



**An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi
Approved by All India Council for Technical Education (AICTE), New Delhi.
Recognized by Govt. of Karnataka
Accredited by NAAC with A Grade
UG programs Accredited by National Board of Accreditation (NBA): CSE, ECE & ISE**

DEPARTMENT OF CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

CURRICULUM

Academic Batch 2025 – 2029 (Autonomous)

Undergraduate Bachelor of Engineering Program - B.E.

Outcome Based Education (OBE)

III & IV SEMESTER

2025-2029

About the Institute

East Point College of Engineering and Technology (EPCET) was founded in 1999 under the aegis of M. G. Charitable Trust in Bangalore. The College is located near Bidarahalli, along old Madras Road in Bangalore's eastern suburbs. It is about 7 kilometers from K R Puram, Bangalore.

The college is connected with Visvesvaraya Technological University (VTU) in Belagavi. All of EPCET's undergraduate and postgraduate programs are AICTE-approved. University Grant Commission (UGC) and VTU have conferred Autonomous Status to EPCET from the academic year 2024-25 for 5 years. The institute offers 7 undergraduate and 2 postgraduate programmes. All eligible programmes have been accredited by National Board of Accreditation (NBA), New Delhi and in the year 2025, National Assessment & Accreditation Council (NAAC) accredited EPCET with 'A' grade valid for 5 years. EPCET has around 3000 students enrolled in various programs, as well as around 160 qualified faculty members, approximately 30% of who hold a Ph.D. In addition to teaching and administrative duties, faculty members are involved in the active research & development activities.

All final-year students participate in internships in reputable industries, and more than 70% of students secure a job on campus with reputable companies. A large number of alumni are now in senior positions in industry and government. A few alumni have even started their own businesses in and around Bangalore, while quite a few have relocated abroad. Students actively participate in VTU-organized intercollegiate sports and cultural activities.

The College, which includes a huge number of classrooms, seminar halls, well-equipped laboratories, and a library with over 50,000 books, is totally Wi-Fi enabled. In the laboratories, students can learn and practice with industry-standard software, and the institution has subscribed to a significant number of technical periodicals through a consortium approach.

Because the College is located on a multi-college campus, students can connect with students studying medicine, pharmacy, nursing, management, commerce, and science. Students have access to transit, hostels, and sports facilities. More than 15 student groups provide students with opportunities to participate in a variety of activities and gain experience.

The College has set an ambitious vision, and it is constantly adapting fresh concepts in teaching, learning, and student assessments to achieve its vision by focusing on its mission. The College's holistic approach to education strives to improve student happiness.

About the Department

The Department of CSE (Artificial Intelligence & Machine Learning) was started in 2023 with 60 students and intake was increased to 120 students from the academic year 2025-26. The department comprises a dynamic team of highly qualified faculty, including doctorates and members pursuing Ph.D., with strong expertise in Artificial Intelligence, Machine Learning, Cloud Computing, Cyber Security and Image Processing. The department is committed to providing students with a robust academic foundation in artificial intelligence, machine learning, computer science, programming, and emerging technologies. With well-equipped laboratories and a dedicated team of faculty actively engaged in research and innovative teaching practices, the department strives to nurture technical excellence, critical thinking, and industry readiness among students.

Institute Vision and Mission

Vision

The East Point College of Engineering and Technology aspires to be a globally acclaimed institution, recognized for excellence in engineering education, applied research, and nurturing students for holistic development.

Mission

M1: To create Engineering graduates through quality education and to nurture innovation, creativity and excellence in teaching, learning and research.

M2: To serve the technical, scientific, economic and societal developmental needs of our communities.

M3: To induce integrity, teamwork, critical thinking, personality development, and ethics in students and to lay the foundation for lifelong learning

Department Vision and Mission

Vision

To develop competent professionals in the field of Artificial Intelligence and Machine Learning to serve best to the society.

Mission

M1: To achieve academic excellence through innovative teaching-learning practices that will best serve the society.

M2: To nurture successful Computer Science Engineering graduates with a specialization in AI&ML with professional responsibilities and commitment to lifelong learning.

M3: To establish Center of Excellence in areas of Computing, Artificial Intelligence & Machine Learning to inculcate strong ethical values, applied research capabilities.

