VIT®

Vellore Institute of Technology

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

SCHOOL OF ELECTRONICS ENGINEERING

B. Tech Electronics and Computer Engineering

Curriculum

(***2025-26*** *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 ELECTRONICS ENGINEERING

- To be a leader in imparting in-depth and futuristic knowledge of electronics engineering and allied domains that cater to the needs of industry, research, and society.

MISSION STATEMENT OF THE SCHOOL OF ELECTRONICS ENGINEERING

- To create and maintain an environment of excellence in teaching, learning and applied research in the fields of electronics, communication engineering and allied disciplines.
- To collaborate with industries and universities in associated disciplines to pioneer in innovations and technology transfer.
- To equip students with the necessary knowledge and research skills enabling them to be lifelong learners in solving real-life problems, thereby improving the quality of human life and values.

B. Tech Electronics and Computer Engineering

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

The Program Educational Objectives (PEOs) of the B. Tech Electronics and Computer Engineering program are as follows:

PEO1. Graduates will apply the knowledge of electronics and computer engineering to design solutions across diverse fields and relevant industrial applications.

PEO2. Graduates will be engaged in designing, developing and deploying systems and be innovators, entrepreneurs and life-long learners.

PEO3. Graduates will uphold high professionalism and ethical standards, to promote collaborative sustainable growth and development in the socio-economic context.

B. Tech Electronics and Computer Engineering

PROGRAMME SPECIFIC OUTCOMES (PSOs)

On completion of B. Tech. (Electronics and Computer Engineering) Programme, graduates will be able to

PSO1. Apply the acquired competencies in architecture and programming to create hardware-software co-designs.

PSO2. Design and analyze algorithms to provide innovative solutions for signal processing, computing, automation, data security and other futuristic technologies.

PSO3. Develop socially relevant solutions using AI driven techniques to address sustainability goals.

Bachelor of Technology in Electronics and Computer Engineering

School of Electronics 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
BAECE191	Basic Multidisciplinary Project	0	0	4	2
BAECE291	Innovative Design Project	0	0	4	2
BAECE391	Research / Design Project	0	0	6	3
BAECE491	Technical Answers for Real World Problems	1	0	4	3
BAECE399	Internship I	0	0	2	1
BAECE499	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**

BAPHY107	Physics of Semiconductor Devices	3	0	2	4
BACHY107	Applied Chemistry for Electronics Engineering	3	0	2	4
BAMAT205	Discrete Mathematics and Linear Algebra	3	1	0	4
BAHUM103	Ethics and Values	2	0	0	2

Programme Core Courses **40**

BAMAT209	Mathematical Foundations for Computation	3	1	0	4
BAECE103	Network Theory	3	1	0	4
BAECE104	Digital Logic and Computer Architecture	3	0	2	4
BACSE104	Structured and Object-Oriented Programming	3	0	2	4
BACSE105	Data Structures and Algorithm	3	0	2	4
BACSE203	Computer Networks	3	0	2	4
BAECE203	Analog Electronics	3	0	2	4
BAECE204	Microcontrollers and Embedded C Programming	3	0	2	4
BAECE302	VLSI System Design	3	0	2	4
BAEVD204	Signal Processing	3	0	2	4

Concertration

Software Systems **20**

BACSE106	Operating Systems	3	0	2	4
BACSE202	Database Systems	3	0	2	4
BACSE204	Software Engineering	3	0	2	4
BACSE205	Fundamentals of Artificial Intelligence and Machine Learning	3	0	2	4
BACSE208	Theory of Computation and Compiler Design	3	1	0	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.