

COURSE TITLE	PROJECT
COURSE CODE	01EE1801
COURSE CREDITS	15

Objective:

- 1 This course aims to cultivate students' capacity for independent research, critical thinking, and innovative contributions to their fields by providing guided instruction and hands-on experience in conducting rigorous research, analysing complex problems, and generating novel insights or solutions.

Course Outcomes: After completion of this course, student will be able to:

- 1 Demonstrate an understanding of industrial or societal problems.
- 2 Apply engineering knowledge and develop solutions for real-world problems.
- 3 Communicate technical information and project findings through written reports and presentations.
- 4 Collaborate with team members to achieve project milestones in stipulated time period.
- 5 Apply professional engineering ethics and standards to all project work, demonstrating accountability and integrity in technical documentation.

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	30	0	0	0	100	100
Contents : Unit	Topics						Contact Hours
Total Hours							

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Guidelines The assessments of all the components will be done as per the guideline given in instructional methodology.	420
Total Hours		420

Textbook :

- 1 Project Management: Text and Practice, K.R. Sharma, Atlantic Publishers and Distributors, 2022

References:

- 1 The Process of Research Writing, The Process of Research Writing, Steven D. Krause, Eastern Michigan University, 2007

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
0.00	10.00	30.00	25.00	20.00	15.00

Instructional Method:

- 1 Project Guideline Project Types: Projects can either be UDP (User Defined Project) or IDP (Industry Defined Project).
- 2 The nature of the project work may include but is not limited to: Simulation of circuits/systems or hardware-based solutions. Case studies addressing real-world problems. Innovative solutions to industry challenges. Modeling, analysis, and optimization studies. Development of new laboratory setups. Prototyping and hardware development.
- 3 Guidelines: Committee Oversight: A department-level committee will oversee the quality and quantity of each team's work. At the beginning of the semester, teams must present a detailed project proposal to the committee. This proposal should include the project title, well-defined problem statement, and a timeline of activities
- 4 Team Size: Project teams should ideally consist of no more than four students. Any deviation from this team size must be approved by the committee.
- 5 Internal Evaluation: Internal evaluation will occur at the start, middle, and end of the semester. The committee will determine the distribution of internal marks.
- 6 Faculty Guidance: Project work must be conducted under the guidance of a faculty member
- 7 Progress Reports: Teams are required to submit progress reports midway through the semester. Project progress will be monitored by both the project guide and the department committee.
- 8 Final Report Submission: A comprehensive final report must be prepared and submitted to the department at the end of the semester.
- 9 Publication Encouragement: Teams are encouraged to publish their project work whenever possible.
- 10 External Evaluation: External evaluation will consider adherence to the above guidelines, among other factors.
- 11 Industrial Internship Guideline Duration: The internship shall span a minimum duration of 12 weeks, providing students with ample time to gain practical experience in their chosen field.
- 12 Proposal Submission: Within three weeks of commencing the internship, students are required to submit a brief proposal outlining the scope of work to be undertaken. This proposal will be reviewed by a committee appointed by the Head of the Department.

Instructional Method:

- 13 Full-time Commitment: Students are expected to engage in the internship on a full-time basis throughout its duration, dedicating themselves wholly to the assigned tasks and responsibilities.
- 14 Daily Diary Maintenance: A detailed daily diary must be diligently maintained by each student, documenting their activities, challenges, and learnings. The diary must be signed by the respective industry supervisor and submitted to the department periodically.
- 15 Internal Evaluation: Internal evaluation will be conducted at the beginning, middle, and end of the semester, with the distribution of internal marks determined by the Head of the Department.
- 16 Attendance Reporting: Regular attendance reports must be submitted to the department every four weeks, ensuring accountability and compliance with internship commitments.
- 17 Project Report: Upon completion of the internship, students are required to submit a project report to the institute. This report should encompass the training objectives, industry overview, processes, product lines, equipment involved, potential areas for improvement, and the benefits derived from the training. This report must be accompanied by a certificate from the industry authority confirming successful completion of the internship, along with an attendance report.
- 18 External Examiner Involvement: Industry supervisors may be invited to participate in the external examination of the internship, either in person or through online platforms, providing valuable insights and perspectives.
- 19 Evaluation Criteria: External examination will be conducted in adherence to the established guidelines, ensuring a comprehensive assessment of the internship experience and achievements.

Supplementary Resources:

- 1 https://onlinecourses.nptel.ac.in/noc21_mg71/preview
- 2 https://onlinecourses.swayam2.ac.in/ntr20_ed30/preview
- 3 <https://web.mit.edu/21w732/www/Handouts/scientific-paper.htm>