duties.

Students are encouraged for serious analytical thinking, improvement and creation of differential diagnosis, routes to reach diagnosis and management plans that should be followed.

Students are also directed to deal with patients outside hospitals in their environment. This and obtaining clinical experience can be accomplished through hospital based clinics, physicians' clinics in hospitals, social services clinics, emergency departments ... etc.

Gaining experience is to be accomplished through concentration on development of health services and disease prevention as well as gathering the concepts that have been learned in the introductory to internal medicine.

#### **General Surgery (142241) (12 CH):**

This course constitutes from 12 weeks including 2 weeks of preparatory course and 10 weeks of organized rotations in hospitals. Course is designed for students in the first clinical year to prepare them to have the knowledge to diagnose and manage surgical problems.

Inclusive program is offered that includes the basic physiological principles for surgical care, differential diagnosis, and decision making as well as basic principles of surgical management.

Concentration will be done on active participation in inpatients and outpatients care as well as entering to operation theatres and being exposed to sterilization principles, all of which gives the opportunity to attain practical experience in accomplishing surgical skills.

### **Psychiatry (142741) (4 CH):**

This course is designed for students of the first clinical year constituting of 4 weeks. Students have primary responsibility to reach diagnosis under specialist supervision and taking care of patients in general psychological institutions or hospitals.

Concentration will be on emergency rooms, analysis of urgent crisis, knowledge of psychiatric drugs and short training in hospitals.

Objective is to improve skills in dealing with patients and reaching to sufficient information regarding patient.

### **Obstetrics and Gynaecology (142114) (8 CH):**

This course is designed for the students of the first clinical year constituting of 8 weeks including two lecturing weeks that concentrate on this speciality. After that, students are subjected to 6 weeks of in hospital training concerning the principles of taking care adults and young women.

Students learn how to take history, accomplish physical examination and managing problems of the field.

Students are prepared and assigned through in hospital rotations, outpatient clinics, delivery rooms, operative theatres as well as lectures and teaching seminars.

### **Clinical Nutrition (140641) (2 Ch):**

This course concentrates on nutrition and its relation to diseases. It has been designed though 30 lectures of scientific and study cases. It aims to improve skills in using clinical nutrition in disease prevention and managing health problems in relation to nutrition as cardiovascular diseases, diabetes, hypertension and kidney diseases.

This course constitutes of lectures, discussions, seminars and trial assignments.



## ***Second clinical year courses***

### **Clinical Research Methods (140651) (2 CH):**

This course confirms ideas and notes that has been given in bio-statistics, epidemiology and public health. It gives students different methods in clinical research and sensitive ethical issues related in involving patients and people to research.

### **Paediatrics (142351) (12 CH):**

This course which is designed to students of the second clinical year includes 4 weeks of general introduction of paediatrics, paediatric surgery and neonatology as well as basic principles in relation to paediatrics ethical issues.

Students go through 8 weeks of clinical paediatrics care concerning dealing with paediatrics patients in hospitals and in the out patient clinics of authorised educational institutions. Rotations under specialist supervision, outpatient clinics visits, seminars and teaching lectures.

Concentration will be also on history and physical examination.

### **3. Selected Surgical Specialties (142551) (10 CH):**

This course has been designed to afford students of the second clinical year with basic clinical information in:

ENT (2 weeks): through which students are exposed to common ear, nose and throat diseases that face the beginning physicians.

Ophthalmology (2 weeks): designed to introduce students with the basics of ophthalmic diseases. Students learn how to accomplish examination and know the common ophthalmic diseases.

Orthopaedics (2 weeks) and Traumatology (2 weeks):

Through these 4 weeks students learn how to take history and perform physical examination for musculo-skeletal and locomotor system. Students learn how to diagnose and manage common related conflicts in children and adults.

These practical courses are preceded by 2 weeks theory lectures through which students learn different fields related to special surgeries.

### **Selected Internal Specialties (142651) (10 CH):**

This course has been designed to afford students of the second clinical year with basic clinical information in:

Clinical neurology (2 weeks): through this rotation students learn how to take history and perform physical examination as well as evaluation and management of neurological diseases.

Learning includes taking care of in hospital and outpatient subjects under direct specialist supervision, case discussions, lectures and scientific seminars

Dermatology (2 weeks): this course is designed to give students in their second clinical year the broad clinical experience in dermatology. It concentrates on the diagnosis of out patient subjects and managing common dermatological diseases as

well as getting the knowledge of dermatological signs and symptoms in relation to systemic diseases. Evaluation is given at the end of the course.

**Medical Imaging (2 weeks):** This is a two -credit hour course. It is designed to familiarize students in their second clinical year in the interpretation of medical images including chest radiographs, abdominal films and bone films in addition to introduction to ultra-sound, C-T Scan and MRI. Emphasis is given on case studies and on correlation between radiographic findings and clinical data. Students also become acquainted with the working of the radiology department and observe performance of a variety of diagnostic procedures

**Anaesthesiology (2 weeks):** This is a two week clerkship offered during the second clinical year. It is designed to expose students to the varieties of practice available in anesthesia and the application of basic knowledge in pharmacology and physiology in clinical situations. It also prepares students to the management of victims of cardiac arrest. Students will acquire the knowledge and skills necessary for resuscitation of critically ill patients.

These practical courses are preceded by 2 weeks theory lectures through which students learn different fields in relation to these specialties.

### **Forensic Medicine (142751) (2 CH):**

This course is designed for the second clinical year, it is considered a special part of pathology which not only deals with disease and its leading to sudden death but also investigates the implications of external causes (gun shot, poisons, traumas ...) upon human body.

It also discusses special situations that require informing investigators with causes of death, autopsy, issuing death certificate and the needed steps to prepare for court attendance when necessary. Certificate is issued by the end of the course.

### **Clinical and Therapeutic Reviews (I) (142051) (4 CH):**

This is a four credit hours seminar course intended for students in their second clinical year. This course covers different aspects of medicine, surgery, obstetrics and gynaecology. It concentrates on problem solving approach and comprehensive reviews of subjects. Revision courses will be run by senior consultants, each in his / her subspecialty. The course is also intended to help medical students and qualified doctors to sit for different medical exams, like USMLE, PLAB and others. The course is compulsory for fifth year students, but open to other interested students and junior doctors, it is expected to run on the weekends, currently on Saturdays. It will be organized in 4 hours seminars over for 16 sessions.

The course will be evaluated by comprehensive final exam.

This course covers the following subjects:-

1. General medicine
2. General surgery
3. Obstetrics and gynaecology



## Elective surgical (142552) and elective medical (142652) (4+4 CH)

Students have the possibility to select 2 sets of 4 weeks rotation one in surgery or obstetrics (142552) the other in medical or paediatrics (142652) or any of their branches.

### *Third Clinical year Courses*

#### 1- Clinical and therapeutic reviews II: (142061) (4 CH):

This is a four credit hours course intended for students in their third clinical year. This course covers different aspects of medicine, surgery, obstetrics and gynaecology and paediatrics. Aims and objectives of the course are the same as part I with extension to paediatrics, medical and surgical specialties and community health.

This course is compulsory for sixth year students, but open to other interested students and junior doctors, it is expected to run on the weekends, currently on Saturdays. It will be organized in half day seminars over for 30 sessions.

This course is followed by a formal exam at the end of the year

This course covers the followings subjects in addition to matters covered in the first part:-

1. Medical subspecialties
2. Pediatrics
3. Surgical subspecialties.
4. Family / Community medicine

#### 2- Research Project (142752) (6 CH):

This is a six credit hour project offered to students in their third clinical year. The aim of this course is to introduce students to the field of medical research; the subjects dealing with public health issues are particularly encouraged. The students can choose also a pure scientific clinical or basic medical science subject. Projects that regroup 2-3 students are also encouraged. Students can choose their own project research or choose a subject from a proposed list by the department of Medicine and society at the beginning of the third year. The Best researches will be proposed for publication in local or international journals. Each student (or 2) will have an advisor.

#### 3- Internal Medicine (Senior): (142161)(8 CH):

This course is offered to students in their third clinical year. Emphasis is placed on acquiring skills and attitudes desirable from a compassionate and understanding physician. Students record histories, physical examinations and laboratory data together with the diagnosis and treatment plans. They are taught how to develop sound clinical reasoning and responsibility for full time involvement in patient care including night calls. Each student works with and is supervised by a resident and attending staff. Two of the 8 weeks rotations will be spent in medical emergency unit.

#### **4- General Surgery (Senior): (142261) (8 CH):**

This is a 8 week clerkship offered to students in their third clinical year. This is designed to give students the chance to improve on their skills of history taking and physical examination and provides them with clinical exposure in the evaluation and treatment of a wide variety of surgical diseases. Emphasis is placed on teaching students to recognize and manage basic clinical problems. Students function as active members of the surgical team and follow patients both pre-operatively and during the post-operative period. They attend ward rounds, seminars, out patient clinics, operations and participate in night duties under supervision of surgical residents. Two of the 8 weeks rotations will be spent in surgical emergency unit.

#### **5- Obstetrics & Gynaecology (Senior): (142461) (6 CH):**

This is a 6 week clerkship offered to students in their third clinical year. This is designed to provide students with the skills and knowledge needed to care for patients with common gynecological problems, the well – woman examination and pregnancy from prenatal care through delivery and post-partum. Emphasis is placed on history and physical examination and the management of pregnancy and vaginal delivery and common gynecological procedures. Students attend ward rounds, seminar discussions, out-patient clinics, labor and delivery and operating rooms.

#### **6- Paediatrics (Senior): (142361) (6 CH):**

This is a 6 week clerkship offered during the third clinical year. Students will improve on their skills in history taking, physical examination and problem solving appropriate for children of various ages. Emphasis on differential diagnosis and therapeutic approaches to common paediatrics problems in general wards, paediatric intensive care units and out-patient clinics. Students participate in daily follow-up care of patients and in night duties. Two of the 6 weeks rotations will be spent in community or office paediatric facility.

#### **Community Medicine: (142761) (5 CH):**

This is a five-week course offered to students in their third clinical year. It is designed to introduce students to the practice of community medicine. Students rotate into different clinics and sites including ante-natal care well-baby and mother, immunization, food processing and handling and industrial medicine. They also attend didactic lectures and group discussions



# FACULTY OF NURSING



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## *Conceptual Framework*

The primary concepts on which the baccalaureate curriculum is built are care and cure of healthy and sick individuals. Care and cure are essential to professional practice.

Research-based practice and developing clinical judgment and assessment are core strands in the curriculum. Students progress through developing their cognitive, motor, and effective skills in dealing with individuals throughout the life cycle.

Impairment to normal development and health status of individuals, their families and the community at large constitute basic fundamental concepts to the baccalaureate curriculum. Nursing action is based on adequate screening and management of the human being with the ultimate aim of promoting and maintaining health, preventing and curing illness, and rehabilitation at all three levels of health care-primary, secondary and tertiary.

Leadership skills are essential for professional nurses in dealing with clients, guiding subordinates, working as professionals with colleagues and members of the health team and for community mobilization, in order to achieve progress in the nursing and health agendas.



# NURSING

Credits needed for the degree

A student needs to earn a total of 147 credits distributed as follows:

Category	Credit hours
University Requirements Mandatory	20
University Requirements Elective	6
Major in Nursing Mandatory	77
Faculty Requirements Mandatory	44
<b>Total</b>	<b>147</b>

## Faculty requirements (36 Credit hours)

pre-requisites	Course number	Course name	Credit hours
	24121	Biology for Pharmacy	3
	23105	Chemistry for Pharmacy	3
	23107	General chemistry lab	1
or co. requisites 241010	150110	Anatomy & physiology(1)	3
150110	150111	Anatomy & Physiology (II)	3
24101 , 23101	150115	Medical biochemistry	3
or co. requisites 150111	150119	Pharmacology	3
	25202	Biostatistics	3
24101	150125	Medical Microbiology	3
or co. requisites 150111	150127	Pathophysiology	3
	150129	Applied Nutrition	2
	71412	Clinical psychology	3
	35374	Medical Sociology	3
<b>Total</b>			<b>36</b>



## Nursing Compulsory Courses (85 Credit hours)

pre-requisites	Course number	Course name	Weekly Theory	Hours Clinical	Number of credits
	150201	Communication and Health Education	3	-	3
150343	150457	Gerontology	2	150343	150457
	150140	Introduction to Nursing	3		150140
	150303	Mental Health Nursing	3	-	3
	150458	English for nursing	3		150458
150303 or co-requisites	150304	Mental Health Nursing/ Clinical	-	9	3
	150411	Community Health Nursing	3	-	3
150141 or co-requisites	150412	Community Health Nursing/Clinical	-	9	3
	150212	Nursing ethics & professionalism	2	-	2
	150421	Intensive Clinical Nursing	-	18	6
	150131	Fundamentals of nursing (I)	3	6	5
150131	150132	Fundamentals of nursing (II)	2	3	3
150132 or co-requisites	150133	Fundamentals of nursing (II) / Clinical	-	9	3
150132,101030 or co-requisites	150241	Adult Health Nursing (I)	3	-	3
150410 or co-requisites	150242	Adult Health Nursing (I)/ Clinical	-	9	3
150241,10323 or co-requisites	150343	Adult Health Nursing (II)	3	-	3
150343 or co-requisites	150344	Adult Health Nursing (II)/ Clinical	-	9	3
150111,150125,150343	150351	Critical Care Nursing	3	-	3
150351	150352	Critical Care/Clinical	-	9	3
	150451	Administration & Management in Nursing	3	-	3
150451 or co-requisites	150452	Administration & Management in Nursing/ Clinical	-	6	2
150132 or co-requisites	150135	Health Assessment	2	3	3
150343	150361	Maternal Health Nursing	3	-	3
150362 or co-requisites	150362	Maternal Health Nursing/ clinical	-	9	3
150343	150371	Children and Adolescents Health Nursing	3	-	3
150372 or co-requisites	150372	Children and Adolescents Health Nursing/ clinical	-	9	3
25202	150453	Introduction to Nursing Research	3	-	3
150453	150454	Nursing Project	2		2
	150455	Comprehensive Exam for Nursing	0		
Total					85

## **Course Description/ Nursing**

### **24121 (General Biology):**

A discussion of biology activity at the level of the single cell. Cell structure. Chemical constituents, material exchanges with the environment and the cell membrane. Major energy generating biochemical pathways. Photosynthesis and control of cellular activities

### **23105+23107 (General Chemistry & Lab):**

A lecture course that involves basic concepts of chemistry. Atomic and molecular structures are covered with periodic table, chemical bonds, and stoichiometry. Aqueous solutions, gas laws and other topics are also covered. In the lab, a set of experiments are conducted which involves acid radical characterizations. Gas laws, Stoichiometry empirical formula and other topics related to general chemistry.

### **150140 (Introduction to Nursing):**

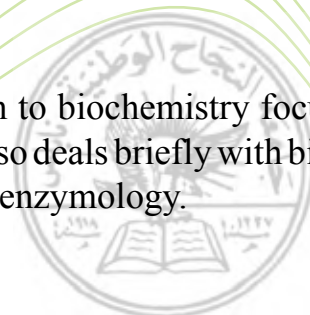
The course provides an introduction to nursing in which students will be introduced to the history & development of nursing locally & internationally. It also covers ethical issues in nursing. The course also provides an overview of the health care delivery system. Topics covered include the relationship between society and health, health manpower in general and the allied health professions in particular. The primary, secondary and tertiary health care services are covered and the modalities of service provision are discussed. Students are provided with an overview of each of different allied health professions, the distinctive role of each of the professions within the health care team; significant aspects of the work of each of the professions, and the skills and competencies required. Employment and continuing education opportunities are also discussed.

