Bachelor of Technology in Computer Science and Engineering (Artificial Intelligence and Robotics)

School of Computer Science and Engineering

Programme Credit Structure	**Credits**
University Core Courses	60
Professional Core Courses	60
Programme Core	40
Concentration	20
Open Elective Courses	40
Total Graded Credit Requirement	160

University Core Courses **60**

		L	T	P	C
BAPHY100	Physics*				4
BACHY100	Chemistry*				4
BAMAT101	Multivariable Calculus and Differential Equations	3	0	2	4
BAMAT200	Mathematics II*				4
BAEEE101	Basic Engineering	3	0	2	4
BACSE101	Problem Solving Using Python	0	0	4	2
BACSE102	Problem Solving Using Java	0	0	4	2
BAENG101	Technical English Communication	3	0	2	4
BASTS101	Qualitative and Quantitative Skills Practice I	3	0	0	1
BASTS102	Qualitative and Quantitative Skills Practice II	3	0	0	1
BAFLC100	Foreign Language	1	0	2	2
BAHSM100	Humanities, Social Science and Management	3	0	0	3
BAHUM101	India Studies	1	0	0	1
BACHY101	Environmental Sciences	2	0	0	2
BAHUM100	Ethics and Values*				2
BAMGT101	Entrepreneurship	3	0	0	3
BACSE191	Basic Multidisciplinary Project	0	0	4	2
BACSE291	Innovative Design Project	0	0	4	2
BACSE391	Research / Design Project	0	0	6	3
BACSE491	Technical Answers for Real World Problems	1	0	4	3
BACSE399	Internship I	0	0	2	1
BACSE499	Internship II / Capstone Project	0	0	12	6
BAENG100	Effective English Communication (NCC)	0	0	4	2
BAEXC100	Extracurricular Activities (NCCM)	0	0	4	2

***-Basket Details**

BAPHY105	Engineering Physics	3	0	2	4
BACHY105	Applied Chemistry	3	0	2	4
BAMAT207	Probability and Statistics	3	0	2	4
BAHUM103	Ethics and Values	2	0	0	2

Programme Core Courses **40**

BACSE103	Computation Structures	3	0	2	4
BACSE104	Structured and Object-Oriented Programming	2	0	4	4
BACSE105	Data Structures and Algorithm Analysis	3	0	2	4
BACSE106	Operating Systems	3	0	2	4
BACSE201	Models of Computation	3	1	0	4
BACSE202	Database Systems	3	0	2	4
BACSE203	Computer Networks	3	0	2	4
BACSE204	Software Engineering	3	0	2	4
BACSE206	Foundations of Artificial Intelligence	3	1	0	4
BAMAT205	Discrete Mathematics and Linear Algebra	3	1	0	4

Concentration

Artificial Intelligence and Robotics **20**

BACSE211	Robotics: Kinematics, Dynamics and Motion Control	3	0	2	4
BACSE308	Machine Learning for Robotics	3	0	2	4
BACSE309	Robotics, Systems and Control	3	0	2	4
BACSE310	Robot modelling, Simulation and Programming	3	0	2	4
BACSE311	Robotic Path Planning and Optimization	3	0	2	4

Open Elective Courses **40**

Engineering | Sciences | Humanities | Social Sciences | Liberal Arts | Economics | Finance | Management

Ancillary (20 credits) - Students can opt for “Ancillary" in other disciplines by earning 20 credits from the courses listed in the Ancillary options under Open Elective. Ancillary details will be mentioned only on the transcript.

Additional Concentration (20 credits) - Students can opt for “Additional Concentrations" in their own discipline by earning 20 credits from the courses listed in the Concentration options under Open Elective. Concentration details will be mentioned only on the transcript.

Minor (additional 20 credits) - Students can opt for a "Minor Degree" in other disciplines 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Minor options

Second Major (additional 40 credits) - Students can opt for a “Second Major" in other disciplines by earning 40 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Second Major options.