



GE 402: Management of Engineering Projects
2nd Semester 1444H (2022/2023)

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In the email, please include the following: **full name, student number, section, and a proper title**

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In the email, please include the following: **full name, student number, section, and a proper title**

Catalog Course Description:

The course introduces techniques that provide rational solutions to a range of project management decisions encountered in engineering projects. Students are expected to gain a detailed understanding of some of the techniques, tools, and processes available and their application in starting, planning, managing and finishing engineering projects; The course covers project management fundamentals including projects life cycle, project planning and scheduling techniques, cash flow forecasting, performance evaluations, estimating and cost control; project organizations; Introduction to risk management.

Textbook: Project Management in Practice, Meredith, J. R., Mantel Jr, S. J., & Shafer, S. M. (2013)

Software:

- Copies of *Microsoft Project* are available to KSU engineering students at all Collage of Engineering labs.
- A tutorial manual on MS Project is available LMS (blackboard). Refer to this manual before using the software for your homework and integrated project.

Student Learning Outcomes

The main objectives of the course are to prepare the students to:

1. Identify the fundamentals of project Management.
2. Create a complete organizational structure and role of responsibilities for project teams.
3. Understand the principles and tools for risk management and project cost estimation.
4. Apply the following methods to prepare project schedules: Bar chart, Activity-on-node, Precedence diagram, and Time-scaled network, PERT.
5. Develop project schedule for the purpose of resource leveling and allocation and time-cost trade-off.
6. Monitor a construction project for the purpose of time and cost control.
7. Apply the fundamental of project cash flow.

Course Expectations and Policies:

Course Expectations: To ensure a cooperative learning environment, each student is expected to read the text before each class meeting time, and prepare to participate during class discussions actively, team-related activities, presentations, and writing.

Attendance Policy:

- It is expected that students will attend class regularly and participate in the class discussion throughout the semester.
- The attendance will be recorded from the first lecture in the 1st week. Therefore, any excuses related to registration issues from absent students should not be accepted since all registration requests have been resolved.
- Students are not allowed to evacuate the classroom after recording the attendance without the instructor's permission.
- If the students escape or leave class without instructor's permission, the instructor has the right to raise this issue to the disciplinary committee, as a result the student is not allowed to attend the subsequent lectures until a decision is issued by the disciplinary committee.
- Any verbal or physical violence, unrespectful behavior and/or disruption in the educational process is totally unacceptable. Any case will be raised to the disciplinary committee and the student will be punished with a penalty ranging from expulsion from the course, or entire semester or from the university system.

Due Dates/Make up Work: Exams must be taken as scheduled. Assignments are due as scheduled. Make-ups will be allowed only if the student has contacted the professor before the due date, detailing a serious problem.

Academic Integrity: KSU seeks to maintain an optimal learning environment. General Principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles.

Electronic Device Policy: You are allowed to use electronic devices to access your text, retrieve information, and take notes. However, you are not allowed to use social media and the like during class.

Grading procedure and Assessment Methods:

The final course grade will be determined based on the following weights:

Mid-term Exam	30%
Tutorial (Homework and Quizzes)	10%
Course Project	15%
- <i>In-class discussion and report (5%)</i>	
- <i>MS Project Lab Exam (10%)</i>	
In-Class Quizzes	5%
Final Examination	40%

Exams:

Exams consist of multiple-choice questions. If you cannot take an exam on the scheduled date and time, you must provide documents from a responsible party (doctor, court, police, etc.) and you must arrange to take the exam before the following class meeting. The final exam date/time is set by KSU and cannot be rescheduled.

Mid-Term Exam*	Tuesday	January 24, 2023	6:00 – 8:00 pm (Tentative)
MS Project Lab Exam*	Wednesday	February 8, 2023	6:00 – 8:00 pm (Tentative)
Final Exam	Thursday	February 16, 2023	8:00 – 11:00 am

***For any issues regarding exams date and time you must send an email to the course coordinator Dr. Saad Aljadhai (saljadhai@ksu.edu.sa)**

Assignment Submission:

Homework descriptions and due dates will be posted on the blackboard. You are encouraged to submit your assignments online. Your presentations can be of any format you deem appropriate.

Course Project Assignments:

This assignment familiarizes you with the project management fundamentals in addition to a project management software “**Microsoft Project**”. You will manage a *multi-phase multi-task* project. You will learn how to create graphic output about your project, and learn how to read information produced by **Microsoft Project**. What you learn in class should be applied to the management of your project.

Tentative Course Outline¹:

Lecture	Topic	Reading Assignment	Duration “Weeks”
INTRODUCTION & PROJECT ORGANIZING			
1	Introduction to Project Management	Ch. 1 (pp. 1-8) & Class Notes	0.5
2	Contractual and Organizational Approaches	Ch. 2 (pp. 57-66) & Class Notes	0.5
3	Project Life Cycle	Ch. 1 & Class Notes	0.5
4	Risk Management	Ch. 4 (pp 136-144) & Class Notes	1
PROJECT TIME PLANNING AND SCHEDULING			
5	Processes, and Bar (Gantt) Chart	Ch. 5 (pp. 178-182) & Class Notes	0.5
6	Activity-On-Arrow (AOA)	Ch. 5 (pp. 151-160) & Class Notes	1
7	Precedence Diagramming	Ch. 5 (pp. 183-184) & Class Notes	0.5
8	PERT (Program Evaluation and Review Technique)	Ch. 5 (pp. 161-178) & Class Notes	0.5
9A	Time-Scaled Network	Class Notes	0.5
RESOURCE MANGEMENT			
9B	Resource Leveling	Ch. 6 (pp. 202-214) & Class Note	0.5
10	Resource Allocation	Ch. 6 (pp. 216-220) & Class Note	0.5
Midterm exam Tuesday January 24, 2023 (6:00-8:00 pm) covering lecture 1 to the end of lecture 10			
PROJECT COST AND FINANCIAL MANAMGEMENT AND CONTROL			
11	Budgeting and Cost Estimation	Ch. 4 & Class Notes	0.5
12	Cashflow Forecasting	Class Notes	1
13	Time Control	Class Notes	0.5
14	Cost Control	Ch. 7 (pp. 247-254) & Class Notes	1
15	Time-Cost Trade-Offs	Class Notes	0.5
Final Exam Thursday February 16, 2023 (8-11 am) – as appears in Edugate			

¹ Schedule may be revised to accommodate the content and pace of the class learning process.