### **150110+150111 (Human Anatomy & Physiology I+II) :**

These courses provide an introduction to human morphology & function at the cell, tissue, and organ system levels of organization. The human body is also dealt with as separate systems with understanding of the morphology & mechanisms governing the function of different human organ systems such as the cardiovascular, immunological, musculoskeletal, neurological, gastrointestinal, hematological, urinary, & genital. The courses are taught through theoretical lectures and practical demonstrations.

### **150115 (Medical Biochemistry) :**

The course provides nursing students an introduction to biochemistry focusing on carbohydrates, proteins, fats, vitamins and minerals. It also deals briefly with biological compounds and their metabolism and major aspects of enzymology.



### 150119 (Pharmacology):

Introduces the basic concepts of the body's reaction to drugs including absorption, metabolism and excretion of the drugs. Knowledge provided will ensure the safe practice of nurses and provide a foundation for teaching the relevant pharmacology to clients. The course provides also methods of action, uses and side effects of each medication

### 25202 (Biostatistics):

Relevance and principles of Biostatistics with application in Medicine and Biology. Descriptive statistics, sampling and sampling distributions. Estimation of parameters, probability and probability distribution with emphasis on the normal. Tests of hypotheses for one or two means and one or two proportions. Measures of association between two continuous variables (correlation and regression) and two discrete variables (chi-square). Non-parametric tests commonly used in medicine

### 150125 (Medical Microbiology):

Introduction to the microbial world; place of organism in the living world; origin and classification of microbes; applied areas of Medical Microbiology, morphology and fine structure; cultivation; reproduction; growth; cultural characteristics; introduction to yeasts, algae, moulds, protozoa, viruses.

### 150127 (Pathophysiology):

It deals with the basic knowledge in pathophysiological processes of different diseases and their effects on the different organs and systems of the human body.

### 150129 (Applied Nutrition):

This course includes normal and therapeutic nutrition. The role of nutrition in promoting wellness and regaining wellness will be emphasized. Nutritional care of clients with abnormal reactions due to a single or multiple problems will be covered. Furthermore, common nutritional problems in Arab World as well as nutritional education to individuals, families, and communities will be emphasized.

### 71412 (Medical Psychology):

This course provides an overview of psychology as the basic science concerned with individual human behavior and mental processes. The course introduces the body-mind relationship in health and illness and various emotional and somatic manifestations of this relationship. It focuses on the development of the human personality according to various psychological theories, empirical studies and theoretical models of basic processes such as learning, memory and perception are introduced. Factors that motivate behavior are considered, as well as contemporary models that describe and seek to explain the major dimensions of temperament and personality variation. This helps nurses understand patients' compliance and satisfaction with the medical care they receive. Psychological factors which influence the behavior and expectations of health professionals and the efficacy of the care they provide are also considered. The special needs of certain patients are highlighted such as children, the aged, the dying, and the physically handicapped and mentally retarded. Current theories linking stress and illness, methods for reducing stress, and research into pain and pain management is presented. The relationship between sociodemographic variables and health will also be considered

### **35374 (Sociology):**

The course focuses on various sociological systems and their impact on health practices, economic development and modes of life in various societies. The course will stress on the scope of sociology, advantages and disadvantages of various sociological systems, social groups, effect of the various systems on: health practices, economic development, modes of life, roles, families, the socialization process and health professionals.

### **27120 (Computer Science):**

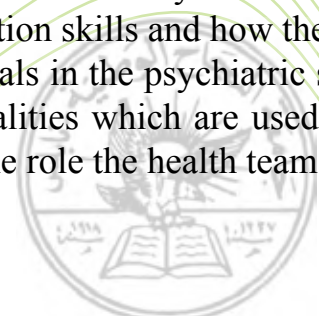
The course focuses on the use of computers for the development of care, management education and research purposes.

### **150201 (Communication and Health Education):**

The course explores the basic principles and concepts of health education. Focuses on the methods used for healthy or sick individuals and/or group(s) in the community or in health care institutions. The course is organized around the elements of the teaching learning process. Emphasis will be on assessment of learning needs, instructional objectives, teaching modalities, educational resources, and evaluation of the teaching/ learning process. Theories and/or models that explain and influence health behavior will be explored. Opportunity for microteaching will also be arranged. The course focuses on the methods used in counselling of healthy individuals of all ages and patients with problems interfering with their normal daily lives. Theories of communication and group processes are studied. The course also centres on communication approaches and techniques relevant to the provision of nursing care to individuals and groups. In order to explain man's interaction with the environment, social, psychology theories focusing on social communication, social networks, roles, social influences and attitude changes are studied. Theories concerning learning, giving information and evaluation are also studied.

### **150303 (Psychiatric & Mental Health Nursing):**

This course incorporates the concept of nursing process in explaining mental health issues, mental disorders, major theories in mental health, Psychopathology of mental health disorders, impact of various psychiatric and personality disorders and how can students utilize different steps in nursing process to help individuals with psychiatric and mental health disorders and their families to retain and maintain the optimal level of mental health. This course also explains different theories and modalities which can help individuals to deal with various types of life stressors in a healthy and constructive ways. This course gives great emphasis on communication skills and how they affect the interaction with clients and other health professionals in the psychiatric settings. In this course, students learn different treatment modalities which are used to treat individuals with emotional and mental disorders and the role the health team.



### 150304 (Psychiatric & Mental Health Nursing/ Clinical):

This course provides nursing students an opportunity to deal directly with clients who suffer from emotional and mental disorders and receiving care in psychiatric care settings (inpatient & outpatient) where students can assess these clients and the resulting behavior exhibited by them by utilizing nursing process in planning and providing nursing care for those individuals based on knowledge gained from biological, social, psychological sciences as well as humanities and nursing. Student's clinical experience will be provided in hospitals, community and day care centres, rendering services to patients with mental health and psychiatric problems and their families. Skills and attitudes of students will be enhanced in caring for patients receiving various therapeutic treatments. Students deal with clients by demonstrating high skills in therapeutic communication whether with individuals or in groups. Also, students help in maintaining therapeutic environment and work with clients in helping them to select the best coping methods to deal with life stressors as well as working with mental and social health team in helping those clients when using different modalities in psychiatric treatment and helping them and their families to retain and maintain optimal level of mental health to go back to community to live as normal as possible.

### 150411 (Community Health Nursing):

The course introduces the scope of community health nursing, with emphasis on nursing care rendered in homes and health agencies for the promotion of health and prevention of illness based on the concept of primary health care Provides theory and practice essential to the assessment, planning, implementation and evaluation of the clients across the lifespan in the community individuals, families, groups. Emphasis is on the study and application of nursing role components inherent in community health for health promotion and as disease prevention based on the concepts of primary health care, self-care and home health care. Conceptual and scientific frameworks applied to community-oriented nursing practice including environmental health, epidemiology, evidence-based practice, community health education, theories, models and principles. Environmental health focuses on the types of health organizations in the community and the services rendered in the promotion of health and prevention of illness, as well as on the national programs dealing with the elements of primary health care. The course focuses on epidemiology, the patterns of occurrence of communicable and non communicable diseases of significant importance in the community and its effect on national health status. It focuses also on the preventive and therapeutic approaches taken towards the major endemic parasitic diseases in the country.

### 150412 (Community Health Nursing/ Clinical):

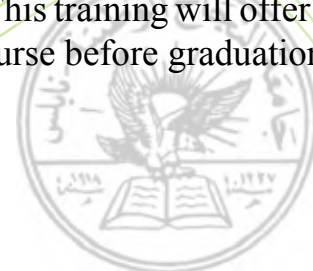
This course is designed to provide the student with the opportunity to observe, participate and function independently to explore nursing skills and techniques related to health promotion, health maintenance and health restoration and disease prevention among the target aggregates in primary health care settings (clinics, homes, youth centers, nursing homes, faculties & schools). Students are directed toward implementation of the nursing process through applying primary, secondary, and tertiary prevention of disease for clients in community setting.

## 150212(Nursing Ethics and Professionalism):

The course focuses on ethical considerations in the profession as well as professional issues relevant to the practice of nursing for the professional nurse and for the nursing profession. It deals with fundamental ethical principles underlying nursing practice. Ethical aspects of decision-making are discussed. Emphasis is placed on Code of Ethics for nurses. The course focuses on the regulatory mechanisms of the nursing profession and the rules and regulations controlling the practice of nursing. The course is a study of relationship and responsibilities of professional nursing that emphasizes on current issues and professional organizations, as well as the planning and discussing of career development. The nurse's professional responsibility is emphasized and analysed from different perspectives. Ethical questions concerning nursing and medical treatment are dealt with. The nurse's professional attitude is developed through reflection over and practice in communication and encounters with both patients and their families. The student's own ability to feel empathy and the student's own reactions in relationships with patients are analysed. Ethical issues and values are examined. The nurse's different functions are presented and considered, as are the organisation and legislation related to this sphere of activities. Students are provided with an overview of each of different allied health professions, the distinctive role of each of the professions within the health care team, significant aspects of the work of each of the professions, and the skills and competencies required. An overview of nursing as a special discipline that has a major impact on the health care delivery system. Autonomy, accountability, commitment, standards entry into, nursing theories and other will be discussed through debates, seminars, panel discussions, and critique papers that will lead to the development of critical thinking and evaluation skills.

## 150421 (Intensive Clinical Nursing):

This course offers a fourth year students the opportunity to be able to develop expertise and to implement problem solving and management principles in the nursing management of selected groups from the health-illness continuum and to practice nursing independently in three levels of prevention; primary, secondary, and tertiary at different clinical setting (hospital and community health centers). Students will apply theoretical knowledge to clinical settings with emphasis on leadership role, management and changing agent role, and taking full responsibility under the supervision of clinical instructors and nurse in charge of clinical setting as preceptors. The course also provide practice essential to the assessment, planning, implementation and evaluation of clients in different clinical setting as well as to apply nursing skills related to health promotion, health maintenance, health restoration and disease prevention and treatment among the target aggregates. This training will offer students the opportunity to take full responsibility as a charge nurse before graduation.



### 150131 (Fundamentals of Nursing I/ Clinical):

The concepts of health/ill health/disease, and the significance of the environment for health and health promotion as well as illness prevention at the living conditions of the individual at different ages are studied from physical, mental, sociocultural and spiritual points of view. This course is also designed to provide concepts basic to the practice of clinical nursing. The nursing process is presented as a frame of reference in meeting the human needs of people and on the delivery of health care in a variety of settings. The course provides the students with basic knowledge about human growth and development, which enhance their abilities to assess and understand the normal process of growth and development through the life cycle, as well as enable them to understand the normal problems and needs during different stages of human life. The course is also designed to provide concepts basic to the practice of clinical nursing. Emphasis on nursing concepts, procedures, and their applications in the nursing lab.

### 150132 (Fundamentals of Nursing II):

This course builds on the unifying concepts basic to nursing practice introduced in foundations of nursing (I). The students will build on the concepts of the nursing process in providing care to individual clients requiring primary and select secondary interventions. Emphasis will be placed on nursing intervention skills in non-acute and selected acute health care settings. This course provides calculating adult and children medication dosage. Continued emphasis on nursing concepts, procedures, and their applications.

### 150133 (Fundamentals of Nursing)/ clinical):

This course is the first step in exposing students to nursing as a field of practice. Students are expected to perform and master certain psychomotor skills with an integration of relevant cognitive components from foundation of nursing I & II 150241+150343 (Adult Health Nursing I+II) 3+3 credit hours: In these two courses of adult health nursing, students are introduced to the individual adult client with common alterations in health status. It is designed to give a broad general background in care of adults who have medical and surgical problems. Students are guided to examine terminology, pathophysiology of common causes, specific diagnostic procedures, and medical management for each specific alteration in health status. Nursing process is the framework used to deal with each health problem. Principles of holistic approach are emphasized during the care of nursing client. These courses focus on pre and postoperative care, fluid / electrolytes and acid base balance, oncology and the alterations in hematology, vascular, cardiac respiratory, dermatology and gastrointestinal systems. Principles of nursing assessment standardized nursing diagnoses amenable to nursing, nursing interventions, interventions, and criteria for evaluation are introduced with emphasis on holistic approach during the care for nursing clients. The course focuses also on the comprehensive delivery of care through the use of the nursing process to elderly and geriatric patients at home, in institutions or who have been hospitalised for complex, acute or chronic condition .



### **150242+ 15344 (Adult Health Nursing I + II/ Clinical):**

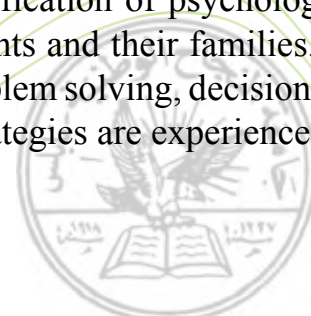
The clinical course for adult health nursing I+II is offered in two semesters. Students are introduced to the care of adult clients with common alterations in health status. The students are guided to use the nursing process to explore the role of the professional nurse in assisting clients attain and maintain wellness. Communication skills, critical thinking, decision making, psychomotor skills, teaching learning principles, keeping abreast with current literature, and moral principles are emphasized in dwelling with selected clients in clinical settings.

### **150351 (Critical Care Nursing):**

The course focuses on the comprehensive delivery of nursing care to adult and geriatric patients hospitalized for complex, acute or chronic conditions in critical care units. It focuses on pathophysiological and psychological responses of adult clients experiencing critical health disruptions. Concepts from pathophysiology, nursing science, pharmacotherapeutics, and medical technology are integrated as a theoretical base for practicing critical care nursing and managing critical health disruptions. Approach of analytical thinking, decision making, hemodynamic monitoring, patient's education, analysis of research results, and nursing process are used to build a system to identify physiological and psychosocial responses to critical health disruption and synthesize appropriate intervention strategies. Legal and ethical issues related to critical care nursing will be discussed. The course is also designed to provide the students with the principles and skills necessary to help victims, accidents, emergency, and disaster situations. It includes measures to be taken to ensure personal safety, thus leading to accident prevention in the home and community. This is a practical part of which will be devoted to mastering first-aid skills, concepts and principles of emergency care.

### **150352 (Critical Care Nursing/ Clinical):**

Students will be guided to apply theoretical knowledge received in clinical settings. Experience in using the nursing process in provision of nursing intervention with critically patients will be stressed. Through clinical days, this course focuses on application of principles and theories from nursing science, pathophysiology, pharmacology, health assessment, and medical technology to provide nursing care for adult clients experiencing critical health disruptions. The course addresses role components of a critical care nurse of monitoring, patient education, and utilization of medical technology to evaluate the health status of adult clients experiencing critical health disruptions with special focus on identification of psychological and physiological responses and learning needs of the clients and their families. Critical care nurses roles and emergency care nurses role of problem solving, decision making, and prioritising nursing diagnoses and intervention strategies are experienced.



