

# Project Management

<b>Course Code</b>	<b>Credit Hours</b>
<b>CE 421</b>	<b>2-0</b>

## Course Description

This course covers topics relevant to understanding core issues pertaining to Engineering Project Management. The aim of this course is to provide basic and advanced exposure to trends of Project Management with the aim of training productive and effective engineering professionals. Engineering students will learn key Project Management skills and strategies, and will be able to face emerging challenges.

## Text Book:

1. Saleh Mubarak, (2019), Construction Project Scheduling & Control, 4<sup>th</sup> Edition, Wiley
2. Donald G. Newnan, Ted G. Eschenbach, (2004). Engineering Economic Analysis, Oxford University Press, New York
3. Lewis, James, Project Planning, scheduling & control, New York: McGraw-Hill
4. Eisner, H. Essentials of project management and systems engineering management. New York; Wiley

## Reference Book:

1. Gould, F., and Joyce, N. (2009). *Construction project management*, 3<sup>rd</sup> edition. Pearson, USA.
2. Keith Potts and Nii Ankrah, (2013). Construction Cost Management, Learning from Case Studies, 2<sup>nd</sup> Edition
3. Lewis, James, Project Planning, scheduling & control, New York: McGraw-Hill
4. Frame, J. D. Managing projects in organizations, San Francisco; Jossey-Bass
5. Goldratt, Eliyahu. Critical chain, North River Press
6. Cleland, David. Field guide to project management, New York: Wiley
7. J. R. Meredith and S. J. Mantel, Project Management: A Managerial Approach. John Wiley and Sons. New York, 2019

**Prerequisites:**

Nil.

**ASSESSMENT SYSTEM FOR THEORY**

	<b>Without Project (%)</b>	<b>With Project/Complex Engineering Problems (%)</b>
Quizzes	15	10-15
Assignments	10	5-10
Mid Terms	25	25
Project	-	5-10
End Semester Exam	50	45-50

**ASSESSMENT SYSTEM FOR LAB**

Lab Work/ Psychomotor Assessment/ Lab Reports	70%
Lab Project/ Open Ended Lab Report/ Assignment/ Quiz	10%
Final Assesment/ Viva	20%

**Teaching Plan**

<b>Week No</b>	<b>Topics/Learning Outcomes</b>
1	<p><b>Project Management Concepts:</b></p> <p>Introduction to PM, Key Project Management Terminologies, Program &amp; Portfolio.</p> <p>Project Characteristics, objectives, and requirements, lifecycle, scope, charter, and stakeholders</p>
2	<p><b>Project Proposal Development:</b></p> <p>Proposal, Characteristics of good proposal, types of proposals, RFP, RFQ etc. Proposal Templates</p>

3	<p><b>Project Feasibility:</b></p> <p>Brief review of aspects of Project feasibility like technical, social, managerial, economic, financial, administrative etc.</p>
4-5	<p><b>Project Selection Criteria (Economic Analysis of Engineering Projects):</b></p> <p>Using Break Even Analysis, Cost Benefit Ratio, Internal Rate of Return, Net Present Value etc.</p>
6	<p><b>Project Planning:</b></p> <p>Project Planning, Work Breakdown structure, Overview of Scheduling &amp; Network diagrams, Project Network &amp; Scheduling.</p>
7-8	<p><b>Project Scheduling:</b></p> <p>Manning Schedule and Activity charts, Critical Path Method (CPM), and Project Evaluation &amp; Review Technique (PERT), Earned Value Management, Schedule &amp; Cost variance analysis.</p> <p>Project time management and cost management.</p>
9	<p><b>Mid Semester Exam</b></p>
10	<p><b>Project HRM and Communication Management:</b></p> <p>Effective communication in organization and project, project organizational structure (Project Matrix &amp; Project based organizations), Project Human Resource Plan preparation, HR need assessment and matrix, Building and Managing effective teams, selecting and control mechanism of HRM on projects, effective communication plan.</p> <p>Project human resources management and communication management.</p>
11	<p><b>Project Risk Management:</b></p> <p>Definition of risk, project risk tools, types of risks, risk identification, risk assessment, risk categorization, risk mitigation, monitoring and controlling risks, generic risk management strategies &amp; techniques.</p>

	Project risk management.
12	<p><b>Project Quality Management:</b></p> <p>Defining quality, quality assurance, quality control, quality management, 7 quality improvement tools, project quality management plan, quality management processes and strategies.</p> <p>Project quality management.</p>
13	<p><b>Project Closure &amp; Termination:</b></p> <p>Project evaluation, defining project success, project completion criteria, project audit, project termination &amp; when to close, termination process, project close up &amp; lesson learnt, Project archives.</p>
14	<p><b>Computer Application in Project Management:</b></p> <p>Basic introduction and hands on exposure of MS Project software in Project Management.</p>
15	<b>Use of A.I in project management.-</b>
16	<b>End Semester Project</b>
17-18	<b>End Semester Exam</b>

**Practical:** Nil.