



AMRITA
VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY

School of
Engineering

AMRITAPURI, BENGALURU, COIMBATORE, CHENNAI

DEPARTMENT OF SCIENCES

B.Sc. Food Science and Nutrition

CURRICULUM AND SYLLABI (2021)

GENERAL INFORMATION

ABBREVIATIONS USED IN THE CURRICULUM

L – Lecture
T - Tutorial
P - Practical
Cr – Credits
LO – Learning Objective
CO - Course Outcome
PO – Programme Outcome
PEO - Programme Education Objective
PSO – Programme Specific Outcome
HUM - Humanities (including Languages and others)
SCI - Basic Sciences (including Mathematics)
CSE – Computer Science Engineering
CUL - Cultural Education
CES – Centre for Environmental Studies
CIR-Corporate and Industrial Relationship

Course Outcome (CO) – Statements that describe what students are expected to know, and are able to do at the end of each course. These relate to the skills, knowledge and behavior that students acquire in their progress through the course.

Program Outcomes (POs) – Program Outcomes are statements that describe what students are expected to know and be able to do upon graduating from the Program. These relate to the skills, knowledge, attitude and behaviour that students acquire through the program. NBA has defined the Program Outcomes for each discipline.

PROGRAMME EDUCATION OBJECTIVE (PEO):

Food Science graduates will be able to:

PEO1: Confidently pursue higher studies and research

PEO2: Serve in core food industry, which leverages diverse food science domains including food chemistry, product development, safety & quality control.

PEO3: Become an entrepreneur confidently

PEO4: Perform well in applied nutrition fields including public health and clinical nutrition

PEO5: Contribute to the manpower requirement in this field so as to address societal & national needs

PROGRAM OUTCOME (PO):

1. **Scientific Knowledge:** Apply the knowledge of biological sciences as a basis for understanding the role of food and nutrients in health and diseases.

2. **Design/development of solutions:** Design solutions for health and nutritional problems and design products that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.

3. **Environment and sustainability:** Understand the impact of food processing and preservation solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.

4. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the nutrition and health care practice.

5. **Individual and team:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

6. **Communication:** Communicate effectively on nutritional and health burdens with the scientific community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

7. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of health care management.

PSO FOR B.SC. FOOD SCIENCE AND NUTRITION

PSO1: Understand the significance of diverse food groups in relation to health.

PSO2: Comprehend the association between nutrients with physiology, diseases and dietary solutions.

PSO3: Associate the theoretical knowledge and skills acquired to the food industry.

PSO4: Apply knowledge and technical skills in assessing, evaluating and providing health care solutions for individuals and communities.

SEMESTER I

Category	Code	Course Title	LTP	Credits
SCI	21FSN101	Food Science	310	4
SCI	21FSN102	Principles of Nutrition	310	4
SCI	21FSN103	Introduction to Physical Chemistry of Foods	300	3
SCI	21FSN181	Food Science (P)	002	1
CSE	21FSN104	Basics of Computer Applications	200	2
HUM	21ENG103	Communicative English	201	3
HUM		Language I	200	2
CUL	21CUL101	Cultural Education I	200	2
		Total credits		21

SEMESTER II

Category	Code	Course Title	LTP	Credits
SCI	21FSN111	Nutrition Through life Span	310	4
SCI	21FSN112	Human Physiology	301	4
SCI	21FSN113	Food Microbiology	300	3
SCI	21FSN114	Food Chemistry	300	3
SCI	21FSN182	Nutrition Through life Span (P)	002	1
SCI	21FSN183	Food Chemistry (P)	002	1
HUM	21ENG111	Professional Communication	102	2
HUM		Language II	200	2
CUL	21CUL111	Cultural Education II	200	2
		Total credits		22

SEMESTER III

Category	Code	Course Title	LTP	Credits
SCI	21FSN201	Nutritional Biochemistry	310	4
SCI	21FSN202	Clinical Nutrition and Dietetics - I	220	4
SCI	21FSN203	Food Processing and Preservation Technology -I	220	4
SCI	21FSN204	Food Safety and Quality control	210	3
SCI	21FSN281	Clinical Nutrition and Dietetics (P I)	002	1
SCI	21FSN282	Nutritional Biochemistry (P)	002	1
		Free Elective 1**	200	2
CIR	21SSK202	Soft skill -1	103	2
		Total credits		21

SEMESTER IV

Category	Code	Course Title	LTP	Credits
SCI	21FSN211	Food Processing and Preservation Technology -II	310	4
SCI	21FSN212	Clinical Nutrition and Dietetics - II	220	4
SCI	21FSN213	Bakery and Confectionery	201	3
SCI	21FSN214	Food Biotechnology	300	3
CES	21ENV211	Environment and Sustainability	300	3
SCI	21FSN283	Clinical Nutrition and Dietetics (P II)	002	1
SCI	21FSN284	Food Processing and Preservation - (P)	002	1
		Free Elective 2**	200	2
CIR	21SSK212	Soft skill -2	103	2
	21FSN290	Live in Labs ***		[3]
		Total credits		23