### 150451 (Administration & Management in Nursing):

This course provides students with knowledge of management principles, theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings. The course introduces the concept of health economics, health systems financing and cost effectiveness of services, while emphasizing the maintenance of the effectiveness of care to demonstrate social responsibility.

### 150452 (Administration & Management in Nursing / Clinical):

This course allows students to apply the knowledge of management principles; theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings. Students will evaluate managerial conduct and plan and/or develop management approaches for improvement of the service rendered to healthy and/or sick individuals within the various health care settings in the community. The students get to experience the fundamental skills & concepts for a beginning leadership in nursing.

### 150135 Nursing Health Assessment 3:

This course provides students with, knowledge and skills necessary to assess individual health status during health and illness. Students are directed to use effective communication skills to collect data about health history and appropriate psychomotor skills to conduct comprehensive physical examination. Knowledge from medical sciences and critical thinking are used to determine health alterations of the individual. The clinical part of this course applies principles and skills learned in the nursing health assessment course on healthy and ill individuals. Opportunity is given to students to use effective communication and psychomotor skills to collect data about health history and to conduct comprehensive physical examination. Emphasis is placed on maintaining confidentiality and ethical principles in interacting with clients.

### 150361 (Maternal Health Nursing):

This theory course provides opportunities for the students to acquire adequate knowledge base in the area of reproductive health, and gynecologic and neonatal nursing utilizing knowledge from the biophysical sciences, humanities, growth and development, problem solving and the nursing process: to promote, and maintain, health of individual's families and groups with needs related to reproductive health, and safe motherhood. Common gynecological and neonatal problems are also introduced with an expanded knowledge related to women's health issues. The course includes the study of obstetrics and the nursing care of women during various phases of child-bearing.

### 150362 (Maternal Health Nursing / Clinical):

This course integrates knowledge from previous course and the basic sciences to attain high competency level of reproductive health and safe motherhood practices.

Students will apply the nursing process, the psychomotor skills, and the problem solving technique to determine and deal with the physical, emotional, social and ethical nursing problems in the areas of reproductive health, safe motherhood and gynecology. Experience will be provided in maternity hospitals, antenatal clinics, mother child clinics and women's health clinics. Students will be given opportunities to develop basic skills in the care of women during the various stages of the life cycle including phases such as menarche, menopause, etc.

### **150371 (Children & Adolescent Health Nursing):**

This course introduces the students to appropriate scientific knowledge, which enables them to develop their own unique clinical and educational approach to care for children, infants and their families. It will stress the health problems of the infant and child and the nursing care that necessary in restoring health to the child . The course moves from simple to complex issues; starting with concepts of normal growth and development, health promotion and maintenance, and the prevention of illnesses and accidents and then to select health problems (chronic and common health problems, and communicable diseases). This is achieved through utilizing the nursing process, developmental theories, new trends and the latest approaches in the management and caring of children. The course encourages students to utilize knowledge synthesis; problem solving techniques, critical thinking, and family centered approached in the provision of empowered care.

### **150372 (Children & Adolescent Health Nursing/ Clinical):**

This course integrates knowledge from previous course, Nutrition and Pharmacology in providing competent level of care to children and their families. Students will apply concepts related to Growth and Development, research, leadership and Nursing Process in restoring health for children and their families. This course will introduce students to different clinical setting as MCH, Hospital and rehabilitation centers which enable student to achieve a holistic approach to nursing care through primary prevention, health promotion, health maintenance and rehabilitation care. Student will effectively engage in identification of ethical and legal problems, which help in participation in decision making and problem solving.

### **150453 (Nursing Research):**

This course addresses basic research concept and the relationship of research to theory and practice. It develops the ability to function as a competent consumer of research in nursing and related fields. In addition to the skills of research analysis, the student will consider the ethical concerns related to the development and application of research in nursing . Students engage in discussions, reading, analysis, writing, synthesis of lecture and other presentations and serve a brief period as a research assistant as they develop an appreciation for the utilization of research in practice and the skills to analyze research critically as a prelude to applying findings . Basic principle of biostatistics will be introduced to the students.

### 150454 (Nursing Project):

The student will be able to utilize the steps of the research process in the proposal and/or conduct of circumscribed nursing research project. In this course a relevant nursing problem is identified. Systematic observations of events should be carried out using relevant quantitative or qualitative methods. The validity and reliability of the methods should be discussed. The results should be presented, interpreted, discussed and related to a theoretical level. The work is to be documented in the form of a paper organised in a conventional scientific way... Included in the course are presenting a defence of the work and acting as an opponent of another project. Students will select a small research project of actual interest . Faculty members will assist as supervisors for the area of the study. The finding of a written research paper will be present to the seminar group. It is required and restricted to last semester senior nursing students.

### 150457 Gerontology:

The course focuses on the comprehensive delivery of care through the use of the nursing process to elders and geriatric clients at home, in institutions or who have been hospitalised for complex, acute or chronic condition. Gerontology, the study of aging, is a multidisciplinary field that examines the biological, economic, psychological, and social and health/fitness aspects of the aging process. The unprecedented growth of the older population has created a growing demand for professionals in a variety of fields who understand issues related to the aging process. This course will give students an opportunity to expand their knowledge and skill related to the promotion, maintenance, and restoration of health of the elderly client and family in institutional and community settings. Assessment of the physical and psychological well-being of elderly clients, their families and plans of care based on nursing theory will be presented. Current research findings in nursing and related fields will be presented and discussed.

### 150458 English for Nursing:

This course is designed to enhance and improve nursing students, English language reading, writing, speaking and listening proficiency so that they can function effectively in their academic study of nursing courses and in the world of work after graduation. The course will focus on nursing vocabulary expansion, improvement of reading academic texts in the field of nursing, practice in writing and familiarization with the basics of language structure and grammar. In addition, the course will also emphasize speaking and listening skills in way that enables students to express themselves clearly and without difficulty and understand what is said to them.

### 150455 The Comprehensive Exam for Nursing:

The comprehensive exam is one of the basic requirements which must College of nursing student going through at the end of the study to obtain a certificate of Bachelor of Nursing. The comprehensive exam is a requirement for graduation from the College of Nursing at An-Najah National University.

The articles adopted in the comprehensive exam (7 courses):

1. Adult Health Nursing.
2. Maternal Health Nursing.
3. Nursing Ethics & Professionalism.
4. Children and Adolescents Health Nursing.
5. Administration & Management in Nursing.
6. Mental Health Nursing.
7. Community Health Nursing.

OBS: All the students have to take library science



# MIDWIFERY

Credits needed for the Degree

A student needs to earn a total of 154 credits distributed as follows :

Category	Credit hours
University Requirements Mandatory	20
Major in Nursing Mandatory	28
Major in Midwifery Mandatory	64
Faculty Requirements Mandatory	36
University Elective (epidemiology + first aid+ Health Promotion)	6
<b>Total</b>	<b>154</b>

## University Requirements Mandatory (20 Credit hours)

Course No	Course Name	C.H	Pre-Requisites
10101	Islamic Culture	3	-
10102	Arabic Language	3	-
10103	English Language (1)	3	-
10323	English Language (2)	3	-
10105	Palestinian Studies	3	-
10117	Communication and leadership skills	1	-
10108	Community Service	1	-
10100	Computer Science	3	
<b>Total</b>		<b>20</b>	

## Faculty Requirements (36 Credit hours)

Course number	Course Nme	Pre-Requisites	Credit hours
24121	Biology for Pharmacy		3
23105	Chemistry for Pharmacy		3
23107	Chemistry for Pharmacy lab		1
150110	Anatomy & physiology (I)	241010 or co-requisites	3
150111	Anatomy & Physiology (II)	15110	3
150115	Medical biochemistry	24101,23101	3
150119	Pharmacology		3
25202	Biostatistics		3
150125	Medical Microbiology	24101	3
150127	Path physiology	150111	3
150129	Applied Nutrition		2
71412	Clinical Psychology		3
35374	Medical Sociology		3
<b>Total</b>			<b>36</b>

### University Requirements Elective (6 Credit hours)

Course number	Course Name	Credit hours
10119	Epidemiology-	2
10120	First Aid	2
10118	Health Promotion	2
Total		6

### Major in Nursing Mandatory Courses (34Credit Hours)

Course number	Course Name	Weekly Theory	Hours Clinical	Pre-Requisites	Number of credits
150131	Fundamentals of nursing (I)	3	6 (lab)		5
150132	Fundamentals of nursing (II)	2	3 (lab)	150131 or co-requisites	3
150133	Fundamentals of nursing (II) / Clinical	-	9		3
150371	Children & Adolescent Health Nursing	3			3
150372	Children & Adolescent Health Nursing /Clinical		9		3
150453	Introduction to Nursing Research	3			3
150135	Health Assessment	2	3 (lab)		3
150451	Administration & Management	3	-		3
150452	Administration & Management / Clinical	-	6		2
	Total	21	15	-	28



## Midwifery Compulsory Courses (64 Credit hours)

Course number	Course Name	Weekly Theory	Hours Clinical	Pre-Requisites	Number of credits
152373	Ethics and Professional Aspects of Midwifery	2	-	152425	2
152363	Midwifery I	2	9	152425	5
152364	Midwifery I /Clinical			152363 or co-requisites	
152365	Midwifery II	3	12	152363	7
152366	Midwifery II /Clinical			1523650 or co-requisites	
152367	Midwifery III	2	6	152365	4
152368	Midwifery III/Clinical			152367 or co-requisites	
152369	Advance Midwifery	5	12	152367	9
152370	Advance Midwifery / Clinical			152369 or co-requisites	
152374	Neonatology	2	6	152379 or co-requisites	4
152375	Neonatology/Clinical				
152376	Embryology	1	-	-	1
152377	Community Midwifery	2	-	-	2
152378	Community Midwifery/ Clinical	-	3	152377 or co-requisites	1
152379	Gynecology	2	3	152379 or co-requisites	3
152380	Gynecology/Clinical				
152429	Women Health Issues	2	-	-	2
152413	Family planning and contraception	2	3	152413	3
152414	Family planning and contraception/ clinical				
152418	Midwifery Project	2	-	150453	2
152484	Intensive Clinical Midwifery (internship)	-	18	-	6
152425	Introduction to Midwifery	2	-	-	2
152430	Mental Health in Midwifery	2	-	71412,35374 or co-requisites	2
152428	Transition	1	-	-	1
152483	Communication and Health Education for Midwifery	2	-	-	2
152481	Adult Health Nursing for Midwifery	4	-	10103	4
152482	Adult Health Nursing for Midwifery / Clinical	-	6	152481 or co-requisites	2
	Total	31	24		64

Students can study the University Requirements Mandatory & Elective in the summer course



## **Course Description/ midwifery**

### **24121 (Biology for Pharmacy)**

A discussion of biology activity at the level of the single cell. Cell structure. Chemical constituents, material exchanges with the environment and the cell membrane. Major energy generating biochemical pathways. Photosynthesis and control of cellular activities.

### **13105+23107 (Chemistry for Pharmacy & Lab)**

A lecture course that involves basic concepts of chemistry. Atomic and molecular structures are covered with periodic table, chemical bonds, and stoichiometry. Aqueous solutions, gas laws and other topics are also covered.

In the lab, a set of experiments is conducted which involves acid radical characterizations. Gas laws, Stoichiometry empirical formula and other topics related to general chemistry.

### **151425 (Introduction to midwifery )**

The main purpose of the course is to introduce students into midwifery as a profession that has roles, regulations and scope of practice. It also provides students with basic knowledge, which will prepare them to be able to communicate with women about their Study of different medical terms in basic and clinical sciences, the pharmacological and drug terms, and the Latin origin of all medical terminology will be discussed.

### **150110+150111 (Human Anatomy & phsicology 1+II)**

These courses provide an introduction to human morphology & function at the cell, tissue, and organ system levels of organization. The human body is also dealt with as separate systems with understanding of the morphology & mechanisms governing the function of different human organ systems such as the cardiovascular, immunological, musculoskeletal, neurological, gastrointestinal, hematological, urinary, & genital.

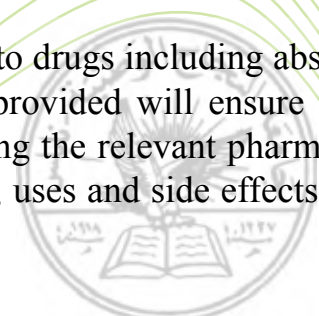
The courses are taught through theoretical lectures and practical demonstrations.

### **150115 (Medical Biochemestry )**

The course provides nursing students an introduction to biochemistry focusing on carbohydrates, proteins, fats; vitamins and minerals .It also deals briefly with biological compounds and their metabolism and major aspects of enzymology.

### **150119 (Pharmacology )**

Introduces the basic concepts of the body's reaction to drugs including absorption, metabolism and excretion of the drugs. Knowledge provided will ensure the safe practice of nurses and provide a foundation for teaching the relevant pharmacology to clients. The course provides also methods of action, uses and side effects of each medication.



## 25202 (Biostatistics)

Relevance and principles of Bio statistics with application in Medicine and Biology. Descriptive statistics, sampling and sampling distributions. Estimation of parameters, probability and probability distribution with emphasis on the normal. Tests of hypotheses for one or two means and one or two proportions. Measures of association between two continuous variables (correlation and regression) and two discrete variables (chi-square). Non-parametric tests commonly used in medicine

## 150125 (Medical Microbiology )

Introduction to the microbial world; place of organism in the living world; origin and classification of microbes; applied areas of Medical Microbiology, morphology and fine structure; cultivation; reproduction; growth; cultural characteristics; introduction to yeasts, algae, moulds, protozoa, viruses.

## 150127 (Pathophysiology)

It deals with the basic knowledge in pathophysiological processes of different diseases and their effects on the different organs and systems of the human body.

## 150129 (Applied Nutrition )

This course includes normal and therapeutic nutrition. The role of nutrition in promoting wellness and regaining wellness will be emphasized. Nutritional care of clients with abnormal reactions due to a single or multiple problems will be covered. Furthermore, common nutritional problems in Arab World as well as nutritional education to individuals, families, and communities will be emphasized.

## 71412 ( Clinical Psychology )

This course provides an overview of psychology as the basic science concerned with individual human behavior and mental processes. The course introduces the body-mind relationship in health and illness and various emotional and somatic manifestations of this relationship.

It focuses on the development of the human personality according to various psychological theories, empirical studies and theoretical models of basic processes such as learning, memory and perception are introduced. Factors that motivate behavior are considered, as well as contemporary models that describe and seek to explain the major dimensions of temperament and personality variation. This helps nurses understand patients' compliance and satisfaction with the medical care they receive. Psychological factors, which influence the behavior and expectations of health professionals and the efficacy of the care they provide, are also considered. The special needs of certain patients are highlighted such as children, the aged, the dying, and the physically handicapped and mentally retarded. Current theories linking stress and illness, methods for reducing stress, and research into pain and pain management is presented. The relationship between sociodemographic variables and health will also be considered.

### 35374 ( Medical Sociology)

The course focuses on various sociological systems and their impact on health practices, economic development and modes of life in various societies. The course will stress on the scope of sociology, advantages and disadvantages of various sociological systems, social groups, effect of the various systems on: health practices, economic development, modes of life, roles, families, the socialization process and health professionals.

