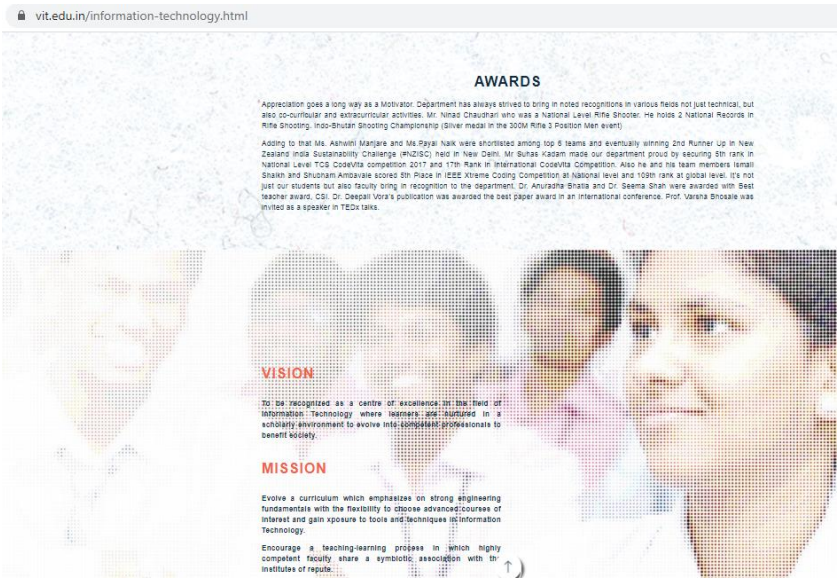
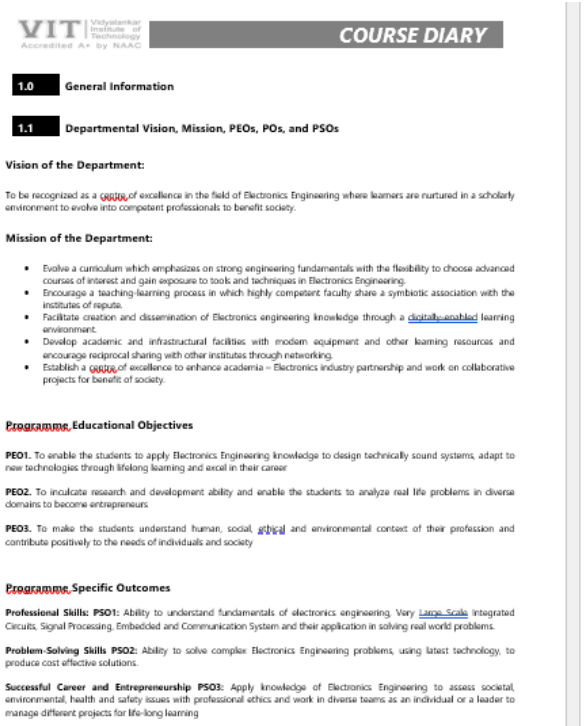
Display of Vision, Mission, Course Outcomes and Program Outcomes

Institute Website



https://vit.edu.in/information-technology.html

Course Diary



VIT Vidyalankar Institute of Technology
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COURSE DIARY

1.0 General Information

1.1 Departmental Vision, Mission, PEOs, POs, and PSOs

Vision of the Department:

To be recognized as a centre of excellence in the field of Electronics Engineering where learners are nurtured in a scholarly environment to evolve into competent professionals to benefit society.

Mission of the Department:

- Evolve a curriculum which emphasizes on strong engineering fundamentals with the flexibility to choose advanced courses of interest and gain exposure to tools and techniques in Electronics Engineering.
- Encourage a teaching-learning process in which highly competent faculty share a symbiotic association with the institutes of repute.
- Facilitate creation and dissemination of Electronics engineering knowledge through a digitally-enabled learning environment.
- Develop academic and infrastructural facilities with modern equipment and other learning resources and encourage reciprocal sharing with other institutes through networking.
- Establish a centre of excellence to enhance academia – Electronics industry partnership and work on collaborative projects for benefit of society.

