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

School of Computer Science and Engineering

Programme Credit Structure	Credits
University Core Courses	80
Programme Core Courses	40
Programme Elective / Specialization Elective	20
University Elective	20
Total Graded Credit Requirement	160

Course Code	Course Title	T	P	C
University Core				**80**
MAT1001	Calculus for Engineers	3	2	4
MAT1002	Applications of Differential and Difference Equations	4	0	4
MATXXXX	Probability and Statistics	3	2	4
PHY1008	Modern Physics	3	2	4
CHY1009	Chemistry and Environmental Studies	3	2	4
CSE1012	Problem Solving using Python	3	2	4
CSE2005	Object Oriented Programming using JAVA	3	2	4
CSE2001	Data Structures and Algorithms	3	2	4
ECE1002	Fundamentals of Electrical and Electronics Engineering	3	2	4
ENG1001/ ENG1002	English for Essential Communication/ English for Effective Communication	2	2	3
ENG1002/ ENG2001	English for Effective Communication /English for Professional Communication	2	2	3
FRLXXXX	Foreign Language	2	0	2
MGT1001	Ethics and Values	0	2	2
MGT1040	Entrepreneurship	3	2	4
XXXX	Indian Studies	2	0	2
STSXXXX	Qualitative and Quantitative Skills Practice I	3	0	1
STSXXXX	Qualitative and Quantitative Skills Practice II	3	0	1
BIC4002	Industrial Internship/ Senior Design Project	0	0	12
CAP4001	Capstone	0	0	6
SIT1001	Summer Internship	0	0	2
ECS2002	Engineering Clinics - System Design	0	4	2
ECS3001	Engineering Clinics - Real Time System	0	4	2
EXCXXXX	Extracurricular Activities			2
Programme Core				**40**
ECE1003	Digital Logic Design	3	2	4
MAT1003	Discrete Mathematical Structures	4	0	4
CSE3004	Design and Analysis of Algorithms	3	2	4
CSE2008	Operating Systems	3	2	4
CSE1005	Software Engineering	3	2	4
CSE3002	Artificial Intelligence	3	2	4
CSE2007	Database Management Systems	3	2	4
CSE3003	Computer Networks	3	2	4
ECE2002	Computer Architecture and Organization	4	0	4
CSE1008	Theory of Computation	4	0	4
Specialization Electives				**20**
CSE3008	Introduction to Machine Learning **[Compulsory]**	3	2	4
CSE4006	Deep Learning	3	2	4
CSE4050	Generative AI	3	2	4
CSE3015	Natural Language Processing	3	2	4
CSE4037	Reinforcement Learning	3	2	4
CSE4047	Computer Vision	3	2	4
CSE4007	Digital Image Processing	3	2	4
CSE4019	Applications of Artificial Intelligence	3	2	4
CSE4020	Agent Based Intelligent Systems	3	2	4
CSE4021	Introduction to Cognitive Modelling	3	2	4
University Electives				**20**

Compulsory for PAT Registered Students

CSE2025	AWS Solution Architect
CSE1022	Introduction to Programming
STSXXX	Competitive Coding Course-I
STSXXX	Competitive Coding Course-II
STSXXX	Competitive Coding Course-III
STSXXX	Competitive Coding Course-IV

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

Honours Degree (20 credits) - Students can opt for an Honours Degree" in the same discipline by earning 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Honours options.

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

Double Major Degree (40 credits) -Students can opt for a “Double 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.