Today's society is multicultural which poses new challenges for the nurse in carrying out their work. They have to support individuals based on their own concept of health, disease, and care requirements. The course analyses our own culture and compares it with other cultures, and how one's perception of reality and outlook on humanity affect the concept of health and disease. Concepts such as culture, identity, and the individual as a cultural entity are examined. Anthropological points of view are studied during the course, together with intercultural communication and how trans-cultural messages are received. Stress and trauma associated with immigration and refugee status are analysed. Trans-cultural differences in the experience of symptoms and of pain are described. Living conditions for mankind as a social being are studied during the course, together with the significance of social support and social contacts. The course also covers group processes, group conflicts, bullying and conflict management. Power, hierarchies of power and different roles within the organization are studied in preparation for a leading role as a nurse.

### 10100(Computer Science)

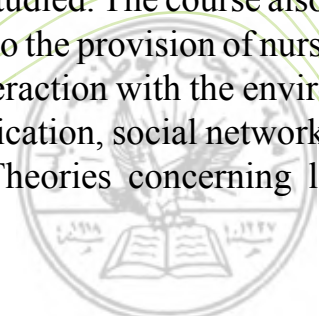
The course focuses on the use of computers for the development of care, management education and research purposes.

### 152483 (Communication and Health Education for Midwifery)

The course explores the basic principles and concepts of health education. Focuses on the methods used for healthy or sick individuals and/or group(s) in the community or in health care institutions. The course is organized around the elements of the teaching learning process. Emphasis will be on assessment of learning needs, instructional objectives, teaching modalities, educational resources, and evaluation of the teaching/ learning process. Theories and/or models that explain and influence health behavior will be explored. Opportunity for microteaching will also be arranged.

The course focuses on the methods used in counseling of healthy individuals of all ages and patients with problems interfering with their normal daily lives.

Theories of communication and group processes are studied. The course also centres on communication approaches and techniques relevant to the provision of nursing care to individuals and groups. In order to explain man's interaction with the environment, social, psychology theories focusing on social communication, social networks, roles, social influences and attitude changes are studied. Theories concerning learning, giving information and evaluation are also studied.



### 152430 (Mental Health in Midwifery)

This course is designed to enable the midwifery students to understand the normal and abnormal behavior, psychological and social crisis and mechanisms for coping and adaptation to crisis especially women her different life stages. This course incorporates the concept of nursing process in explaining mental health issues, mental disorders, Major theories in mental health, Psychopathology of mental health disorders, This course also explains different theories and modalities, which can help individuals to deal with various types of life stressors in a healthy and constructive ways. In this course, students learn different treatment modalities, which are used to treat individuals with emotional and mental disorders and the role the health team.

### 152377/152378 (Community Midwifery )

This course addresses some concepts of community-based midwifery care. It guides the student midwife to utilize the tools to understand some important facts in their local communities that may have an effect on health through compiling a community profile. There will be special focus on woman role, job description, health and mortality pathways that might exist in the community

### 150131 (Fundamentals of Nursing I)

The concepts of health/ill health/disease, and the significance of the environment for health and health promotion as well as illness prevention at the living conditions of the individual at different ages are studied from physical, mental, sociocultural and spiritual points of view.

This course is also designed to provide concepts basic to the practice of clinical nursing. The nursing process is presented as a frame of reference in meeting the human needs of people and on the delivery of health care in a variety of settings

The course provides the students with basic knowledge about human growth and development, which enhance their abilities to assess and understand the normal process of growth and development through the life cycle, as well as enable them to understand the normal problems and needs during different stages of human life.

The course is also designed to provide concepts basic to the practice of clinical nursing. Emphasis on nursing concepts, procedures, and their applications in the nursing lab.

### 150132 (Fundamentals Of Nursing II)

This course builds on the unifying concepts basic to nursing practice introduced in foundations of nursing (I). The students will build on the concepts of the nursing process in providing care to individual clients requiring primary and select secondary interventions. Emphasis will be placed on nursing intervention skills in non-acute and selected acute health care settings. This course provides calculating adult and children medication dosage. Continued emphasis on nursing concepts, procedures, and their applications.

## 150132/150133 (Fundamentals Of Nursing )/Clinical )

This course is the first step in exposing students to nursing as a field of practice. Students are expected to perform and master certain psychomotor skills with an integration of relevant cognitive components from foundation of nursing II & I

## 152481 (Adult Health Nursing for Midwifery )

In this course of adult health nursing, students are introduced to the individual adult client with common alterations in health status. It is designed to give a broad general background in care of adults who have medical and surgical problems. Students are guided to examine terminology, pathophysiology of common causes, specific diagnostic procedures, and medical management for each specific alteration in health status. Nursing process is the framework used to deal with each health problem. Principles of holistic approach are emphasized during the care of nursing client. These courses focus on pre and postoperative care, fluid / electrolytes and acid base balance, oncology and the alterations in haematology, vascular, cardiac respiratory, dermatology and gastrointestinal systems. Principles of nursing assessment standardized nursing diagnoses amenable to nursing, nursing interventions, interventions, and criteria for evaluation are introduced with emphasis on holistic approach during the care for nursing clients. The course focuses also on the comprehensive delivery of care through the use of the nursing process to elderly and geriatric patients at home, in institutions or who have been hospitalised for complex, acute or chronic condition

## 152482 (Adult Health Nursing for Midwifery/ Clinical)

The clinical course for adult health nursing I is offered in one semester. Students are introduced to the care of adult clients with common alterations in health status. The students are guided to use the nursing process to explore the role of the professional nurse in assisting clients attain and maintain wellness. Communication skills, critical thinking, decision making, psychomotor skills, teaching learning principles, keeping abreast with current literature, and moral principles are emphasized in dwelling with selected clients in clinical settings.

## 150451 (Administration & Management)

This course provides students with knowledge of management principles, theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings. The course introduces the concept of health economics, health systems financing and cost effectiveness of services, while emphasizing the maintenance of the effectiveness of care to demonstrate social responsibility.

## 150452 (Administration & Management / Clinical)

This course allows students to apply the knowledge of management principles; theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings.

Students will evaluate managerial conduct and plan and/or develop management

approaches for improvement of the service rendered to healthy and/or sick individuals within the various health care settings in the community

The students get to experience the fundamental skills & concepts for a beginning leadership in nursing

### **150135 Health Assessment 3**

This course provides students with, knowledge and skills necessary to assess individual health status during health and illness. Students are directed to use effective communication skills to collect data about health history and appropriate psychomotor skills to conduct comprehensive physical examination. Knowledge from medical sciences and critical thinking are used to determine health alterations of the individual.

The clinical part of this course applies principles and skills learned in the nursing health assessment course on healthy and ill individuals. Opportunity is given to students to use effective communication and psychomotor skills to collect data about health history and to conduct comprehensive physical examination. Emphasis is placed on maintaining confidentiality and ethical principles in interacting with clients

### **150371 (Children & Adolescent Health Nursing)**

This course introduces the students to appropriate scientific knowledge, which enables them to develop their own unique clinical and educational approach to care for children, infants and their families. It will stress the health problems of the infant and child and the nursing care that necessary in restoring health to the child The course moves from simple to complex issues; starting with concepts of normal growth and development, health promotion and maintenance, and the prevention of illnesses and accidents and then to select health problems (chronic and common health problems, and communicable diseases). This is achieved through utilizing the nursing process, developmental theories, new trends and the latest approaches in the management and caring of children.

The course encourages students to utilize knowledge synthesis; problem solving techniques, critical thinking, and family centred approached in the provision of empowered care.

### **150372 (Children & Adolescent Health Nursing/ Clinical)**

This course integrates knowledge from previous course, Nutrition and Pharmacology in providing competent level of care to children and their families. Students will apply concepts related to Growth and Development, research, leadership and Nursing Process in restoring health for children and their families. This course will introduce students to different clinical setting as MCH, Hospital and rehabilitation centres which enable student to achieve a holistic approach to nursing care through primary prevention, health promotion, health maintenance and rehabilitation care. Student will effectively engage in identification of ethical and legal problems, which help in participation in decision-making and problem solving.

## 150453 (Introduction to Nursing Research)

This course addresses basic research concept and the relationship of research to theory and practice. It develops the ability to function as a competent consumer of research in nursing and related fields. In addition to the skills of research analysis, the student will consider the ethical concerns related to the development and application of research in nursing. Students engage in discussions, reading, analysis, writing, synthesis of lecture and other presentations and serve a brief period as a research assistant as they develop an appreciation for the utilization of research in practice and the skills to analyse research critically as a prelude to applying findings. Conduct Utilization. Basic principle of biostatistics will be introduced to the students.

## 152373 Ethics and Professional aspects of midwifery

The course teaches philosophy, roles, responsibilities, professional boundaries, scope of practice, models of midwifery practice, individualized care, collaboration, midwifery business, finance, marketing, starting an independent practice, midwifery associations, midwifery and politics, midwifery in health system, record keeping midwifery audit, peer review, midwifery vs maternity care, midwifery and reproductive health.

This course focusing on ethical issues related to midwifery and nursing practices. It addresses how midwives and nurses are represented with conflicts and dilemmas in a wide range of issues relating to the care of the mother and child. They need to be able to identify the ethical issues, consider the possible actions, which could be taken, then select and implement the appropriate course of action. Ethics in midwifery explains basic ethical theory, providing an understanding of how dilemmas occur and the basis on which ethical decisions can be made and conflicts resolved, it applies ethical principles to particular situation which occur in midwifery, or which influence a midwife's sphere of practice. Case studies will be used to illustrate dilemma in midwifery and to show how they could be resolved screening for fetal abnormality, maternal vs. fetal rights, and resource allocation and infertility. Care of the grieving parent, with special reference to stillbirth.

## 103111 Health promotion

The aim of this course is to highlight the scope of health promotion within midwifery practice and emphasize the unique opportunity midwives have to influence the health and lifestyles of women and their families.

The philosophy of health promotion reflected throughout the course is concerned with empowering people to make healthy lifestyle choices, within the context of their cultural and socio-economic backgrounds.

Midwives are in a unique position to contribute to the future health of society. The benefits of health promotion in midwifery can be gained only if commitment, time and resource allocation are provided. Need for collaboration and partnership between the national health service, local authorities and local communities, with the ultimate aim of reducing inequalities in health by increasing the health of disadvantaged groups.

Health promotion in midwifery practice explore the key issues and boundaries of

health promotion role of midwives today. It offers practical guidelines while integrating health promotion theory into midwifery practice. It is encouraged to explore current health advice and to appraise critically the available information on health promotion and the midwives role in this area: Exercise during pregnancy, offering useful advice for midwives and exploring safety parameters, alcohol, and whether there is a safe measure, challenging present health advice, pre-conception care-and whether an improved service is part of the midwife's role, smoking-showing how cessation during pregnancy can be built upon for long-term health gain., mental health promotion- a challenge for midwives includes postnatal depression, prevention strategies and the importance of debriefing and screening, as well as post-traumatic stress disorder.

### 150119 (Pharmacology)

Introduces the basic concepts of the body's reaction to drugs including absorption, metabolism and excretion of the drugs. Knowledge provided will ensure the safe practice of nurses and provide a foundation for teaching the relevant pharmacology to clients. The course provides also methods of action, uses and side effects of each medication.

### 152363+152364 (Midwifery I)

The Midwifery management process is introduced as the organizing element of clinical practice. Students integrate history taking and health assessment with beginning Midwifery management skills. Clinical experiences focus on the use of the Midwifery management process as it pertains to the health care of women. The concept of primary care is introduced. The organisation of the midwifery care, the antenatal booking interview, perception care-the embryo of health promotion, antenatal preparation of the breast for breastfeeding,, Antenatal education, ultrasound- the midwife's role, the psychology of pregnancy and parents anxieties and the realities. The counselling process, the methods used in counselling and planning a counselling session will be emphasized.

Practicum Antenatal Care: Provide the student Nurse Midwife with the opportunity to apply the theories learned by conducting antenatal examinations in various situations. Practical setting: MCH centres and out patient clinics.

### 152365+152366 (Midwifery II)

Student continues to build on primary care and management skills acquired in Midwifery I, and begins to care for the family in the perinatal period. Newborn assessment is added. The Midwifery management process continues to be the organizing framework for clinical practice. Normal Midwifery is a major focus along with the behavioural and sociological aspects of pregnancy, childbirth, motherhood and parenting.

The course describes the normal pregnancy, labor and puerperium and it includes the role of midwives during these stages. It also covers health education and preparation for parenthood, Intrapartum and post-partum care by midwives is explored in depth,



and includes concepts related to the well woman, health education, health promotion and family spacing.

Midwifery care in the first stage of labor, artificial rupture of the membranes, nutrition and hydration in labor, pain relief in midwifery, the midwife's management of the third stage of labor, HIV infection- a midwifery perspective.

Postnatal care includes postnatal perineal care, postnatal care of breast feeding mother, emotional problems following childbirth, parental-infant attachment, care of the umbilical cord, transitional care, teenagers mothers and the quality assurance in postnatal care shall be taken in consideration.

Practicum: Post Partum Care: Provide the student Nurse- Midwife with the knowledge that has been learned and the management of normal labors and deliveries as well as complicated ones

### Practicum Labor and Delivery I

This period of the practicum in normal labor and delivery will provide the student Midwife with an opportunity to apply the theories and skills that are learned in midwifery Normal Childbearing. The main concern is on management of normal labor and delivery. Each student is evaluated by the program objectives.

### Practicum Labor and Delivery II

This period of the practicum in normal labor and delivery provides the student Nurse midwife with the opportunity to apply the knowledge and the skills that are learned in Midwifery.

Abnormal Labor and Delivery. Emphasis is placed on the management of normal labor and delivery as well as complicated

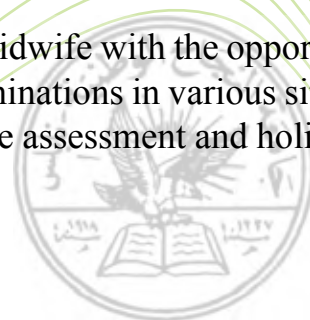
### Practicum Neonatal

To provide the opportunity for the students to apply the knowledge and the skills that are learned in Midwifery, Neonatology and Child Health Care. The focus is on working with healthy neonates as well as with high risk neonatal situations, through spending a period of time in normal nurseries and Neonatal Intensive Care Units.

### 152367+152368 ( Midwifery III /Clinical )

This course focuses on the midwife role during puerperium. It focuses on breast feeding issues and management immediately after birth and during puerperium. It is also concerned with immediate physiological and psychological care of the newborn. It discusses normal puerperium. Actions and management as well as abnormal puerperium. and emergencies

Practicum Postnatalnatal Care: Provide the student Midwife with the opportunity to apply the theories learned by conducting postnatal examinations in various situations. The student midwife will be able to provide appropriate assessment and holistic care of the mother and her baby during puerperium



## 152369/152370 (Advance Midwifery)

The focus of this course is on the collaborative management between the Midwife and other health care providers in complex clinical situations. It focuses on identification, diagnosis, evaluation and follow up of women with obstetric and medical complications. Emphasis is on midwife's in dealing with high risk woman during pregnancy, labor and postpartum cases. The student collaboratively manages the care of women who have or develop medical, obstetrical, or gynaecological complications. Bleeding in pregnancy and termination of pregnancy will be emphasized. Newborn complications are considered. Primary care of women and newborns is also addressed. The course is dealing with obstetric emergencies i.e. shoulder dystocia, postpartum hemorrhage, hemorrhagic shock, cord prolapse, eclampsia convulsion.