Programme Educational Objectives

PEO1. To enable the students to apply Electronics Engineering knowledge to design technically sound systems, adapt to new technologies through lifelong learning and excel in their career

PEO2. To inculcate research and development ability and enable the students to analyze real life problems in diverse domains to become entrepreneurs

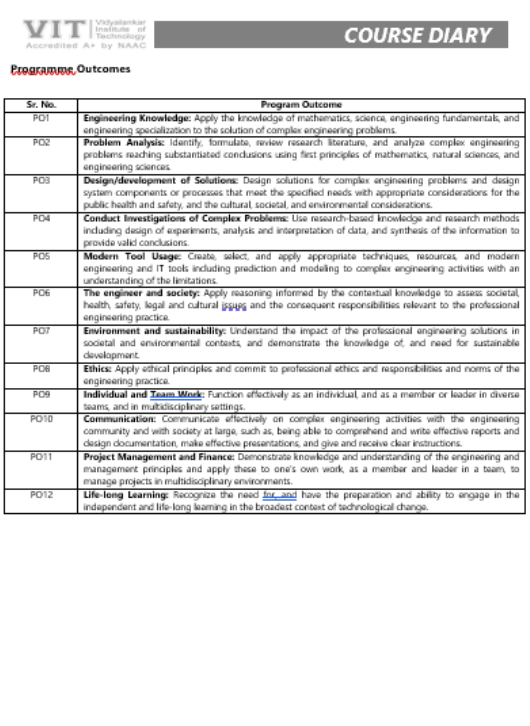
PEO3. To make the students understand human, social, ethical and environmental context of their profession and contribute positively to the needs of individuals and society

Programme Specific Outcomes

Professional Skills: PSO1: Ability to understand fundamentals of electronics engineering, Very Large Scale Integrated Circuits, Signal Processing, Embedded and Communication System and their application in solving real world problems.

Problem-Solving Skills PSO2: Ability to solve complex Electronics Engineering problems, using latest technology, to produce cost effective solutions.

Successful Career and Entrepreneurship PSO3: Apply knowledge of Electronics Engineering to assess societal, environmental, health and safety issues with professional ethics and work in diverse teams as an individual or a leader to manage different projects for life-long learning



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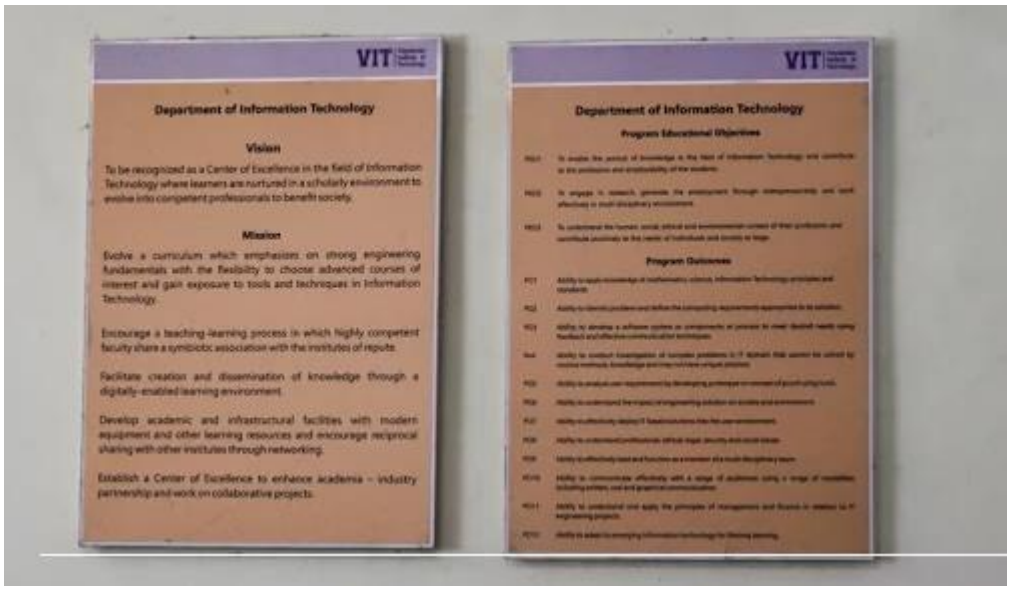
COURSE DIARY

Programme Outcomes

Sr. No.	Program Outcome
PO1	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and engineering specialization to the solution of complex engineering problems.
PO2	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerations for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.
PO12	**Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in the independent and life-long learning in the broadest context of technological change.

Department Offices

FE department



Department of Information Technology

Assessment processes used to gather the data:

The evaluation of Course Outcome attainment is based on following data:

1. Marks in ESE:

- The End Semester Exam is conducted by University of Mumbai. The ESE is consisting of theory examination, practical examination and/or viva voce as per the scheme specified for each course.
- After the declaration of results, the gazette copy of the result is obtained from Examination Section of University of Mumbai. The marks obtained by each student in ESE are considered for calculation of course outcome attainment.

2. Marks in Internal Assessment Tests:

- As prescribed by the University of Mumbai, two internal assessment(IA) tests are conducted for each course by the institute.
- The IA test 1 is normally conducted in 6^{th} week which covers minimum 40% of the syllabus. The IA test 2 is conducted in 14^{th} week which covers the remaining syllabus.
- The marks obtained by each student in IA test 1 and IA test 2 are considered individually for calculation of course outcome attainment.

