



Course Descriptor
[ENGR4002 Engineering Project Management]

Proposed Academic Year	2016-2017	Last Reviewed Academic Year	Fall 2021-2022
Course Code	ENGR4002	Course Title	Engineering Project Management
Credit hours	4	Level of study	Undergraduate
College / Centre	College of Engineering	Department	Civil & Environmental Engineering
Co-requisites		Pre-requisites	

1. COURSE OUTLINE

This course will prepare students to build their skills in areas of Project Management. The Course will also include training on MS Project 2013/Primavera P6.

2. AIMS

This course will help students identify the features and attributes of a project; and identify the steps and variables of the project management process.

The course will allow students to explore the intricacies of Project Management.

- Identify the effects of the environment, various socioeconomic and organizational issues, and organizational structure on a project; and identify the critical functions, necessary skills, responsibilities, and challenges of a project manager;
- Identify the components of time management; identify the purpose of activity definition and sequencing; recognize different diagramming techniques; identify the factors affecting activity duration and identify techniques for estimating activity duration;
- Describe schedule development; use mathematical analysis techniques for schedule development; identify the purpose of schedule control; and describe the importance of schedule adherence.

3. LEARNING OUTCOMES (Definitive) and TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
Upon successful completion of this course, students will be able to:		
1. Develop CPM schedules	Lectures	e.g in-class tests, quizzes
2. Perform periodic updates	Lectures - lab work	Quiz-Exams
3. Monitor and forecast resource demands	Lectures - lab work	Written Examination
4. Analyze delays and devise remedial strategies	Lectures - lab work	Quiz - Exams
5. Acquire basic understanding of quality control, field supervision, and other common construction procedures	Lectures - lab work	Quiz - Exams



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6. Be proficient with M.S. Project/Primavera software	P6	Lab work	Quiz - Exams
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4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignment & Participation	10%
Midterm 01	20%
Midterm 02	20%
Final Exam	40%
TOTAL	100%

5. ACHIEVING A PASS

Students will achieve 4 credit hours for this course by passing ALL of the course assessments (Assignments, Quiz, Midterm and Final examinations) and achieving a minimum overall score of 50.

NB *Ensure that ALL learning outcomes are taken into account

6. Course Delivery Plan

LECTURE TOPIC	TIME (HOURS)
Syllabus presentation	1.5
Define the project – Project life cycle	1.5
Introducing project management	1.5
Knowledge areas of PM - PM process	1.5
PROJECT PLANNING	1.5
Project objectives and planning - Defining the exact project scope - Verifying & controlling project scope	1.5
Activities and Dependencies	1.5
WBS - Estimate activities -Sequence dependencies	1.5
Techniques for schedule development	1.5
PERT – GANT - CPM	1.5
Exercises 01	1.5
Exercises 02	1.5
Identify needed resources	1.5
Resources information - Resources calendars - Resources cost	1.5
Tasks types	1.5



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Fixed duration - Fixed work - Fixed units	1.5
Assign resources	1.5
Application (Construction of small firm)	1.5
Resource leveling	1.5
Leveling alternatives	1.5
Saving a project baseline	1.5
Baseline - Interim plan	1.5
Updating project data	1.5
Project tracking - Progress line	1.5
Earned value concept	1.5
BCWS, BCWP, ACWP, SV, CV, BAC, EAC, VAC, SPI	1.5
Risk analysis	1.5
PERT method	1.5
Report project performance	1.5
Revision	1.5
Case Study	15
TOTAL HOURS	60
Plus RECOMMENDED INDEPENDENT STUDY HOURS	120
TOTAL COURSE HOURS	180

7. RECOMMENDED READING

Core text/s:

Anthony Walker (2015), Project Management in Construction, 1st edition, John Wiley & Sons, Ltd.

Carl Chatfield and Timothy Johnson (2016), Microsoft Project 2016 Step by Step, Microsoft Press.

Nicholas J M and Steyn H (2012) Project Management for Business, Engineering and Technology, 4rd Edition, Routledge

Library + online resources:

Project Management Journal

International Journal of Project Management

<https://www.pdfdrive.com/project-management-in-construction-d184607627.html>

<https://www.pdfdrive.com/microsoft-project-2016-step-by-step-d33406239.html>



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<https://www.pdfdrive.com/planning-and-control-using-oracle-primavera-p6-versions-81-to-151-ppm-professional-e166610326.html>