

Project Management in Engineering

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ORGANIZATION OF THE COURSE

Scope, Purpose and Description

This course is aimed to help the student to learn the competencies and skills for planning and controlling projects and how it relates to business operations. The course introduces the fundamental procedures, tools and techniques and focuses on project management life cycle and the role of a project manager. Students will explore project management with a practical, hands-on approach through business examples and class assignments. Topics will include schedules, risks, resources, as well as project stakeholders. The course will also mention the behavioral skills of a project manager and show hints to resolve interpersonal issues encountered during a project schedule. A special emphasis will be given to software projects and Waterfall and Agile methodologies. The course will explore Capability Maturity Model (CMM) and its impacts on project success.

Objectives and Goals

This course focuses on project management methodology. At the end of this course, students will be able to

- Understand concepts of project management design, development, and deployment
- Define project scope, schedule budget and typical project phases
- Use project management tools, techniques, and skills
- Understand how to manage project cost, quality, and delivery
- Optimize critical resources in case of conflicting interests or tight schedules
- Understand the implications, challenges, and opportunities of organizational dynamics in project management
- Recognize and mitigate risks and challenges throughout project life cycle
- Define communication strategy with stakeholders

Required Readings

Wysocki, Robert K., (2009). "Effective Project Management: Traditional, Agile, Extreme", Wiley Publishing, Indiana

Project Management Institute (2013). A Guide to the Project Management Body of Knowledge (PMBOK Guide) – Fifth Edition. Project Management Institute, Pennsylvania, USA.

McConnell, Steve (1998) – Software Project Survival Guide, Microsoft Press

Biafore B. (2010) Microsoft Project 2010: The Missing Manual , O'REILLY

<https://www.atlassian.com/project-management>

<https://www.scrum.org>

<https://www.sei.cmu.edu/cmami/>

Grading Criteria

Students will be evaluated using the following criteria:

Participation & HWs /Assignments / Projects ..	30%
Attendance	5%
Midterm	25%
Final	40%

Course Schedule

<u>Week</u>	<u>Topic</u>
Week 1:	Introduction and Overview Course Introduction Student Introduction Introduction to Project Management
Week 2:	Project Phases and Project Life Cycle Project Stakeholders Project Management Processes
Week 3:	Leadership in Project Management Project Management Knowledge Areas and Understanding the Project Management Process Groups
Week 4:	How to Plan a Project How to Scope a Project
Week 5:	Project Cost Management Project Time Management Project Risk Management
Week 6:	Project Communications Management Project Human Resource Management
Week 7:	Project Quality Management Project Scheduling
Week 8:	<i><u>Midterm1</u></i>

Week 9:	Project Progress, Reporting, Issue Tracking Management Closing a Project
Week 10:	Software Project Management Methodologies: Waterfall
Week 11:	Software Project Management Methodologies: Agile
Week 12:	Capability Maturity Model Integrated
Week 13:	Final Projects Presentation
Week 14:	Final Projects Presentation