COURSE TITLE	**PROJECT**
COURSE CODE	**01CT3801**
COURSE CREDITS	**14**

Objective:

1 This subject provides a hands-on learning experience, enabling students to explore real-world problems of personal or professional interest and solve them through applied research under the guidance of a faculty member or industrial mentor. It facilitates the implementation of concepts learned across domains such as software development, data analytics, embedded systems, VLSI, networking, and cybersecurity in practical scenarios. The course emphasizes industry-oriented practices by incorporating modern development methodologies, tools, and standards used in real-world environments. It encourages the effective and ethical use of advanced AI tools and technologies, including generative AI and machine learning frameworks, for problem-solving and innovation. Students gain exposure to collaborative development practices such as version control, documentation, testing, and deployment to ensure industry readiness. Overall, the course enhances critical thinking, creativity, problem-solving ability, and communication skills, preparing students to become competent and industry-ready professionals.

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

1 Apply concepts from software, data analytics, embedded systems, networking, and related domains to develop practical solutions for real-world problems.

2 Analyze real-world problems and identify appropriate methodologies, tools, and technologies, including AI-based approaches, for effective solution design.

3 Evaluate different solution approaches, development practices, and AI tools based on performance, scalability, ethics, and industry standards.

4 Design and develop an industry-oriented project using modern tools, frameworks, version control systems, and collaborative practices.

5 Assess and justify project outcomes through proper documentation, testing, deployment strategies, and effective technical communication.

Pre-requisite of course: Fundamental knowledge with application of domain-specific subjects. Basic programming and hardware knowledge for development.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	28	0	0	0	100	100

Contents : Unit	Topics	Contact Hours
Total Hours		

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Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Module** The Project work should include appropriate elements of engineering standards, design, analysis, modeling, simulation, experimentation, prototyping, software development, research etc. as per the requirement of the project definition, Exploration of various domains of the discipline and finalization of domain for project or Industrial Training, Identification of proposed project definition by student or students' group in coordination with faculty guide or industrial mentor to address issue related to economic, environmental, social, political, ethical, health & safety, manufacturability, sustainability, management, science etc., Student's presentation on selected topic with outcomes of the project/Industrial Training and approval by project approval panel, Intermediate semester presentations include block diagram, flow chart, micro level block diagram, schematic, required hardware or software, features and application of project at regular interval	28
Total Hours		**28**

Textbook :

1 Engineering Project Management, Neil G. Siegel, Wiley, 2019

References:

1 Software Engineering Project Management, Software Engineering Project Management, Richard H. Thayer (Editor), Edward Yourdon, Wiley,, 2014

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**
5.00	5.00	15.00	15.00	20.00	40.00

Instructional Method:

1 Project managment flow and team work.

Supplementary Resources:

1 MOOC Course, NPTEL, COURSERA, Udemy
2 Any relavant subject Online Course
3 https://www.sih.gov.in/sih2025PS

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