### Extended Practicum

The purpose of the extended practicum is to provide the student with an opportunity to practice autonomy in labor and delivery care in the base hospital. To ensure competence and autonomy in practice when making judgments and decisions, the student will keep a journal of critical incidents in practice from the outset of the program. The personal journal is an important aspect of the program evaluation strategy.

## 152379 (Gynecology)

This course is designed to enable the students to understand the role of the midwife in dealing with gynaecological disorders. At the completion of this course the student will be able to discuss cancer related to female reproductive system focusing on breast cancer, recognition of proper way of self breast examination for early detection,, describe certain uterine ovarian, cervical and vaginal anomalies and diseases, identify certain diagnostic procedures related gynaecological disorders, and identify the causes and treatment of infertility on Palestinian couples life.

The course enables student to cite basic definition of sexuality, outlines the psychological, physiological implications of sex and sexuality, during pregnancy, child birth and afterwards and lists some of the factors that may impact on sex and sexuality for women who are breastfeeding. Explore female sexuality and discuss deviations or needs which may arise through her life span. Discuss sexuality problems in the Palestinian society, techniques, response and special needs, and counselling methods and approach. Discuss the sexual transmitted disease and preventive measures (bacterial vaginosis, candida, trichomans, syphilis, gonorrhoea, herpes genitalis, and HIV and AIDS.

## 152380 Gynaecology/ Clinical

Clinical practice prepare the students to practice in the gynaecological wards to qualify the students nurse at communicate effectively with women to perform the gynaecological procedures and care in a scientific and skilful way. It focuses on the importance of assessing and caring for women with gynaecological problems and undergoing surgery such as malignant diseases of the vulva, cervix, uterus, ovarian tubes, infertility and sexual transmitted disease.

## 152429 Women Health Issues

The course enables students to identify the health needs of well women through the span of their life cycle. The course promotes them to develop skills to assess the physical, social, physiological and cultural needs of the Palestinian well women. Cultural, social and psychological influences on a adolescent health as early marriage education.

Highlighting on her promotion and development towards a positive change within society. The course will focus upon the health needs of the Palestinian well woman where the students being professionals act as change advocates to promote health of women in their own community.

The course focuses on the nutritional needs of women through their life span, reflect on social, cultural, gender, and political issues affecting the health of women in Palestine and highlight the health needs of the adolescents, primenopause, menopause, also during the span of old age and disability. The course describes the womens' mental health (postpartum emotional changes, depression and psychosomatic disorder.

## 151374/150375 Neonatology/Clinical

This course will prepare the student to work with healthy and sick neonatal babies and other neonatal complications. The major focus is the healthy neonate, development, care and nutrition. Concepts explored are: child health promotion strategies, and high-risk situations, which include the common neonatal disorders. The care of pre-term babies and the problems associated with pre-term birth are also a focus. The student will be able to assess the newborn babies based on apgar score and other physical assessment measures, identify newborn babies who are in need for resuscitation, to recognize some abnormalities such as spinal bifida, cleft lip, hydrocephalus .etc and to differentiate between physiological and pathological jaundice.

## 152376 Embryology

This course will prepare the student to recognize the basic embryology and foetal development on the first, second, third and fourth Week. Describe the process involved in embryo formation, understand the development of key organ systems during foetal life as: peripheral nervous system, embryonic folding, lungs, heart, vasculature, gastrointestinal tract, limbs, head and neck, integument, central nervous system, foetal development and understand the critical importance of the foetal hypothalamic-pituitary- and adrenal axis.

## 152413+ 152414 Family planning and contraception

This course will prepare the student to recognize the different aspects of family planning methods appropriate for her and her beliefs. Focus on issues and concepts in family planning include strategies of the national health plan, philosophy, principles and social aspects. Methods of birth control, sterilization, therapeutic abortion, and counselling services are offered. It Introduces issues and programmatic strategies related to the development, organization, and management of family planning

programs. Topics include social, economic, health, and human rights rationale for family planning; identifying and measuring populations in need of family planning services; social, cultural, political, and ethical barriers; contraceptive methods and their programmatic requirements; strategic alternatives, including integrated and vertical programs and public and private sector services; information, education, and communication strategies; management information systems; and the use of computer models for program design.

Practicum family planning and contraception: Provide the student Midwife with the opportunity to apply the theories learned by conducting family planning and contraception. Practical setting: MCH centres and out patient clinics.

### 152418 (Midwifery Project)

The student will be able to utilize the steps of the research process in the proposal and/or conduct of circumscribed midwifery research project. In this course a relevant midwifery problem is identified. Systematic observations of events should be carried out using relevant quantitative or qualitative methods. The validity and reliability of the methods should be discussed. The results should be presented, interpreted, discussed and related to a theoretical level. The work is to be documented in the form of a paper organised in a conventional scientific way. Included in the course are presenting a defence of the work and acting as an opponent of another project. Students will select a small research project of actual interest. Faculty members will assist as supervisors for the area of the study. The finding of a written research paper will be present to the seminar group. It is required and restricted to last semester senior nursing students.

This course is designed to emphasize one of the important roles of the midwife, which is a researcher's role. Through this course the students increase their knowledge about research design and the steps that should be followed in order to conduct research, and being aware of the particular research evidence that relates to practice.

### Epidemiology

This course is designed to enable the students to understand the scientific study of epidemics and epidemic diseases, especially the factors that influence the incidence, distribution, and control of infectious diseases; the study of disease occurrence in human populations. It focuses on the patterns of occurrence of communicable and noncommunicable diseases of significant importance in the community and its effect on national health. It focuses also on the preventive and therapeutic approaches taken towards the major endemic parasitic diseases in the country.

At the end of the course the students have an understanding of how and why statistical information is collected, be able to discuss the impact of social and environmental factors upon maternal and neonatal mortality and morbidity, be critically aware of evidence-based measures which when implemented have been shown to reduce maternal and neonatal morbidity and mortality, and appreciate how good midwife practice play a positive role in further reducing maternal and neonatal mortality and mortality.

It focuses also on the preventive and therapeutic approaches taken towards the major endemic parasitic diseases in the country.

### **152484 Intensive Clinical Midwifery (Internship)**

This course offers a fourth year students the opportunity to be able to develop expertise and to implement problem solving and management principles in the midwifery management of selected groups from the health-illness continuum and to practice midwifery independently in three levels of prevention; primary, secondary, and tertiary at different clinical setting in the hospital and community (Antenatal care, labor and delivery unit, gynecology and postnatal). Students will apply theoretical knowledge to clinical settings with emphasis on leadership role, management and changing agent role, and taking full responsibility under the supervision of clinical instructors and nurse in charge of clinical setting as preceptors. The course also provide practice essential to the assessment, planning, implementation and evaluation of clients in different clinical setting as well as to apply Midwifery skills related to health promotion, health maintenance, health restoration and disease prevention and treatment among the target aggregates. This training will offer students the opportunity to take full responsibility as a charge midwife before graduation.

### **0502123 First Aid**

Designed to provide the student with the principles of first aid and skills necessary to help victims, accidents, emergencies and disaster situations. It includes measures to be taken to ensure personal safety, thus leading to accident prevention in the home and community. This is a practical course, part of which will be devoted to mastering first-aid skills in the case of trauma, bleeding, wounds, fractures, dislocations, burns, bites, stings, poisonings, loss of consciousness, suffocation and safety procedures appropriate to adopt control of the particular case and rules in the modern ways.

### **152428 Transitions**

This course prepares students physically, sychologically and socially to be looking forward to their new roles as “professional midwives”. It should deal with empowering skills, reflections, expressing themselves, testing and undertanding their own believes, to start formulating their own individualized philosophies, curriculum vitus, searching for jobs opportunities, introducing them to the current health systems and hosting different midwives as guests to talk to them about their experiences. Whether it is chosen or thrust upon you, change brings both opportunities and turmoil. takes students step by step through the three stages of any transition: The Ending, The Neutral Zone, and, in time, The New Beginning. Bridges explains how each stage can be understood and embraced, leading to meaningful and productive movement into a hopeful future. Transitions will remain the essential guide for coping with the one constant in life: change is about the personal and emotional changes that come with pregnancy and new parenthood. Based upon extensive interviews with expecting couples, new parents, and related professionals, the course highlights nine areas where people

experience challenge. Each area contains tools, resources, and assessments focused on guiding readers to clarify what they want, eliminate self-imposed limitations, and gain insightful perspectives on their current challenge.

## 152485 The Comprehensive Exam For Midwifery

The comprehensive exam for midwifery is one of the basic requirements which must midwifery students going through at the end of the study to obtain a certificate of bachelor of midwifery.

The courses adopted in the comprehensive exam (11 courses ) :

1. Midwifery I.
2. Midwifery II.
3. Midwifery III.
4. Introduction to Midwifery.
5. Advance Midwifery.
6. Neonatology.
7. Ethics and Professional Aspects of Midwifery.
8. Family Planning and contraception.
9. Women Health Issues.
10. Gynecology.
11. Neonatology.

OBS: All the students have to take library science

## ACADEMIC STAFF

Dr.Adnan Sarhan	PhD in Psychiatric Nursing -University of Athens Master in Mental Health- Al-Quds University
Aidah Alkaissi	PHD Doctor in Anaesthesiology Master Degree Nursing Bachelor of science in the intensive care nursing Bachelor of science in the anesthetic nursing
Najwa subuh	High Diploma in Community Health Nursing Master in Pediatric Nursing (Al-Quds University)
Shrouq Ghaleb Qadose	Maternal Child Health (Al-Quds University)
Fatima Hirz Allah	master critical care nursing - Jordan university Ibn Sina nursing Collage
Mohammad Marie	Master in Community Mental Health. Al-Quds university
Mahdiah Shaker	Master In Critical Care nursing- Jordan University. Ibn Sina Nursing Collage
Raheegh Awni	High Diploma in Midwifery – Makassed Hospital Master in maternal and child health Jordan University
Samah Ishtaeiah	Master in nursing management Al-Quds University
Mohammad Hayek	Nursing An-Najah university



# FACULTY OF

# OPTOMETRY





# FACULTY OF OPTOMETRY

An-Najah National University added the Faculty of Optometry to its 19 existing Faculties in 2004. Today the Faculty has a total of 90 students and we are proud of the quality of instruction and the training experience that we offer to our students despite the insurmountable difficulties that we have been facing.

Since its establishment, the Faculty has been growing in its expectations and learning opportunities and we have made every possible effort to secure the most up-to-date equipment and labs for enriching the practical aspects of the learning experience so that they match the theoretical ones. The Faculty at An-Najah National University. It is the only Faculty of Optometry in Palestine and is a Full member at the World Council of Optometry.

## *The WCO Concept of Optometry is:*

“Optometry is a healthcare profession that is autonomous, educated, and regulated (licensed / registered), and Optometrists are the primary healthcare practitioners of the eye and visual system who provide comprehensive eye and vision care, which includes refraction and dispensing, detection / diagnosis and management of disease in the eye, and the rehabilitation of conditions of the visual system.”

Doctors of Optometry are independent primary health care providers who examine, diagnose, treat and manage diseases and disorders of the visual system, the eye and associated structures as well as diagnose related systemic conditions, trained to prescribe medications to treat eye diseases and also provide pre-and post-surgical care and encourage preventative measures.

Today, the profession of Optometry involves much more than just prescribing and fitting glasses and contact lenses. Doctors of Optometry are trained to evaluate any patient’s visual condition and to determine the best treatment for that condition. They are viewed more and more as primary care providers for patients seeking ocular or visual care. Optometry is the nation’s third largest independent healthcare profession. Optometrists provide the majority of primary vision care.

## *Differences Between Ophthalmologist, Optometrist, and Optician? Ophthalmologist*

An ophthalmologist is a physician (doctor of medicine, MD, or doctor of osteopathy, DO) who specializes in the medical and surgical care of the eyes and visual system and in the prevention of eye disease and injury. An ophthalmologist is a medically trained specialist who can deliver total eye care: primary, secondary and tertiary (i.e., vision services, contact lenses, eye examinations, medical eye care and surgical eye care), diagnose general diseases of the body and treat ocular manifestations of systemic diseases.

## **Optometrist**

Doctors of optometry are independent primary health care providers who examine, diagnose, treat and manage diseases and disorders of the visual system, the eye and associated structures as well as diagnose related systemic conditions

## **Optician**

Opticians adjust and fit optical products such as glasses. Some employers hire individuals with no background in opticianry. Training may be informal, on-the-job or formal apprenticeship. Others seek people with college level training in opticianry.



## Graduation requirements for the B.S. degree in Optometry

The student has to complete 159 credit hours distributed as follows:

17 credit hours University compulsory courses.

6 credit hours University elective courses.

136 credit hours Faculty requirements.

### First Year :

First Semester			
Course #	Course title	Credit hours	Prerequisite
21104	Mathematics	3	-
22103	General physics	3	-
22113	Gen. phys. Lab	1	-
23105	General chemistry	3	-
24121	General biology	3	-
161110	History & Orientation of Optometry	1	-
10103	English language(1)	3	-
Total	17		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
161111	Human Physiology	2+1	24121
161112	Human Anatomy (Head, Neck, Thorax)	2+1	24121
161115	Medical Biochemistry	3	24121
105342	Medical Microbiology	3	-
161210	General & Theoretical Optics	3	22113+22103
25202	Biostatistics	3	-
Total	18		

Summer Semester			
Course #	Course title	Credit hours	Prerequisite
10322	English Language(2)	3	-
10102	Arabic Language	3	-
105343	Medical Microbiology Lab	1	105342
161211	Optics Lab	1	161210
Total	8		

## Second Year :

First Semester			
Course #	Course title	Credit hours	Prerequisite
162112	Ocular Anatomy	2+1	161112
162111	Ocular Physiology	2+1	161111
162210	Theoretical & Physical Optics	3	161210
162115	General Pharmacology	3	161115
162510	General Pathology	3	161111+105342
162221	Physiological Optics 1	3	161210
Total	18		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
10100	Introduction to computer sciences	3	-
10101	Islamic studies	3	-
162116	Ocular Pharmacology	2	162111+162112+162115
161113	Medical terms for optometry	1	
162113	Genetics	2	
162511	Ocular Diseases 1	3	162510
	Univ. elective	2	
Total	16		

Summer Semester			
Course #	Course title	Credit hours	Prerequisite
162211	Optics Lab 2	1	162210
10105	Pal studies	3	-
-	Univ. elective	2	-
Total	6		



### Third Year:

First Semester			
Course #	Course title	Credit hours	Prerequisite
162512	Ocular Diseases 2	3	162511
163111	Neurophysiology of Vision	3	161111+105342
163211	Clinical Medicine	3	162510
163311	Clinical Optometry 1	2	-
163411	Contact Lenses 1	3+1	162510
163514	Public Health & Occupational Optometry	3	105342
Total	18		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
163312	Clinical Optometry 2	2	163311
164411	Contact Lenses 2	3+1	163411
163315	Pediatric Optometry	3	162512
163328	Binocular Vision & Ocular Motility	3+1	162512
163325	Gerontology & Low Vision	3	162512
-	Univ. elective	2	-
Total	18		

Summer Semester			
Course #	Course title	Credit hours	Prerequisite
163412	Optometry Clinic A	3	163411
163414	Optometry Clinic B	3	163411
162113	Genetics for Optometrists	2	163111 + 162512
Total	8		

## Fourth Year:

First Semester			
Course #	Course title	Credit hours	Prerequisite
164412	Case Analysis 1	1	163414+163412
164510	Environmental Optometry	1	-
164110	Professional Ethics & Communication Skills	2	-
10108	Community Service	1	-
164416	Specialty Clinical Procedures	1	163311
164413	externship	3	
164328	Binocular Anomalies & Therapy	3+1	163328
164420	Advanced Optometry Clinic 1	3	163312
Total	16		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
164414	Case Analysis 2	1	164412
163410	Clinical Optometry 3	3+1	163312
164415	Clinical Dispensing	2	164412
164422	Advance topics in Optometry	3	164411
164421	Advance Optometry Clinic 2	2	164420
161121	Practice Management	3	-
164511	Graduation Project	1	163412+163414
Total	16		



## Course Contents

### Human Anatomy (2+1):

Anatomy of the brain and brain structures, blood and nervous supply to the brain, neck and thorax. Brain cells. Anatomy of the systems: skeletal, digestive, respiratory, central nervous system (CNS), peripheral nervous system (PNS), Histology of the brain cells and organs. Practical: includes viewing slides of the human body

### General Physics (3):

Classical mechanics (general laws of motion), Electricity, Thermodynamics, Fluid Mechanics, vibrations and wave motion, electromagnetic waves, sound and light. Light and Lasers, Optical spectra, dual nature of light, absorption, excitation and relaxation, ionization, molecular dissociation and lasers. Microscopes, optical microscopes, electron microscope, scanning tunneling microscope and atomic force microscope.