Program Educational Objectives (PEOs)

PEO 1: To enable students to build Intelligent Machines and applications with a cutting – edge combination of machine learning, analytics and visualization.

PEO 2: To enable technocrats to pursue higher education and research, and have a successful career in industries related to AIML.

PEO 3: To produce graduate professionals with ethics, who will contribute to industrial growth and social transformation as responsible citizens.

Program Specific Outcome (PSO)

PSO 1: Adapt, contribute and innovate new technologies in computing profession by working in teams to design, implement, and maintain in the key domains of Artificial Intelligence & Machine Learning.

PSO 2: Apply the skills in the areas of Health care, Education, Agriculture, Environment, Smart Systems & in the multi-disciplinary area of Artificial Intelligence & Machine Learning.

PSO 3: Develop many successful applications based on Machine Learning methods, AI methods in different fields, including Neural networks, Natural Language Processing, Generative AI and data Analytics.

Program Outcomes (POs)

Engineering Graduates will be able to:

- PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
- PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
- PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
- PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
- PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
- PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
- PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
- PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
- PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
- PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
- PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Semester wise Credit Breakdown for B.E Degree Curriculum Batch 2025-29

Sl. No	Category	Credits Per Semester								Total Credits	Credits in %
		I	II	III	IV	V	VI	VII	VIII		
1	HSMC		1			3				4	3%
2	PLC/ETC	7								7	4%
3	BSC/ASC	8	8	4						20	12%
4	IPCC			4	4	4	4	4		20	12%
5	PCC		4	6	9	4	3	8		34	21%
6	PEC					7	4	4		15	9%
7	OEC						3	4		7	4%
8	PCCL			1	1	1	1	1		5	3%
9	ESC	3	6	3	3					15	9%
10	AEC/ SEC/ SDC/ UHV	2	1	2	3	1	3			12	7%
11	INT								5	5	3%
12	PROJ						2	2	12	16	10%
13	SK			1	1	1	1	1		5	3%
Total		20	20	20 + 1	20 + 1	20 + 1	20 + 1	23 + 1	17	160 + 5	100%

HSMC - Humanity and Social Science and management Course, PLC - Programming Language Course, ETC - Emerging Technology Course, BSC - Basic Science Course, ASC - Applied Science Course, IPCC – Integrated Course (Theory Course Integrated with Practical Course), PCC - Professional Core Course, PEC - Professional Elective Course, OEC – Open Elective Course, PCCL - Professional Core Course laboratory, ESC - Engineering Science Course, AEC - Ability Enhancement Course, SEC - Skill Enhancement Course, SDC - Skill Development Course, UHV – Universal Human Values, INT – Internship, PROJ – Project, NCMC – Non-credit Mandatory Course, SK – Skill Lab.

III Semester:

BE in CSE (AIML) Scheme of Teaching and Examination for III Semester Outcome Based Education and Choice Based Credit System (CBCS) Effective from the Academic Batch (2025-2029)													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW	TH/S	Examination			
					Theory	Tutorial	Practical			CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P						
1	BSC	25CI31	Probability, Distributions and Statistics	Maths Dept	3	2	0	50	120	50	50	100	4
2	PCC	25CI32	Operating systems	AIML	3	0	0	48	90	50	50	100	3
3	PCC	25CI33	Data Structure & Applications	AIML	3	0	0	48	90	50	50	100	3
4	IPCC	25CI34	Digital Design & Computer Organization	AIML	3	0	2	50	120	50	50	100	4
5	PCCL	25CIL35	Data Structure & Applications Lab	AIML	0	0	2	02	30	50	50	100	1
6	ESC/PLC	25CI36X	ESC / PLC	AIML	2	0	2	34	90	50	50	100	3
7	AEC	25CIL37X	Ability Enhancement Course - III	AIML	0	0	2	02	30	50	50	100	1
8	NCMC	25NS38/ 25PE38/ 25YO38	NSS/ PE/ YOGA	NSS/YOGA/ PE coordinator	0	0	0	28	28	100	-	100	PP
9	SDC	25SC39	Community Project (Project based Learning) / Societal Project	AIML	0	0	0	30	30	50	50	100	1
Total									628	500	400	900	20
10	NCMC	25MDIP310	Mathematics course for Lateral Entry Students	Maths Dept	1	0	0	14	28	100	-	100	-
11	SK	25CISK311	Skill Lab-1	AIML	0	0	2	02	30	50	50	100	1
Total									686	650	450	1100	20 + 1

