



GE 404: ENGINEERING MANAGEMENT
1st Semester 1441/1442H (2020/2021)

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Catalog Course Description:

Engineering management 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 with CPM, PERT, and Precedence Diagramming, 3rd Edition, by Moder J., Phillips, C., and Davis, E.

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. Apply the following methods to prepare project schedules: Bar chart, Activity-on-node, Precedence diagram, and Time-scaled network.
4. Develop project schedule for purpose of resource levelling and allocation and time-cost trade-off.
5. Monitor a construction project for purpose of time and cost control.
6. 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 actively participate during class discussions, team-related activities, presentations and writings.

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 not allowed to evacuate the classroom after recording the attendance without instructor permission.
- If the students escape or left class without instructors' 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 expelling 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:

1 st and 2 nd Mid-term Exam	35%
Tutorial (Homeworks and Quizzes)	10%
Course Project Assignments	15%
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.

First Mid-Term*	TBD by the college	
Second Mid-Term*	TBD by the college	
Final Exam	Wednesday 16 December 2020	1:00 – 3:00 pm

*For any issues regarding exams date and time you must send an email to the course coordinator Dr. Abdulrahman Bin Mahmoud (abinmahmoud@ksu.edu.sa)

Assignment Submission:

Homework descriptions and due dates will be posted on blackboard. You are encouraged to submit your assignments online. Electronic submission must be in MS Office formats. 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 **Individual Project**.

Study Hints:

- Do not hesitate to ask questions in person during office hours or via email.
- Read the text before you come to each class meeting.
- Participate in class discussions.

Tentative Course Outline¹:

Lecture	Topic	Reading Assignment	Duration “Weeks”
INTRODUCTION & PROJECT ORGANIZING			
1	Introduction for Engineering Management	Ch. 1 & Class Notes	1
2	Contractual and Organizational Approaches	Ch. 1 & Class Notes	1
3	Project Participants and Project Life Cycle	Class Notes	0.5
PROJECT TIME PLANNING AND SCHEDULING			
4	Processes, and Bar (Gantt) Chart	Ch. 1	1
5	Activity-On-Node (AON)	Ch. 2 (pp. 37-43) Ch. 4 (pp. 93-107)	1
6	Precedence Diagramming, and Time scaled network		2
<i>1st Mid term exam at week 8 covering from lecture 1 to the end of lecture 6</i>			
RESOURCE MANGEMENT			
7	Resource Leveling	Ch. 7 (pp. 191-210)	1.5
8	Resource Allocation	Class Note	1.5
PROJECT FINANCIAL MANAMGEMENT AND CONTROL			
9	Cashflow Forecasting	Class Notes	1.5
10	Time Control	Ch. 5 (pp. 133-163) & Class Notes	1.0
<i>2st Mid term exam at week 12 covering from lecture 7 to the end of lecture 10</i>			
11	Cost Control	Ch. 5 (pp. 133-163) & Class Notes	1.5
12	Time-Cost Trade-Offs	Ch. 8 (pp. 237-249)	1.5
Final Exam Wednesday December 16th 2020 (1-3 pm) - Mandated by KSU Schedule			

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