### General Physics Lab (1):

The course covers experiments in relation to topics covered by course 22103

### Mathematics (3):

Functions, limits and continuity, derivatives and applications, integration and applications, elementary differential equations, linear second order differential equations with constant coefficients.

### General Chemistry (3):

A lecture course that involves basic concepts of chemistry. Atomic and molecular structures are covered with periodic table, chemical bonds and stoichiometry. Aqueous solutions, gas laws and other topics are also covered.

### History & orientation of Optometry (1):

A brief history of the profession & the development of visual sciences, a consideration of legal & organizational development of Optometry, the role of professional associations, the role & scope of Optometry & its relationship to other professions & the community.

### Human Physiology (2+1):

A detailed general physiology of the human body along with physiology of major organ systems. Course content will be presented in a modular format. Areas of discussion will include functions of the cardiovascular, respiratory, endocrine, digestive, reproductive, integument, and peripheral and autonomic nervous systems. The laboratory will emphasize and augment important concepts introduced in the classroom environment.

### **Medical Biochemistry (3):**

Basic concepts of general and cellular biochemistry. Study of nomenclature structure, and reactions of organic molecules. Some emphasis on visual system, tears, intraocular fluids, lens and photochemistry.

### **Medical Microbiology (3):**

Nature of microorganisms, sterilization and disinfection, gram-positive and gram-negative pathogens, spirochetes Chlamydia and rickettsiae viruses, fungi & parasites. Basic concepts of microbial genetics, structure and metabolism of microorganisms. Principles of immunity and immunobiology, with emphasis on diseases caused by microorganisms.

### **Medical Microbiology Lab (1):**

General techniques in media preparation, isolation, staining, culture and identification of bacteria and antibiotics susceptibility testing. Principles of sterilization & disinfection and quantitative measurement of bacterial growth

### **General Biology (2):**

Origin of life, molecular evolution, development of life forms, Darwin evolution, molecular make up of cell monomers and polymers, cell structure, energy cycles, photosynthesis, symbiosis, chloroplasts, mitochondria, ATP, NADH, food cycle, aerobic and anaerobic process of energy production, structure and activity of DNA and RNA.

### **Genetics for Optometry (2):**

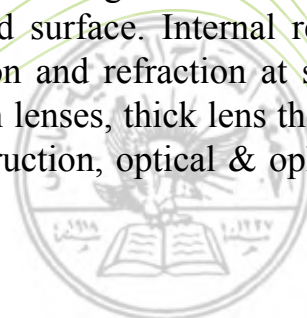
Mendelian genetics. Chromosomal mechanisms in mitosis and meiosis. The origin, inheritance and adaptive significance of chromosomal changes. Nucleic acids as the carriers of genetic information, genetic aspects of the eye disease, defects of ocular/ adnexal development .

### **Biostatistics (3):**

Statistical methods involving relationships between populations and samples, collection, organization and analysis of data and techniques in testing hypotheses with an introduction and analysis of variance. Emphasis will also be given to nonparametric methods.

### **Geometrical & Theoretical Optics (3):**

The propagation of light, the behavior of light on reaching a new medium, ray tracing, reflection and refraction at a plane & curved surface. Internal refraction at plane surfaces, prisms and optical fibers. Reflection and refraction at spherical surfaces, cylindrical and spherocylindrical lenses. Thin lenses, thick lens theory and lens system. Aberration and image quality. Ray construction, optical & ophthalmic instruments.





### General Pathology (3):

Basic disease processes, including inflammation, degeneration, neoplasia, pathogenic microbiology & related diseases, immunity & hypersensitivity, diseases caused by physical & chemical agents, diseases of the organ systems.

### Ocular Anatomy (2):

The gross microscopic & ultra structure of ocular tissues, the embryology and comparative anatomy of the eye will be emphasized; the relationship of the eye to the vascular supply of the head & the resources system will be studied.

### Ocular Physiology (2):

The physiology of the smooth muscles of the eye, the extra ocular striated muscles, conjunctiva, the lacrimal apparatus, the cornea, the iris, the lens, the ciliary body & the vitreous body, production and drainage of aqueous humour & its effect on intraocular pressure.

### General Pharmacology (3):

Introduction to Pharmacology, basic terminology, pharmacokinetics and bioavailability, parameters of drug description original and generic drugs, prescription drugs, OTC drugs, basic drug activity mechanisms, classification of drugs, drugs affecting the nervous system, antimicrobials, drugs affecting the coronary and vascular systems, drugs affecting the digestive system, drugs affecting the endocrine system, anti-allergic drugs and immunosuppressant, coagulants and anticoagulants, anti-inflammatory drugs, dermatologic drugs, ENT drugs, topical and systemic ocular medications, chemotherapy, side effects, contraindications, special precautions, considerations in drug selection.

### Ocular Pharmacology (2):

Coverage of the principles of pharmacology, drug classification & mechanism of action, medication use by the population, coverage of medications used to manage most major diseases & consideration of the effects of these medications on the eye & vision. Principles of ophthalmic pharmaceutical preparation & pharmacokinetics selection & use of all ophthalmic diagnostic & pharmaceutical agents, including dyes, stains, topical & ocular anesthetics, mydriatics, cycloplegics, miotics, palliative therapeutic agents (artificial tears, etc.) & ophthalmic therapeutic agents. Coverage will include product details & recommended guidelines for their use & follow up procedures.

### Optics Lab I (1):

Experiments in application to topics covered in course #151210

### Ocular Disease I (3):

The etiology, epidemiology, symptoms, signs and course sequelae of ocular disease and anomalies. Disease and anomalies of lids, orbit, conjunctiva, cornea, sclera, iris, ciliary body, lens, vitreous, retina, choroids and optic nerve.

### Physiological Optics (3):

Optical elements of the eye. The eye as an optical instrument. Schematic eye. Gullstrand's eye, the normal eye. Refractive errors, myopia, hyperopia, astigmatism, refractive ametropia, axial ametropia. Planes and angles of the eye. Axes of the eye. The refractive correction: spectacles and contact lenses. Optical aberrations. Accommodation. Units of measurement of angles: prism, degree, meter, radian and centric angle.

### Practice management (3):

Practice management, financial management, office design; inter professional relations with optometric assistants & professional associations

### Public Health & occupational Optometry (3):

Introduction to the foundation & basic sciences of public health Optometry with an emphasis on the epidemiology of vision problems.

### Introduction to Computer Sciences (3):

Computer components: hardware and software; PC use, D.O.S., and Windows; introduction to programming in Basic; on-line information resources, CD-Rom databases, programs and multimedia systems that can be used by pharmacists in their practices.

### Optics Lab II (1):

Experiments in application to topics covered in course # 52210

### Neurophysiology of vision (3)

The neural processing of colour, brightness, movement and form by the retina, lateral geniculate, cortex, superior colliculus and other brain centers, neural mechanisms underlying binocular depth perception, the accommodative response & eye movement, pupils reactions, innervation to pupils.

### Clinical Optometry I (2):

Selected tests for ocular assessment including case history, visual acuity and ophthalmoscopy.

### Clinical Medicine (3):

Diagnostic principles and medical management. Comprehensive health history, physical examination and neurological screening with particular association to ocular health conditions. Clinical chemistry and interpretation of clinical laboratory tests, criteria for referral to other providers and emergency office procedures. Co management practice with other primary care physicians will be emphasized.

### Ocular Disease II (3):

The etiology, epidemiology, systems, signs, course sequelae and management of posterior segment ocular disease and the anomalies and ocular manifestations of systemic diseases. Disease, abnormalities and management of neurological conditions which affect the lids, pupils, extra ocular muscles, optic nerve and visual system.

## Binocular Anomalies and Therapy (3+1):

Detection and evaluation of sensory and motor characteristics of vision in aniseikonic, strabismic and nonstrabismic patients. Classifications, diagnosis, prognosis and modes of therapy for aniseikonic, nonstrabismic and strabismic patients. Nystagmus, accommodation anomalies, management of vergence anomalies, management of accommodative anomalies.

## Gerontology & Low Vision (3):

An introduction to epidemiology of aging & the clinical effects of aging on the visual system. The Optometric assessment and management of the aging patient. An introduction to low vision care with emphasis on assessment & management of visual impairment & disability, including optical & non-optical therapies, the epidemiology of vision impairment, multidisciplinary management & associated rehabilitative services will be discussed.

## Clinical Optometry II (2):

Continuation of clinical Optometry. Patient care in the areas of refraction, binocular integration, perimetry and biomicroscopy.

## Binocular vision & Ocular Motility (3):

Physical space & visual space fundamental perceptual processes, binocular vision, stereopsis, binocular space perception. Systems of analyzing binocular vision. Theory of aniseikonia. Perceptual aspects of aniseikonia. Ocular motility, kinematics of eye movements, muscle actions, measurements of eye movements, types of eye movements, innervational systems sub serving eye movements, clinical applications.

## Pediatric Optometry (3):

Special examination and management considerations of the pediatric patient. Psychological, physiological, social and demographic aspects of early visual development. Discussion of the Optometric considerations of children with learning and reading disabilities.

## Environmental Optometry (1):

Vision in different environmental conditions, lighting requirements under different conditions, the computer screen and vision, eye safety and accident prevention, visual screening at work place, screening for drivers.

## Contact lenses I (3+1):

Patient examination & consultation, indications & contra-indications for contact lens wear. Factors influencing lens selection & design. Principles of fitting & evaluating rigid & hydro gel soft contact lenses. Physico-chemical & mechanical properties of contact lens materials, optical & mathematical concepts. The ocular physiological response to contact lens wear, care & maintenance of contact lenses.

## Optometry Clinics A & B (3+3):

Students are assigned to various areas within the clinic where, under direct clinical faculty supervision, they participate in the provision of Optometric services to clinic patients. In addition to primary case, they are exposed to the provision of contact lens, ocular health & optical services.

## Case Analysis I (1):

The clinical application of the visual sciences. Emphasis is placed on the differential diagnosis method of analyzing clinical data with consideration given to appropriate clinical techniques, effective record keeping, recommended Optometric therapies and prognosis.

## Contact Lenses II (3+1):

Detection & management of chronic & acute complications induced by contact lenses. Contact lens management options for special conditions such as dry eye, aphakia, & Keratoconus (and other corneal irregularities). Disposable lenses & replacement regimens. Extended wear options. Alternative management of refractive errors such as orthokeratology & refractive surgery, contact lenses and Presbyopia.

## Professional Ethics & Optometric communication (2):

A survey of alternative philosophical perspectives involved in resolution of sample ethical & moral issues confronting Optometrists. Awareness of the explicit contents of written & vocal communications. An exploration of Optometric communication issues related to letter & report writing, patient counseling, patient referral, fee presentation & complaint management.

## Specialty Clinical Procedures (1):

Visual Field assessment and analysis of data of visual field, common visual field defects, other ocular diagnostic techniques such as ultrasound, image studies, retinal images, funduscopy, visual field equipment (Humphreys, Goldman Perimeters, etc)

## Advanced Optometry Clinic 1+2 (3+2):

Students are assigned to various areas within the clinic where, under direct clinical faculty supervision, they participate in the provision of Optometric services to clinic patients. It is a continuation of clinic A and B

## Graduation Project (1):

Projects may be laboratory, library, or clinically based research in any area of vision science. All projects must be undertaken under the supervision of members of faculty committee.

## Case Analysis II (1):

Building on analytical principles developed in case analysis I, this course involves student, case-based presentations in a grand rounds format. Each student chooses one, different, interesting case from his/her previous clinical experience. The student presents the case and answers questions related to the case and the patient's conditions. Faculty

discussants will direct the students in assessing the basic and clinical science features of the cases. Patient cases may be chosen from any aspect of Optometric practice.

### **Clinical Optometry III(3+1):**

Correlation and analysis of Optometric data. Emphasis on diagnosis, prognosis, and therapy of visual problems.

### **Clinical Dispensing (2):**

Clinical experience in verification and dispensing of ophthalmic materials, lensectomy, frame selection, shape of human face, dispensing of spectacle wear, fitting and adjusting of spectacle correction. Prescription writing, dispensing of eye protectors, patient counseling and management of dispensing problems. Prescribing for high myopia and aphakia spectacle accessories.

### **Advanced Topics in Optometry (3):**

Intensive study of a specialty Optometric topic. Course formats may involve lectures, clinical workshops, literature reviews or research projects.

### **Medical terms for optometry :**

The course starts with the word's roots and the initial and final sections of words, parts of the human body in the event of sickness and health, the course focuses on the words and terms related to the eye, the construction of the eye and medical terminology related to eye and body.

### **Externship :**

Consists of internal training in the eye clinic in the university and external training in hospitals and in different centers supervised by qualified Ophthalmologists and Optometrists.

In responding to the needs of the Palestinian people, An-Najah National University added the Faculty of Optometry to its 19 existing Faculties in 2004. Today the Faculty has a total of 90 students and we are proud of the quality of instruction and the training experience that we offer to our students despite the insurmountable difficulties that we have been facing.

Since its establishment, the Faculty has been growing in its expectations and learning opportunities and we have made every possible effort to secure the most up-to-date equipment and labs for enriching the practical aspects of the learning experience so that they match the theoretical ones. We have succeeded so far in offering this unique and much needed sort of learning to our students who were not given such opportunities prior to the establishment of the Faculty at An-Najah National University. It is the only Faculty of Optometry in Palestine and is a Full member at the World Council of Optometry.