3. Marks in Laboratory work:

- Every course teacher prepares a list of experiments to be conducted for a particular course and mention it as a part of Academic Administration Plan.
- The rubric for assessment of laboratory work/experiments is defined by PAQIC and disseminated among students at the beginning of semester.
- After the completion of each experiment, the laboratory work of each student is assessed as per rubric and marks are awarded to the students.
- The marks obtained by each student in laboratory work are considered for calculation of course outcome attainment.

4. Marks in assignments:

- Every course teacher prepares a list of assignment to be completed for a particular course and mention it as a part of Academic Administration Plan. In every assignment, separate set of questions are prepared for each batch.
- The rubric for assessment of assignments is defined by PAQIC and disseminated among students at the beginning of semester.
- After the completion of each assignment, each student's assignment is assessed as per rubric and marks are awarded to the students.
- The marks obtained by each student in assignments are considered for calculation of course outcome attainment.

- **Relevance of assessment processes & tools used:**

Sr.No.	Assessment tool	Type of Tool	Weightage	Relevance
1	End Semester Exam	Direct – External Assessment	80%	• The ESE component comprises marks obtained in Theory Exam (80 Marks) and Practical and/or Viva voce (25/50 Marks). • The questions asked in ESE are mapped with Course outcomes and Bloom's Taxonomy levels to check the coverage. • Since the evaluation of answers is done by examiners appointed by University, the answer books are not available for analysis to the institute. • The total marks obtained by the student are therefore equally distributed among all the CO's
2	Internal Assessment Tests	Direct – Continuous Internal Evaluation	40% of remaining 20%	• The IA tests are conducted as a part continuous internal assessment. • The questions in the IA tests are mapped with course outcomes and Bloom's Taxonomy levels. • The IA question papers are audited by Cluster mentor to check the coverage. • The marks obtained in each question by the student are considered for calculation of attainment of corresponding CO.
3	Laboratory Work	Direct – Continuous	40% of remaining 20%	• The laboratory work consists of list of

		Internal Assessment		experiments to be completed for that course. • Each experiment is mapped with course outcome. • The marks obtained by students in each experiment are considered for calculation of attainment of corresponding CO.
4	Assignments	Direct – Continuous Internal Assessment	20% of remaining 20%	• The questions which are part of assignment are mapped with CO. • The marks obtained by students in each question are considered for calculation of attainment of corresponding CO.

- **Rubric for deciding attainment level:**

The attainment level of each CO is calculated by considering well defined rubric.

The target marks for any assessment component is 60% of the total marks allotted for it.

Criteria		Level
If less than 45% of students has scored more than OR equal to target marks	<45%	0
If more than OR equal to 45% but less than 60% of students has scored more than OR equal to target marks	45% to <60%	1
If more than OR equal to 60% but less than 70% of students has scored more than OR equal to target marks	60% to <70%	2
If more than OR equal to 70% of students has scored more than OR equal to target marks	>= 70%	3

- Process used to calculate CO attainment level using ESE questions(COESL):

The total marks (Theory+Practical+Viva-voce) obtained by all students for a particular course are observed. Since the question wise distribution of obtained marks is not available, the total marks obtained are equally distributed among all CO's of that course. The CO attainment level by considering ESE(COESL) is decided by using above rubric.

- Process used to calculate CO attainment level using IA questions(COIAL):

The marks obtained by all students for each question are observed. The CO attainment level for each question is decided by using above rubric. The CO attainment level by considering IA Exam (COIAL) is average of attainment levels of all questions mapped to that CO.

- Process used to calculate CO attainment level using Laboratory work(COEXL):

The marks obtained by all students for each experiment are observed. The CO attainment level for each experiment is decided by using above rubric. The CO attainment level by considering Laboratory work (COEXL) is average of attainment levels of all experiments mapped to that CO.

- Process used to calculate CO attainment level using Assignments(COATL):

The marks obtained by all students for each question in assignment are observed. The CO attainment level for each question is decided by using above rubric. The CO attainment level by considering Assignment (COATL) is average of attainment levels of all assignment questions mapped to that CO.

Final CO attainment level is calculated as follows:

Course Outcome	External (80%)	Internal (20%)			Final CO Attainment Level COL = 0.8*COESL+ 0.2*(0.4*COIAL+0.4* COEXL+0.2*COATL)	Final Course Attainment Level (Average of all COL)
	COESL	COIAL (40%)	COEXL (40%)	COATL (20%)		
C111.1						
C111.2						
C111.3						
C111.4						
C111.5						
C111.6						