ESC/ PLC:

25CI36A	Object Oriented Programming with Java
25CI36B	Object Oriented Programming with C++
25CI36C	Python Programming for Data Science

Ability Enhancement Course - III

25CIL37A	Data Analytics with Excel
25CIL37B	Project Management with Git
25CIL37C	Prompt Engineering
25CIL37D	Data Visualization

IV Semester:

BE in CSE (AIML) Scheme of Teaching and Examination for IV Semester Outcome Based Education and Choice Based Credit System (CBCS) Effective from the Academic Batch (2025-2029)													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW	TH/S	Examination			
					Th eory	Tut orial	Pract ical			CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P						
1	PCC	25CI41	Analysis and Design of Algorithms	AIML	3	0	0	48	90	50	50	100	3
2	PCC	25CI42	Database Management system	AIML	3	0	0	48	90	50	50	100	3
3	PCC	25CI43	Introduction to Artificial Intelligence and Machine Learning	AIML	3	0	0	48	90	50	50	100	3
4	IPCC	25CI44	Data Analytics with R	AIML	3	0	2	50	120	50	50	100	4
5	PCCL	25CIL45	Analysis and Design of Algorithms Lab	AIML	0	0	2	02	30	50	50	100	1
6	BSC/ESC	25CI46X	BSC / ESC	Respective Dept	2	2	0	34	90	50	50	100	3
7	AEC	25CIL47X	Ability Enhancement Course - IV	AIML	0	0	2	02	30	50	50	100	1
8	UHV	25UH48	Universal Human Values	Any Dept	1	0	0	16	30	50	50	100	1
9	NCMC	25NS49/ 25PE49/ 25YO49	NSS/PE/YOGA	NSS/YOGA/ PE coordinator	0	0	0	28	28	100	-	100	PP
10	SDC	25SC410	Environmental Science Project	AIML	0	0	0	30	30	50	50	100	1
Total									628	550	450	1000	20
11	NCMC	25MDIP411	Mathematics course for Lateral Entry Students	Maths Dept	1	0	0	14	28	100	-	100	PP
12	SK	25CISK412	Skill Lab-2	AIML	0	0	2	02	30	50	50	100	1
Total									686	700	500	1200	20 + 1

BSC / ESC:

25CI46A	Linear Algebra
25CI46B	Discrete Mathematical Structures
25CI46C	Graph Theory

Ability Enhancement Course - IV:

25CIL47A	UX / UI Design
25CIL47B	DBMS with SQL and MongoDB
25CIL47C	Technical Writing using LaTeX
25CIL47D	Scala

V Semester:

BE in CSE (AIML) Scheme of Teaching and Examination for V Semester Outcome Based Education and Choice Based Credit System (CBCS) Effective from the Academic Batch (2025-2029)													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW	TH/S	Examination			
					Theory	Tutorial	Practical			CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P						
1	HSMC	25CI51	Artificial Intelligence Product Management	AIML	3	0	0	48	90	50	50	100	3
2	PCC	25CI52	Theory of Computation	AIML	3	2	0	50	120	50	50	100	4
3	IPCC	25CI53	Computer Networks	AIML	3	0	2	50	120	50	50	100	4
4	PCCL	25CIL54	Machine Learning Lab	AIML	0	0	2	02	30	50	50	100	1
5	PEC	25CI55X	Professional Elective Course – 1	AIML	3	0	0	48	90	50	50	100	3
6	PEC	25CI56X	Professional Elective Course – 2	AIML	4	0	0	64	120	50	50	100	4
7	NMC	25ES57	Environmental Studies and E-waste Management	Civil Dept	1	0	0	14	28	100	-	100	PP
8	NMC	25NS58 / 25PE58 / 25YO58	NSS/PE/YOGA	NSS/YOGA/ PE coordinator	0	0	0	28	28	100	-	100	PP
9	SDC	25SC59	Hackathon Based Project	AIML	0	0	0	30	30	50	50	100	1
10	SK	25CISK510	Skill Lab-3	AIML	0	0	2	02	30	50	50	100	1
Total									686	600	400	1000	20 + 1

Professional Elective Course - 1:

25CI55A	Advanced Machine Learning
25CI55B	Software Engineering with AI
25CI55C	Cyber Physical Systems
25CI55D	Cloud Computing

