VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF ELECTRICAL ENGINEERING

B. Tech

Electrical and Computer Science Engineering

(B.Tech ECS)

ACE Curriculum

(2025-2026 admitted students)

VISION STATEMENT OF VELLORE INSTITUTE OF TECHNOLOGY

Transforming life through excellence in education and research.

MISSION STATEMENT OF VELLORE INSTITUTE OF TECHNOLOGY

World class Education: Excellence in education, grounded in ethics and critical thinking, for improvement of life.

Cutting edge Research: An innovation ecosystem to extend knowledge and solve critical problems.

Impactful People: Happy, accountable, caring and effective workforce and students.

Rewarding Co-creations: Active collaboration with national & international industries & universities for productivity and economic development.

Service to Society: Service to the region and world through knowledge and compassion.

VISION STATEMENT OF THE SCHOOL OF ELECTRICAL ENGINEERING

To be a leader for academic excellence in the field of electrical, instrumentation and control engineering imparting high quality education and research leading to global competence for the societal and industrial developments.

MISSION STATEMENT OF THE SCHOOL OF ELECTRICAL ENGINEERING

M1: Impart high quality education and interdisciplinary research by providing conducive teaching learning environment and team spirit resulting in innovation and product development.

M2: Enhance the core competency of the students to cater to the needs of the industries and society by providing solutions in the field of electrical, electronics, instrumentation, and automation engineering.

M3: Develop interpersonal skills, leadership quality and societal responsibility through ethical value-added education.

Bachelor of Technology in Electrical and Computer Science Engineering

School of Electrical 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	
BAEEE191	Basic Multidisciplinary Project	0	0	4	2	
BAEEE291	Innovative Design Project	0	0	4	2	
BAEEE391	Research / Design Project	0	0	6	3	
BAEEE491	Technical Answers for Real World Problems	1	0	4	3	
BAEEE399	Internship I	0	0	2	1	
BAEEE499	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**

BAPHY106	Foundations of Quantum Mechanics	3	0	2	4	
BACHY106	Chemistry for Electrical and Electronics Engineering	3	0	2	4	
BAMAT202	Linear Algebra	3	0	2	4	
BAHUM103	Ethics and Values	2	0	0	2	

Programme Core Courses						**40**
BAEEE102	Circuit Theory	3	0	2	4	
BAEEE103	Analog Electronics	3	0	2	4	
BAEEE202	Control Systems	3	0	2	4	
BAEEE206	Electrical Machines	3	0	2	4	
BAECE104	Digital Logic and Computer Architecture	3	0	2	4	
BAECE204	Microcontrollers and Embedded C Programming	3	0	2	4	
BACSE104	Structured and Object-Oriented Programming	3	0	2	4	
BACSE105	Data Structures and Algorithms	3	0	2	4	
BACSE106	Operating Systems	3	0	2	4	
BACSE209	Database Management Systems	3	0	2	4	

Concentration

AI Driven Electrical Systems						**20**
BACSE210	Computer Networks and Security	3	0	2	4	
BAEEE208	Probability and Stochastic Processes	3	1	0	4	
BAEEE304	Power Electronics and Drives	3	0	2	4	
BAEEE305	Modern Power Systems	3	0	2	4	
BAEEE306	Artificial Intelligence and Machine Learning for Electrical Applications	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

Honours (additional 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.

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.