## Aims:

- Offer a professional scientific education in Optometry for the students of Palestine.
- Offer a scientific and educational environment for researchers in Optometry.
- Offer a base to develop academic and professional experiences in Optometry.
- Offer medical treatment to patients in Palestine.
- Improve a professional and academic level of workers in the field of Optometry.



# FACULTY OF PHYSICAL EDUCATION



## **FACULTY OF PHYSICAL EDUCATION:**

The Department of physical education was established in 1973 at that time the department used to award a Diploma in physical education major. Only in 1996 was the department physical education at the college of educational sciences able to accept students in the B.A. program in physical education. For the first time in 2006 the college of physical education accepted the first group of students in the B.A. in physical education. In 2008 the college of physical education became independent from the college of educational sciences.

Ever since its independence the college of physical education has encountered a lot of difficulties in establishing itself. The idea of establishing an independent college began 1998. The efforts of Professor Rami Hamdallah at that time made the process of carrying out and implementing the plan for the establishment of this college of possible in 2006. The academic study at this college began on the new campus in the second academic semester of the year 2008-2009.

The college of physical education occupies 7600 square meters of the university new campus which includes an indoor swimming pool equipped with the most modern technology, a multi-purpose hall for sports, a squash hall, a gymnastic hall, body-building hall with various purposes, a wrestling hall, outdoor tennis court, a playground volley ball and basket ball playground, training hall, measurement lab, physical therapy, and computer lab.

### ***College Philosophy***

The philosophy which the college of physical education embraces is that of the university itself. The college is concerned about preparing its graduates scientifically and professionally to provide the public and private sectors, organizations, ministry of education and higher learning, ministry of youth, health and body-building centers, military sports centers with the most competent and qualified candidates who are able to contribute and meet the needs of the society and measure up to the standard of the scientific progress. The college has made it an imperative that its graduates represent a fundamental principle for the development of Palestinian sports and the preparation of Palestinian national teams.

### ***College Objectives:***

The college of physical education strives to accomplish the following goals & objectives

1. To prepare highly qualified and competent graduates for sports in various capacities as sport teachers and trainers with scientific and professional training to meet the needs of sports organization such as schools, clubs, universities, institutes, body-fitness centers for ordinary people and people with special needs in Palestine.



2. To develop and improve sport training in Palestine by being selective in recruiting those promising beginners and novice and try to nurture their tenacity and psychology and their motor prepare short, medium, and long term training programs for the novice, the elderly, and from both sexes.
3. To develop the studying curricula and the teaching of physical education techniques at Palestinian schools.
4. To develop the social relations, treat mistaken and erroneous beliefs about physical education, ascertain the philosophy on which the physical education depend and paying a great care for the handicapped sports or .
5. To spread awareness and cultural health related to better health and life among society members and the role of sports in developing and enhancing.
6. To better use of technology in developing sports movement and marketing
7. To participate in selecting national teams on account that schools hold the biggest pool of competitive teams of young age. To build long term training programs for the representation of Palestine in Arab, regional, and international Sports Forums order to represent at the level of high schools, clubs, and national teams. To refrain from participating in such events for the sake of participating as it is happening now.
8. To help students acquire the necessary skills for various sports and physical education activities in addition to becoming acquainted with the legal knowledge pertaining to it and the ability of refereeing.
9. To prepare students with the ability to define and use the proper tools, equipment and modern techniques in teaching school physical education
10. To prepare students with the ability to make use of the relevant knowledge they have acquired in sociology, psychology, and other subjects to physical education and to make use of the various theories they have learned in teaching physical education to both normal and students with special needs.
11. To develop students' ability to solve problems and work in various capacities and to avail themselves of whatever available in the surrounding environment in the teaching process.
12. To strengthen the relation between the university and the Palestinian society through the effective and instrumental use of the various facilities of the college.

### ***The college ambition:***

The college of physical education hopes to begin awarding the master degree in physical education and a B.A. Natural Treatment



## Study Plan

The Study Plan for the awarding of B.A. in Physical Education consists of 139 credit hours distributed as follows:

Number	Study Plan Requirements	Credit Hours
First	Compulsory University Requirements	20. Credit Hours
	Elective University Requirements	6. Credit Hours
Second	Compulsory College Requirements	18. Credit Hours
	Elective College Requirements	6. Credit Hours
Third	Theoretical Compulsory Major Requirements	30 Hours
	Practical Compulsory Major Requirements	53 Hours
	Practical Elective Major Requirements	6 Hours
Total		139 Hours

### I. Compulsory College Requirements (18 Credit Hours)

Course Number	Course Title	Credit Hours
171101	Computer in Physical Education	3
171102	Statistics in Physical Education	3
171103	Introduction to Sport Anatomy	3
171201	Biomechanics	3
171202	Principles of Sports Psychology	2
171203	Health and Sport Activity	2
171104	Introduction & Philosophy in Physical Education	2
Total		18

### Elective College Requirements (6 Credit Hours):2

Course Number	Course Title	Credit Hours
171205	Sports Marketing	2
171206	Sports of Special Cases	2
171207	Application in Physiotherapy and Massage	2
171105	Contemporary Issues in Physical Education	2
171106	Sports Media	2
171107	Recreation & Leisure Time	2

### Major Requirements:

#### A. Theoretical Compulsory Major Requirements (30 credit hours Theory):

Course number	Course Title	Credit hour	Prerequisite
171108	Sports Physiology	3	171103
171208	Teaching Methods in Physical Education	3	171115•171215
171401	Physical Education Curricula	3	--
171402	kinesiology	3	171103
171209	Organization and Administration in Physical Education	3	--
171301	Sports Injuries and Physiotherapy	3	171103
171403	Sports Training	3	171108
171404	Measurements and Evaluation in Physical Education	3	171302
171302	Scientific Research in Physical Education	3	-
171408	Seminar	3	171302
Total		30	

## B. Practical Compulsory Major Requirements (53 hours Practice)

Course Number	Course Title	Credit hours	Credit hours	Prerequisite
171109	Football (1)	3	3	--
171210	Basket ball(1)	3	3	--
171211	Handball(1)	3	3	--
171110	Volley ball(1)	3	3	--
171111	Athletics(1)	3	3	--
171112	Gymnastics(1)	3	3	--
171113	Rhythmic Movement(1)*	3	3	--
171303	Football (2)	3	3	171109
171304	Basket ball(2)	3	3	171210
171305	Handball(2)	3	3	171211
171212	Volleyball((2	3	3	171110
171213	Athletics(2)	3	3	171111
171214	(2)Gymnastics	3	3	171112
171306	Rhythmic Movement(2)	3	3	171113
171114	Physical Fitness	3	3	--
171307	Swimming(1)	3	3	--
171405	Swimming(2)	3	3	171307
171115	Physical Exercises (1)	2	2	--
171215	Physical Exercises(2)	2	2	171115
171406	Field Training (1)**	2	6	171208
171407	Field Training(2)***	2	6	171406
Total		53		

\* Rhythmic Movement (for girls) parallels Football (for boys)

\*\* Field Training (1) students sign up for this course in the second semester of their third year (or when they become juniors) at the following time: from 8:00 to 11:00, for three days.

\*\*\* Field Training (2) students sign up for this course when they become seniors or in the first semester of their fourth year at the following time: from 8:00 to 11:00 for three days.

## 2) Practical Elective Major Requirements (6 credit hours)

Students can select six credit hours out of the following courses:

Course Number	Course Title	Credit Hours
171308	Weight Lifting	2
171309	Football (Female)	2
171310	Small Games	2
171311	Scouting & Camping	2
171312	Squash	2
171313	Tennis	2
171314	Badminton	2
171315	Table Tennis	2
171316	Boxing	2
171317	Wrestling	2
171318	Fencing	2
171319	Judo	2
171320	Taekwondo	2



## **Course Description**

### **171208: Teaching Methods in Physical Education**

This course aims at a) introducing students to the most important ways and adopted styles used in teaching physical education; and b) taking advantage of these pedagogical techniques in carrying out physical education curricula for various stages. In addition, this course trains students to acquire the necessary knowledge for daily, semi-annual, and annual planning of physical education teaching.

### **171203: Health and Sports Activity**

This course is designed to introduce students to the concept of health and health education and its overall importance in school environment and in the protection of diseases. In addition, this course underscores the relation between physical education and health education and considers it as part and parcel of the public health education. Furthermore, this course underscores the importance of nutrition for physical activities and other health concerns. And finally this course stresses the importance of paying a great deal of care in physical education class and in school environment to health issues.

### **171103: Introduction to Sport Anatomy**

This course is designed to help student acquire the necessary knowledge about the anatomical construction and structures for the systems of human body. It also focuses on the application of the principles of anatomy in physical education and sports and it focuses on the motor system which includes: muscles, bones, joints, and nervous system.

### **171202: Principles of Sports Psychology**

This course is designed to develop the concepts of sports psychology, self-assurance, one's personality and athletes' tendencies. In addition, this course is designed to develop the concept of evaluation and measurement in sports psychology and prepare athletes psychologically.

### **171201: Motor Learning**

This course is designed to introduce students to the human learning theories and the ways of implementing such theories for the sake of teaching students through physical exercises and activities. In addition, this course aims to introduce students to the learning trends, methods, physical movements in addition to the curriculum and planning the stages of growth and the characteristics of each stage in the learning process and the basic kinetic skills

### **171206: sports of Special Cases**

This course is designed to define and identify special cases of physical education particularly the ones with disabilities or some physical deficiencies. This course is also designed to point out the type of physical activities suitable for students with some physical education disability. Furthermore, this course is designed to identify the talented and most gifted in sports and prepare proper and suitable sport exercises for them and set up sport championship tournament.

## **171207: Applications in Physiotherapy and Massage**

This course is designed to introduce students to the concept of massage in terms of its types and ways of application. In addition, this course introduces students to the advantages of using massage and physiotherapy in the treatment of some injuries. Furthermore, this course introduces students to some rehabilitation exercise for certain injuries along with some prevention exercises against other types of injuries. And finally this course underscores the application of natural treatment for certain injuries.

## **171401: Curricula in Physical Education**

This course is designed to introduce students to the concept of physical education curricula and the philosophy behind the methodologies of physical education. In addition, this course introduces students to contemporary methodologies and comparing it with its traditional counterpart. Furthermore, this course lays out the curricula used in physical education for various learning stages including the component of planning for teaching in physical education.

## **171402: Biomechanics**

This course includes a display of various forms of physical movements such as straight and closed movements in sports. It also includes a display of the influencing power or force on human body; in addition to providing a kinetic analysis of some movements and their types for some sport games. This course then focuses on the physics laws pertaining to power, speed, acceleration, gravity, and friction, sites of labor and movement transport.

## **171107: Recreation & Leisure Time**

This course aims to introduce students to the importance of having recreation and leisure time for both individuals and society. It also looks at the types and forms of recreation and leisure time in terms of its goals, objectives, and the characteristics of each form of recreation and leisure time. Finally, this course highlights the educational programs of recreation and leisure time.

## **171102: Statistics in Physical Education**

This course aims to introduce students to the fundamental statistical processes in physical education in terms of becoming acquainted with the measurement of central tendency, variation, simple correlation, normal distribution, and ways of constructing norms. In addition, this course aims to teach students the methods of hypothesis testing using selected parametric and non-parametric tests.

## **171101: Computer in Physical Education**

This course is designed to introduce students to the importance of using computer in physical education and sports particularly in physiology and kinesiology. This course underscores the importance and merits of using computer application geared for sports. In addition, this course introduces students to the ways of using computer and taking advantage of it in understanding the rules of sports statements on the internet.

### **171104: Introduction & Philosophy in Physical Education**

This course aims at introducing students to physical education. It also points out its goals, objectives, its philosophical foundations, and its sources of knowledge. In addition, this course traces the history of physical education, its status, and development in ancient civilizations, middle ages, the Renaissance age, Islamic age and modern age.

### **171108: Sports physiology**

This course is a study of the response and adaptation of sports training; the human skeletal muscle structure and function; and the energy systems, physiological training theory, the effect of sports training on different human systems, the factors which have influence on physical performance, nutrition and exercise, somatotypes, and weight control, body composition, resting metabolic rate, and drugs.

### **171301: Sport Injuries and Physiotherapy**

This course focuses on: common sport injuries, or injuries resulting from sports training and exercise, the causes and symptoms of these injuries, the ways and means for protection and prevention, and the proper method of first aid cure or natural treatment. This course provides knowledge and training in first aid treatment and through the resuscitation one's heart and lungs.

### **171302: Scientific Research in Physical Education**

This course focuses on: developing scientific research in physical education; developing the steps and methods of conducting scientific research; and the gathering of information, and the statistical methods of testing scientific hypotheses.

### **171408: Seminar**

This course covers a number of topics: concept of educational research and its types; action research; selection of topics and research proposal outline preparation and research writing and documentation. Students expected to submit papers on selected topic in physical education and discuss them with their instructors and classmates.

### **171209: Administration & Organization in Physical Education**

This course includes the concept of administration and organization in general and its application in different aspects of physical education. It provides remedies to various problems in bad planning or mismanagement and a follow-up for or evaluation of various activities. Furthermore, this course provides ways and mechanisms for managing, administering, and organizing indoor and outdoor sport activities at schools, clubs, social centers and organizations. Finally, this course provides tips on organizing sport convention and workshops.

### **171404: Measurement & Evaluation in Physical Education**

This course aims to identify the fundamental concepts of measurements and evaluation in sport/physical education. It also introduces students to the scientific criteria for testing and evaluating different programs in physical education and

providing remedies for common errors in measurement. Furthermore, this course focuses on the anthropometric, skills, physical fitness, physiological, and psychological measurements in physical education and sports; it also focuses on finding the ways for the preparation of standards and level geared for physical education programs.

### **171403: Sports Training**

This course is an introduction to the concept of the sports training in terms of its development, principles, the components of training load, and the methods of training. In addition, this course introduces the process of preparing athletes physically, technically, tactically and psychologically. And finally this course looks at the process of planning in training and the ways of preparing training programs and their enhancement.

### **171205: Sports Marketing**

This course is designed to introduce students to the concepts pertaining to marketing in sports in terms of its elements, steps, and its role in the success of local, regional, and international sport tournaments and championships. This course looks at holding and participating in sport tournaments and championships as an economic incentive or income in addition to the right of media coverage of such events; the production of sport needs and manufacturing them; the exposure to previous models of marketing such championship and tournaments and finally preparing marketing plans for the sale of such tournaments and championships events.

### **171105: Contemporary Issues in Physical Education**

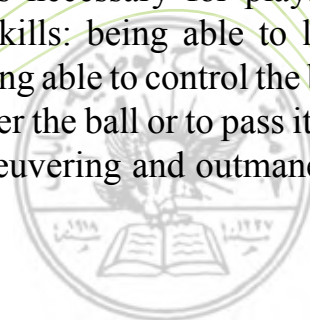
This course aims at introducing students to the contemporary issues concerning physical education and sports. In addition, it aims at discussing topics related to talents and professionals, the stimulants, the crowdedness of stadium, the college credential or qualifications of sport coach, women sports and other important sport issues.

### **171106: Sports Media**

This course is designed to introduce students to the importance of mass media whether it is visual, readable, and audible and the important role it plays in enhancing the level of sport and its elements. Furthermore, this course aims to illustrate the role of sports media in raising the level of understanding of the society of sports.