Professional Elective Course - 2:

25CI56A	Agentic AI
25CI56B	Quantum Computing
25CI56C	Big Data Systems
25CI56D	Full Stack Development

VI Semester:

BE in CSE (AIML)
Scheme of Teaching and Examination for VI Semester
Outcome Based Education and Choice Based Credit System (CBCS)
Effective from the Academic Batch (2025-2029)

Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW	TH/S	Examination			
					Theory	Tutorial	Practical			CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P						
1	PCC	25CI61	Deep Learning	AIML	3	0	0	48	90	50	50	100	3
2	IPCC	25CI62	Natural Language Processing	AIML	3	0	2	50	120	50	50	100	4
3	PCCL	25CIL63	DevOps Lab	AIML	0	0	2	02	30	50	50	100	1
4	PEC	25CI64X	Professional Elective Course – 3	AIML	3	2	0	50	120	50	50	100	4
5	AEC	25RM65	Research Methodology and IPR	AIML	3	0	0	48	90	50	50	100	3
6	OEC	25XX66X	Open Elective Course - 1	Respective Dept	3	0	0	48	90	50	50	100	3
7	PROJ	25CIP67	Mini Project	AIML	0	0	0	60	60	100	-	100	2
8	NCMC	25NS68 / 25PE68 / 25YO68	NSS/PE/ YOGA	NSS/PE /YOGA COORDINATOR	0	0	0	28	28	100	-	100	PP
9	NCMC	25IKS69	Indian Knowledge System	Respective Dept	1	0	0	14	28	100	-	100	PP
10	SK	25CISK610	Skill Lab-4	AIML	0	0	2	02	30	50	50	100	1
Total									686	650	350	1000	20 + 1

Professional Elective Course - 3:

25CI64A	Cryptography and Network Security
25CI64B	Information Retrieval
25CI64C	AI Hardware Architectures
25CI64D	Edge AI

Open Elective Course - 1:

25CI66A	Introduction to Data Structures
25CI66B	Fundamentals of Operating Systems
25CI66C	Mobile Application Development
25CI66D	Introduction to Artificial Intelligence

VII Semester:

BE in CSE (AIML)
Scheme of Teaching and Examination for VII Semester
Outcome Based Education and Choice Based Credit System (CBCS)
Effective from the Academic Batch (2025-2029)

Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW	TH/S	Examination			
					Theory	Tutorial	Practical			CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P						
1	PCC	25CI71	Computer Vision	AIML	4	0	0	64	120	50	50	100	4
2	PCC	25CI72	Big Data Frameworks	AIML	3	2	0	50	120	50	50	100	4
3	IPCC	25CI73	Explainable AI	AIML	3	0	2	50	120	50	50	100	4
4	PCCL	25CIL74	Computer Vision Lab	AIML	0	0	2	02	30	50	50	100	1
5	PEC	25CI75X	Professional Elective Course – 4	AIML	4	0	0	64	120	50	50	100	4
6	OEC	25XX76X	Open Elective Course - 2	Respective Dept	4	0	0	64	120	50	50	100	4
7	PROJ	25CIP77	Project Work Phase - 1	AIML	0	0	0	60	60	100	-	100	2
8	SK	25CISK78	Skill Lab - 5	AIML	0	0	2	02	30	50	50	100	1
Total									720	450	350	800	23 + 1

Professional Elective Course - 4:

25CI75A	Advanced Algorithms
25CI75B	Parallel Computing
25CI75C	Cognitive Robotics
25CI75D	Game Programming

Open Elective Course - 2:

25CI76A	Introduction to DBMS
25CI76B	Introduction to Algorithms
25CI76C	Software Engineering
25CI76D	Introduction to Machine Learning

VIII Semester:

BE in CSE (AIML) Scheme of Teaching and Examination for VIII Semester Outcome Based Education and Choice Based Credit System (CBCS) Effective from the Academic Batch (2025-2029)													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW	TH/S	Examination			
					Theory	Tutorial	Practical			CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P						
1	INT	25INT81	Research / Industrial Internship	AIML	0	0	0	150	150	100	100	200	05
2	PROJ	25CIP82	Project Work Phase – II	AIML	0	0	0	360	360	100	100	200	12
Total									510	200	200	400	17