AMRITA VISHWA VIDYAPEETHAM

PROGRAM

AMRITA AHEAD

Bachelor of Computer Applications

(BCA)

2021

Program Outcomes (PO)

PO-01: Computational Knowledge: Apply knowledge of computing fundamentals, mathematics, and domain knowledge appropriate for developing computing applications.

PO-02: Problem Analysis: Identify, formulate and solve complex computing problems using fundamental principles of mathematics and computer science.

PO-03: Design/Development of Solutions: Design and evaluate solutions for complex problems in societal and environmental domains.

PO-04: Conduct Investigations of Complex Computing Problems: Use knowledge-based computing techniques for the design and analysis of the system to provide optimal solutions.

PO-05: Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern tools to solve real world problems.

PO-06: Professional Ethics: Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practice.

PO-07: Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

PO-08: Project management and finance: Demonstrate knowledge and understanding of the computing and management principles to develop projects in multidisciplinary environments.

PO-09: Communication Efficacy: Communicate effectively with the scientific community, and with society at large, be able to write effective reports, make effective presentations.

PO-10: Societal and Environmental Concern: Understand and assess societal, environmental and cultural issues within local and global contexts

PO-11: Individual and Teamwork: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

PO-12: Innovation and Entrepreneurship: Identify and pursue a timely opportunity to create value and wealth for the betterment of the individual and society.

Curriculum

	Course Code	Course Title	L T P	Cr			Course Title	L T P	Cr
SEMESTER 1					**SEMESTER 2**				
1	21ENG101A	Communicative English -1	2 0 2	3	**1**	21ENG111A	Professional Communication	1 0 2	2
2	21MAT101A	Foundations of Applied Mathematics - Part I	3 0 0	3	**2**	21MAT111A	Foundations of Applied Mathematics - Part II	3 0 0	3
3	21CSA101A	Principles of Management	3 1 0	4	**3**	21CSA111A	Database Management System	3 1 0	4
4	21CSA102A	Computer Essentials	3 0 2	4	**4**	21CSA112A	Object Oriented Programming using Java	3 1 0	4
5	21CSA103A	Problem Solving and Algorithmic Thinking	3 0 0	3	**5**	21CSA113A	Operating System and Computer Architecture	3 1 0	4
6	21CSA181A	Problem Solving and Algorithmic ThinkingLab	0 0 2	1	**6**	21CSA182A	Database Management System Lab	0 0 2	1
			21		**7**	21CSA183A	Object Oriented Programming using Java	0 0 2	1
		TOTAL		**18**			TOTAL	**22**	**19**
SEMESTER 3					**SEMESTER 4**				
1	21MAT201A	Discrete Mathematics	3 1 0	4	**1**	21CSA211A	Distributed Systems	3 1 0	4
2	21CSA201A	Data Structures and Algorithms	3 1 0	4	**2**	21CSA212A	Web Application Development	3 1 0	4
3	21CSA202A	Computer Networks	3 1 0	4	**3**	21CSA213A	Software Engineering	3 1 0	4
4		Elective A	3 0 0	3	**4**		Elective C	3 0 0	3
5		Elective B	3 0 0	3	**5**		Elective D	3 0 0	3
6	21CSA281A	Data Structures and Algorithms Lab	0 0 2	1	**6**	21CSA283A	Web Application Development -Lab	0 0 2	1
7	21CSA282A	Computer NetworksLab	0 0 2	1					
		TOTAL	22	**20**			TOTAL	20	**19**
SEMESTER 5					**SEMESTER 6**				
1	21CSA301A	C# and .NET Framework	3 0 2	4	**1**	21CSA399A	Industry Project		15
2	21CSA302A	Advanced Java and J2EE	3 10	4					
3	21CSA303A	Mobile Application Development	3 0 2	4					
4		Elective E	3 0 0	3					
5		Elective F	3 0 0	3					
6	21CSA381A	Advanced Java and J2EE Lab	0 0 2	1					
		TOTAL	**22**	**19**			**TOTAL**	15	**15**
Overall Credits					**18+19+20+19+19+15 = 110 Total hours = 122**				

Streams and Electives		
Artificial Intelligence and Data Science		
21CSA331A	Introduction to Artificial Intelligence	3 0 0
21CSA332A	Applications of Machine Learning	3 0 0
21CSA333A	Data Mining	3 0 0
21CSA334A	Linear Algebra and Optimization for Data Science	3 0 0
21CSA335A	AI for Drug Discovery & Target Validation	3 0 0
21CSA336A	Applied Predictive Analytics	3 0 0
21CSA337A	Big Data Analytics & Visualization	3 0 0
21CSA338A	Natural Language Processing	3 0 0
21CSA339A	Probability and Statistics for Data Science	3 0 0
21CSA340A	Business Analytics	3 0 0
21CSA341A	Bio medical & Health Informatics	3 0 0
Virtual and Augmented Reality (Google)		
21CSA351A	Introduction to VR Programming	3 0 0
21CSA352A	Game programming	3 0 0
21CSA353A	3D interaction design and 3D models for virtual reality	3 0 0
21CSA354A	Cross platform game development	3 0 0
21CSA355A	Designing human computer interfaces	3 0 0
21CSA356A	Augmented Reality for Marketing and Business Integrations	3 0 0
Other Industry-relevant Electives		
21CSA361A	Parallel & Distributed Data Management	3 0 0
21CSA362A	Modelling & Simulation	3 0 0
21CSA363A	Bioinformatics	3 0 0
21CSA364A	Representation Learning	3 0 0
21CSA365A	Pattern Recognition	3 0 0
21CSA366A	Information Retrieval	3 0 0
21CSA367A	GPU Architecture & Programming	3 0 0
21CSA368A	Multimedia and Graphics	3 0 0
21CSA369A	Semantic Web	3 0 0
21CSA370A	Algorithm Analysis	3 0 0
21CSA371A	Compiler design	3 0 0