



**Kadi Sarva Vishwavidyalaya's
LDRP Institute of Technology & Research
Gandhinagar-382 015**



M.E. (Infrastructure Engineering) Semester: II

Subject Name: SOFTWARE LABORATORY (MECV 206)

A. Learning objectives:

The main objectives of the course are

- To make students familiar with Project Management Software Program.
- To give preliminary knowledge regarding application of M.S.Project Like, developing a plan, assigning resources to tasks, tracking progress, managing the budget, and analyzing workloads.
- To make students familiar with the M.S.Project Planning Software.
- To provide a coherent development to the students for the courses in sector of Infrastructure Engineering etc.
- To collect, categorize, understand, and make decisions about project data and utilize business intelligence to provide visibility and decision support to proactively manage projects, programs and portfolios.
- To enhance the student's ability to think logically and application of content in terms of Organisation & integration connectivity with other modes of Planning.
- User-controlled scheduling and Planning offers flexible choices for developing and managing projects.
- To give an experience in the implementation of Engineering concepts which are applied in field of Infrastructure Engineering

B. Teaching Scheme (Credits and Hours)

Teaching Scheme				Credit Scheme			Evaluation Scheme				
Lect Hrs	Tu Hrs	Prac. Hrs	Total	Theory	Pra/TW	Total	UE	IE	CIA	Prac/Viva	Total
00	03	00	03	00	03	02	00	00	40	60	100



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C. Detailed Syllabus

Unit Nos.	Topic
1	Course Overview <ul style="list-style-type: none">• Course Introduction ,• Project Management (PM) Fundamentals• The PM field and job market• People, Process, Product, Technology
2	Overview of Project Management <ul style="list-style-type: none">• PMI Processes• Software project phases• Organizational structures• Project charter• Statement of Work (SOW)
3	Planning Phase <ul style="list-style-type: none">• Development lifecycle models• Matching lifecycles to projects• Project plans• Work Breakdown Structures (WBS)
4	Estimation and Budgeting <ul style="list-style-type: none">• Estimation• Budgeting• Project selection
5	Scheduling <ul style="list-style-type: none">• Project network diagram fundamentals• PERT techniques• Gantt charts• Critical chain scheduling
6	Risk and Change Management <ul style="list-style-type: none">• Risk management• Change control
7	Development Management <ul style="list-style-type: none">• Team models• Requirements process• Configuration management• Programming languages & tools• Managing conflict and motivating• MS-Project: Assigning Resources



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D. Lesson Planning:

Unit No	Topics	Hours	Weightage (%)
1	Course Overview	03	7
2	Overview of Project Management	09	20
3	Planning Phase	08	18
4	Estimation and Budgeting	05	11
5	Scheduling	05	10
6	Risk and Change Management	08	18
7	Development Management	07	16
	Total :	45	100

F. Instructional Method and Pedagogy (Continuous Internal Assessment (CIA) Scheme)

- Laboratories will be conducted with the aid of multi-media projector, black board, OHP and Computers with all facilities etc.
- This is Project Management Software awareness subject which includes laboratory only. During the laboratory hours, the students will prepare minimum 5 tutorials. Each tutorial includes one Construction Project related to civil engineering.

E. Students Learning Outcomes:

On the successful completion of this course

- The students will understand the application of Project Management Software in civil engineering.
- The Students will know how to effectively plan and manage tasks with the help of scheduling capabilities.
- The Students will know how to keep your teams organized in one location — their project site — where they can view project summaries, documents, tasks, newsfeeds and calendars.
- The Students will know how to create workflows and standardize project progression or rejection and improve governance and control.
- The Students will learn to accurately measure resource utilization and better manage resource allocation that aligns with your strategy
- The students will know how to give team members and business partners the right level of access to project information.
- You will know how to develop and deliver applications to shave time off discrete processes or connect to any other third-party or proprietary software systems.
- The students will be able to apply the use of M.S.Project for Scheduling, organizing and planning of the project.



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F. Recommended Study Material:

A. Reference Books:

- [McConnell, Steve, "Rapid Development"](#)
- [Schwalbe, Kathy, "Information Technology Project Management, 2nd Edition"](#)
- [McConnell, Steve, "Software Project Survival Guide"](#) (very thin but to the point)
- [Futrell, Shafer, Shafer; "Quality Software Project Management"](#) (extremely thorough and well-written)
- [Kerzner, Harold, "Project Management: A Systems Approach to Planning, Scheduling, and Controlling, 8th Ed."](#) ("bible" of general project management; textbook-ish)
- [Wysocki, Robert, "Effective Project Management, 3rd Ed."](#), good introductory PM book
- [Berkun, Scott, "The Art of Project Management"](#), terrific, readable, witty, comprehensive
- [Lauesen, Soren, "Software Requirements: Styles and Techniques"](#), good comparative overview of requirements techniques
- [Stellman, Andrew; Greene, Jennifer, "Applied Software Project Management"](#), very practical project management advice (new O'Reilly title)

B. Web Materials:

- http://en.wikipedia.org/wiki/Microsoft_Project
- <http://office.microsoft.com/en-us/project>