### **171109: Football (1)**

This course is designed to teach students the skills necessary for playing well in a football game through acquiring the following skills: being able to learn the fundamental skills on the play ground while playing; being able to control the ball or to hit it with the foot or head; being able to chase or run after the ball or to pass it through or to point it to a specific direction; being able to maneuvering and outmaneuvering other players.



### 171210: Basketball (1)

This course is designed to teach students the fundamental skills used in basketball such as the acquisition of the following skills: passing, dribbling, and shooting the ball. Students also learn the skill of maneuvering and being in a stance of readiness.

### 171211: Handball (1)

This course aims to teach students the fundamental skills in handball such as the acquisition of the fundamental skills of passing and scoring the ball; running, receiving, and sneaking with the ball.

### 171110: Volley ball (1)

This course is designed to teach students the basic skills necessary for playing volley ball such as serving, receiving, setting, striking, covering, and blocking. In addition, this course acquaints students with the common violations and developing learning exercises for their acquisition of skills.

### 171112: Gymnastics(1)

This course is designed to teach students the basic skills necessary for gymnastic exercises. Students have to acquire the skills of performing floor exercises , floating table, for both male and female and parallel bars for male only.

### 171113: Rhythmic Movement (1)

This course is designed to teach female students the fundamental skills for various body parts without using any tools or equipment. The primary focus of these exercises would be on the movement of the hands and feet.

### 171114:Physical Preparation

This course is designed to prepare students for their well-being and physical fitness. It is also designed to make students pay a great deal of care for their physical strength, speed, endurance, agility, and flexibility. Furthermore, this course focuses on having students maintain the following special qualities: strength-endurance, speed-endurance, and power.

### 171303: Football (2)

This course is designed to help student acquire the necessary skills for playing football such as being able to master the fundamental physical movements on the playground; being able to acquire the defense and offensive strategies and tactics in the football game; and being able to comprehend the rules of the football game.

### 171304: Basketball (2)

This course is designed to teach students the basic skills necessary for basket ball. In addition, this course introduces students to the defensive and offensive strategies in group playing. And finally this course acquaints students with the rules regulating this sport and its application.



### **171305: Handball (2)**

This course is designed to help students acquire the necessary physical movements for the sport of handball by introducing them to the defense and offensive plans in handball games and teaching them the rules and regulations governing such a sport and applying them.

### **171212: Volleyball (2)**

This course is designed to teach students the basic skills of defensive and offensive strategies for the sport of volleyball. In addition, this course introduces students to the trainer's duties, the ways of playing, the regulating rules of this sport, and its application.

### **171214: Gymnastics (2)**

This course is designed to help students acquire the basic and fundamental skills: Pommel horse, horizontal bar and ring for men, and balance beam for female. In addition, this course acquaints students with the rules of this sport and organizing championships in gymnastics.

### **171309: Football (for female)**

This course is designed to teach female students the basic and fundamental skills necessary for the sport of football such as: ball control, ball kicking with the foot and head, ball jogging, ball passing, ball aiming, ball tricking, ball faking, dribbling, and border cut.

### **171312: Squash**

This course is designed to teach students the basic skills such the grip handling, stands, foot work, and forehand and backhand for the sport of squash; in addition to teaching and acquainting students with the rules and refereeing of this sport.

### **171306: Rhythmic Movement (2)**

This course is a review of the type of skills and exercises which students have learned in rhythmic movement I; in addition, students will acquire some rhythmic skills accompanied with music; and they will use some equipment such as the ring to enhance their ability to perform such exercises. Furthermore, students will be introduced to the types of dance particularly the oriental and folkloric types.

### **171115: Physical Exercises (1)**

This course aims at introducing students to such a sport on the basis of having them write exercises and apply them. In addition, students will have the opportunity to learn a set of simple exercises without using any tools and equipment.

### **171215: Physical Exercises (2)**

This course is designed to ascertain what students have learned in physical exercises 1. In addition, students have to perform a group of paired and collective-exercises and display some performances by using different tools and equipment.

### 171313: Tennis

This course is designed to teach students the necessary skills for the sport of court tennis in terms of acquiring some competence in the movement skills of foot work, the holding of racket, the forehand and back hand strokes and other basic stroke techniques. In addition, students have to learn the rules of this sport.

### 171310: Small Games

This course is designed to introduce students to the types of small games and their application in a variety of sports. In addition, students have to learn how to write such types of small games and selecting their names.

### 171311: Camping & Scouting

This course is designed to introduce students to the skills of scouting and camping in order to enhance physical education students' ability of leadership through exposing them to the type of skills necessary for them to do scouting and camping.

### 171314: Badminton

This course is designed to introduce students to the importance of this sport. In addition, students would have the opportunity to learn the basic skills of this sport and the ways of performing it along with becoming acquainted the rules of this sport.

### 171315: Table Tennis

This course is designed to introduce students to the study of the theories pertaining to the basic skills and application of table tennis. In addition, students will have the opportunity to learn the rules of refereeing of individual and double games.

### 171111: Athletics (1)

This course is designed to teach students athletic skills such as track activity, sprinting, and long running distance. In addition, students will be introduced to holders, fencing, relaying and walking.

### 171213: Athletics (2)

This course is designed to teach students field racing, the techniques of throwing heavy balls, the techniques of shot put, the discus, and the javelin, and jumping events :long , triple and high jump. In addition, students will have the opportunity to learn the rules of this sport.

### 171308: Weight Lifting

This course is designed to introduce students to the sport of weight lifting by using various tools, instruments, and exercises. In addition, students will learn different forms of weight lifting and the rules of this sport.

### 171307: Swimming (1)

The aim of this course is introduce students to the historical development of the sport of swimming. In addition, it teaches students the fundamental principles of swimming in terms of diving and sensing of water, floating and swimming on the chest.

### **171405: Swimming (2)**

The aim of this course is to teach the fundamental principles of the types of swimming such as free swimming, butterfly swimming, dolphin swimming along with the learning of the rules of the sport of swimming.

### **171406: Field Training (1)**

This course is designed to help students acquire the practical experience for the purpose of carrying out a physical education lesson/class through watching a lesson in physical education and applying some parts of this lesson and participating in out and indoor school activities. This course instills in the students' behavior the habit of attending their classes regularly in the morning shift and to be observant of school's regulation of arrival and departure.

### **171407: Field Training (2)**

This course is designed to train students to carry out the tasks of their physical education trainer/teacher in terms of teaching and carrying out the designated lesson plans at the school and supervise in and outdoor activities and supervise the preparation, application, and discussion of plans with counselor.

### **171316: Boxing**

This course is designed to introduce students to the fundamental skills for the boxing sport; in addition, this course aims to acquaint students with the rules which govern and regulate this sport.

### **171317: Wrestling**

This course is designed to introduce students to the basic and fundamental skills for the wrestling sport. In addition, this course aims to acquaint students with the rules which govern and regulate this sport.

### **171318: Fencing**

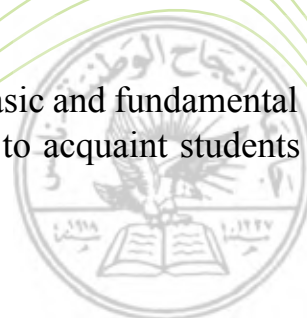
This course aims to introduce students to the basic skills for the sport of fencing (fighting with swords); in addition to introducing students to the laws which govern and regulate this sport.

### **171319: Judo**

This course is designed to introduce students to the basic and fundamental skills for the sport of Judo; in addition, this course aims to acquaint students with rules which govern and regulate this sport.

### **171320: Taekwondo**

This course is designed to introduce students to the basic and fundamental skills for the sport of Taekwondo; in addition, this course aims to acquaint students with the rules which govern and regulate this sport.



## THE NAMES OF ACADEMIC STAFF AT PHYSICAL EDUCATION FACULTY/2010

### *Professor*

Prof. Imad Abdel-Haq Theories Of Physical Training

Prof. Abd Alnaser Qaddoumi Sport Physiology

### *Associate Professor*

Dr. Subhi Nimer Essa Measurement and Evaluation in Physical Education

### *Assistant Professor*

Dr. Walid Khanfar Method of teaching

Dr. Bader Refa'at Assets of Physical Education

Dr. Moe'n HafezSport Psychology Assistant Professor

Dr. Qais Nairat Physiotherapy

Dr. Ragheda Mufleh Method of teaching

### *Lecturer*

Malik Shaker Educational Administration

### *Teacher*

Eimn Abu Joub Fitness

Irina Abdel-Haq Swimming and gymnastics

Rania Nabulsi Physiotherapy

# COLLEGE OF HONORS



## COLLEGE OF HONORS

The College of honors was established in the academic year 2005-2006 in an effort to provide a better and quality service to those distinguished students at An-Najah National University without burdening them with any financial costs.

The admission policy at the college of honors is based on accepting distinguished students who have completed 30 credit hours successfully and have accumulated a GPA (Grade Point Average) of 87% in their academic record.

To serve distinguished students better, the college of honors has laid the following goals for the enhancement of their prospective students at An-Najah National University:

### *College Public Goals:*

- 1) Paying a great deal of attention to distinguished students through creating a competitive atmosphere among students in order to nurture their abilities so that they can reach their academic potential;
- 2) Affording students the opportunity to acquire the skills necessary for communication & leadership in addition to enhancing students' language proficiency, public relation, knowledge of law, research skills so that they can be well-equipped to depend upon themselves in carrying out the duties for their society and to be a good representative model of their university.
- 3) Affording students the opportunity to obtain competitive and growth job opportunities and to encourage them to pursue their graduate and post-graduate studies further.

## **Study Plan:**

The study plan for the College of Honors consists of the following requirements:

### **First: Compulsory courses (9) credit hours**

Credit H.	Course Title	Course Number
3	Communication Skills	391001
3	Leadership Skills	391003
3	Study Group for skills enhancement	391004

### **Second: Elective courses (6) credit hours**

Credit H.	Course Title	Course Number
3	Research & Learning Resources	391002
3	English language Proficiency Skills	392001
3	E-learning	392002
3	Community Service	392003
3	Public Relation	392004
3	Introduction to Law	392005
3	Discovery of/Discover Palestine	392006



### 391001: Communication Skills

This course aims at improving students' personality and teaching them leadership and communication skills necessary for the enhancement of their creativity and being bold enough to engage in political and social debate. In addition, this course is designed to introduce students to the theories of leadership and the strategies being adopted for the same purpose. Furthermore, this course underscores the importance of the keen connection between leadership and communication and points out that leadership would not be as effective and as persuasive as it should be without mastering the skill of communication. And finally, this course looks at the obstacles and barriers which undermine or stand as impediments to having effective human communication

### 391003: Leadership Skills

This course is designed to attend to several subjects primarily the development of students' personality and the enhancement of their ability to understand others. In addition, this course surveys a set of subjects, strategies, and tips which pertain to understanding others better and probing others' minds and being able to psych one self to deal and understand others better and more effectively. Furthermore, this course aims at introducing students to theories of leadership along with its types and adopted patterns and aims also at helping students acquire the skills necessary for problem-solving and decision –making and team work, time management and having exposure to models of contemporary and historical leadership models. Overall, this course provides students with the opportunity to prepare them for the challenges of tomorrow so that they could be better equipped to be effective, productive, persuasive, and instrumental in their human communication/interaction with others.

### 391004: Study Group for skill enhancement

This course aims at developing and enhancing students' skills and aptitude for entering the market place or for the purpose of pursuing a graduate degree. To accomplish such tasks, this course focuses on a set of summer and homework activities and assignments such as the drafting of business letters, the writing of an impressive and competitive curriculum vitae, the filling out of an admission application form or a job application form neatly and professionally, preparing well for a job interview or a report for the purpose of their study or a research project. In addition, this course provides students with useful tips and strategies of critical thinking and decision-making process tips to maximize and enhance students' skills for graduate studies through exposing students to issues pertain directly to their major field of study and the strengthening of their personality so that they become better qualified to handle the type of tasks they will be called upon to tackle.



## ***Description of Elective Courses:***

### **392002: Learning & Research Sources**

This course is designed to introduce distinguished students to the importance of the academic library and the type of countless services it offers students regardless of their major field of study. It also aims at introducing students to the library departments, computerized systems, electronic and non-electronic information sources. And finally, it aims at having students acquire the type of computer literacy necessary for them to utilize the technology of modern scientific research by drawing on a wealth of electronic resources available at the library.

### **392002: E-Learning: Information Technology**

This course aims at providing students with the skills and competencies necessary for their exposure to the field of technology and e-learning and to be able to incorporate the most recent technological innovations in the teaching process and the influence or effects which the recent technological innovations have on educational institutions. In addition, this course aims also to teach student how to use the Web effectively and to draw on it as a wealth of information for various purposes and as a good source for one's intellectual and educational enhancement. Finally, this course aims to provide students with the opportunity to use computer and computational technology as an effective resource as possible.

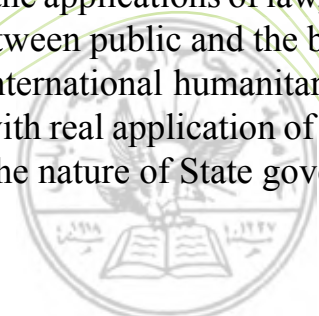
### **392003: Community Service**

This course is designed to introduce students to the intended meaning of community service as a science and profession and to the role of the social specialist in providing different types of community services to the individual, to the group, and to the local community.

In addition, this course aims to define the principles of community services, its philosophy, its fields of community service, and its history. And finally, this course looks at the major components of community service and its relation with other sciences.

### **392005: Introduction to Law**

This course is designed to introduce student to the definition of law, its goals, the distinction between law and religious and ethical rules, the applications of law, and the types of laws. It also aims at providing a distinction between public and the branches of private law, Islamic criminal law, and the rules of international humanitarian law, International criminal court. It also provides students with real application of cases of private law, the types of legal courts in Palestine, and the nature of State government or the ruling/governing body of the State.



### 392006 : Discover Palestine

This course focuses on several principal subjects pertaining to Palestine in terms of its natural geography, population, and economy through out history with some great emphasis to the current situation supplemented with detailed and descriptive maps for each historical period. In addition, this course looks at various subjects pertaining to the history, archaeology, and culture of Palestine. Therefore, it is fair to consider this course a learning and comprehensive experience taught jointly at both an Najah National University and Montclair University in which English would be the language or medium of communication and the discussion of the materials of this course is carried out on Moodle online. Thus this course provides students an excellent opportunity at both universities by allowing students to engage in a continuous and productive debate on various subjects.

### 392004: Public Relation

This course aims to provide students with various subjects which directly affect their daily lives on account of their being vulnerable to encounter countless of social situations in their social interaction which call for a great deal of tact and understanding in order to handle such social situations which one finds himself/herself in. Therefore, this course is designed to help students deal with such social situations by providing them with excellent strategies and helpful tips on dealing vigorously and effectively with such situations. In addition this course is also concerned with the ways of laying out the ground works for public relation programs and the implementation of such programs as a preventive strategy rather than a remedy. And finally this course is designed to expose students to practical cases and instances of real life encounters from which students can learn and draw countless useful lessons to deal effectively and sensibly with such crises.