SEMESTER V

Category	Code	Course Title	LTP	Credits
SCI	21FSN301	Food Product Development and Marketing	310	4
SCI	21FSN302	Food Service Management	310	4
SCI	21FSN303	Post-Harvest Technology	310	4
SCI	21FSN304	Packaging and Labelling	210	3
SCI	21FSN381	Food Product Development (P)	002	1
SCI	21FSN382	Food Service Management (P)	002	1
SCI		Professional Elective A*	300	3
CIR	21SSK302	Soft skill - 3	103	2
	21FSN390	Live in Labs ***		[3]
		Total credits		22

SEMESTER VI

Category	Code	Course Title	LTP	Credits
SCI	21FSN311	Community Nutrition and Public Health	310	4
SCI	21FSN312	Analytical Instrumentation	200	2
SCI	21FSN313	Nutrition Education and Communication	200	2
SCI	21FSN314	Food Product Evaluation	110	2
SCI		Professional Elective B*	300	3
SCI	21FSN383	Food Analysis (P)	002	1

SCI	21FSN399	Project		6
		Total credits		21
		Total credits(I+II+III+IV=V+VI)		129

- * Two Elective courses (A &B) are to be taken by each student, one each at the 5th and the 6th semesters, from the list of electives offered by the department.
- ** Free Electives - This will include courses offered by Faculty of Humanities and Social Sciences/ Faculty Arts, Commerce and Media / Faculty of Management/Amrita Darshanam - (International Centre for Spiritual Studies).
- *** Students undertaking and registering for a Live-in-Lab project, can be exempted from registering for an Elective course in the higher semester.

PROFESSIONAL ELECTIVES

Category	Code	Course Title	LTP	Credits
		ELECTIVES A-VSEMESTER		
SCI	21FSN231	Food Hygiene and Sanitation	300	3
SCI	21FSN232	Adolescence Health and Lifestyle	300	3
SCI	21FSN233	Sports Nutrition	300	3
		ELECTIVES B- VI SEMESTER		
SCI	21FSN331	Home scale preservation of foods	300	3
SCI	21FSN332	Nutraceuticals and Nutrigenomics	300	3
SCI	21FSN333	Career Opportunities in Food Science and Nutrition	300	3

LANGUAGES

Category	Code	Course Title	LTP	Credits
HUM	21TAM102	TAMIL I	2 0 0	2
HUM	21MAL102	MALAYALAM I	2 0 0	2
HUM	21HIN102	HINDI I	2 0 0	2
HUM	21TAM112	TAMIL II	2 0 0	2
HUM	21MAL112	MALAYALAM II	2 0 0	2
HUM	21HIN112	HINDI II	2 0 0	2

FREE ELECTIVES OFFERED UNDER HUMANITIES / SOCIALSCIENCE STREAMS

Cat.	Code	Title	LTP	Credit
HUM	21CUL230	Achieving Excellence in Life - An Indian Perspective	200	2
HUM	21CUL231	Excellence in Daily Life	200	2
HUM	21CUL232	Exploring Science and Technology in Ancient India	200	2
HUM	21CUL233	Yoga Psychology	200	2
HUM	21ENG230	Business Communication	103	2
HUM	21ENG231	Indian Thought through English	200	2
HUM	21ENG232	Insights into Life through English Literature	200	2
HUM	21ENG233	Technical Communication	200	2
HUM	21ENG234	Indian Short Stories in English	200	2
HUM	21FRE230	Proficiency in French Language (Lower)	200	2
HUM	21FRE231	Proficiency in French Language (Higher)	200	2
HUM	21GER230	German for Beginners I	200	2
HUM	21GER231	German for Beginners II	200	2
HUM	21GER232	Proficiency in German Language (Lower)	200	2
HUM	21GER233	Proficiency in German Language (Higher)	200	2
HUM	21HUM230	Emotional Intelligence	200	2
HUM	21HUM231	Glimpses into the Indian Mind - the Growth of Modern India	200	2
HUM	21HUM232	Glimpses of Eternal India	200	2
HUM	21HUM233	Glimpses of Indian Economy and Polity	200	2
HUM	21HUM235	Indian Classics for the Twenty-first Century	200	2
HUM	21HUM236	Introduction to India Studies	200	2
HUM	21HUM237	Introduction to Sanskrit Language and Literature	200	2
HUM	21HUM238	National Service Scheme	200	2
HUM	21HUM239	Psychology for Effective Living	200	2
HUM	21HUM240	Psychology for Engineers	200	2
HUM	21HUM241	Science and Society - An Indian Perspective	200	2
HUM	21HUM242	The Message of Bhagwad Gita	200	2
HUM	21HUM243	The Message of the Upanishads	200	2
HUM	21JAP230	Proficiency in Japanese Language (Lower)	200	2
HUM	21JAP2313	Proficiency in Japanese Language (Higher)	200	2
HUM	21SAN101	Sanskrit I	200	2

HUM	21SAN111	Sanskrit II	200	2
HUM	21SWK230	Corporate Social Responsibility	200	2
HUM	21SWK231	Workplace Mental Health	200	2