

# **IE1035 | ENGINEERING MANAGEMENT Fall 2021**





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TBA



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**TBA** 

Extra office hours before exams and project due dates

**TEACHING** 



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#### CLASS MEETING

Tuesday 13:50-16:25 | 101, Zone 3

### **PREREQUISITES**

IE junior status or instructor's permission

#### **COURSE DESCRIPTION**

This course focuses on management theory which applied engineering and technical to organizations. Specific topics include: management process and management functions (planning, organizing, leading, and controlling); project management; managing technical people; engineering ethics, globalization, engineering career and/or management, other contemporary management concepts.

# **COURSE MATERIAL**

(1) Textbook



Morse, L.C. and Babcock, D.L. (6th Edition, 2014), Managing Engineering Technology, Pearson Higher Education, Inc., New York.

(2) Lecture notes

Slices and notes provided in class

## **COURSE OBJECTIVES**

- Understanding of what the importance of engineering management in technical organizations is and how the well-managed engineering organization will lead to competitive advantage of a company in the market
- Familiarization of basic principles of engineering management
- Development of skills and ability of applying management concepts and techniques to work and manage in an engineering environment

## APPLICABLE ABET OUTCOMES

- An ability to function on multi-disciplinary teams
- An understanding of professional and ethical responsibility
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues



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### **GRADING**

Class Participation	25%	In-class discussion, exercises, group work, simulation games, etc.; For some tasks, get full mark for participation; For other tasks, grades are given based on the quality of the answers; Grading rules will be given at the beginning of each class.	
Homework	20%	Approximately 5 assignments; Individual work or group work; Due in one, two, or three weeks depending on difficulty; Collected at the beginning of class on the due date; For problems, show all work and complete calculation steps for each problem; For case studies or essay style assignments, must be typed and presented in a professional and readable format in 11 pt. font with 1.5 line spacing; Detailed requirements for homework submission will be posted on Bb by TAs.	
Project	20% (report 12%, presentation 8%)	Work in groups; Submission includes a technical report, an in-class presentation, and a PowerPoint slice show; Requirements will be given in separate handouts when assigned.	
Midterm Exam	18%	2 hours; One week after "Management Functions – Controlling" is introduced; Open books, open notes, open scientific calculator, closed computer.	
Final Exam	22%	2.5 hours; In final week; Open books, open notes, open scientific calculator, closed computer.	
Total	105%	5% for extra points; Total grade given will not exceed 100	

- No makeup opportunity for any missing exam or homework except for documented medical reasons
- Late homework will not be accepted
- Students unable to attend classes are responsible for obtaining class announcements and lecture contents

#### ACADEMIC HONESTY

Plagiarism, cheating, and any form of unauthorized collaboration will not be tolerated and will be handled in accordance with University policies. Penalties for cheating and plagiarism may include but not limited to: zero credit on the work, student placed on probation, submission of judicial findings in the students' permanent record, and jeopardy of the students' status in the program.

Unacknowledged direct copying from the work of another person, or the close paraphrasing of somebody else's work, is called plagiarism and is a serious offence, equated with cheating in examinations. This applies to copying both from other students' work and from published sources such as books, reports, journal articles, websites.

When the original statement is still identifiable and has no acknowledgement, it is plagiarism. A close paraphrase of another person's work must have an acknowledgement to the source. It is not acceptable for you to put together unacknowledged passages from the same or from different sources linking these together with a few words or sentences of your own and changing a few words from the original text: this is regarded as over-dependence on other sources, which is a form of plagiarism.



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### TENTATIVE SCHEDULE

Week	Date	Topic	Reading
1	Sep 1	Course Introduction; Introduction of Engineering Management	Textbook Chapter 1
2	Sep 8	Introduction of Engineering Management; Historical Development of Engineering Management	Textbook Chapter 1 & 2
3	Sep 15	Management Functions Leading	Textbook Chapter 3
4	Sep 22	Management Functions – Planning	Textbook Chapter 4
5	Sep 29	Management Functions – Decision Making	Textbook Chapter 5
6	Oct 6	Management Functions – Organizing	Textbook Chapter 6 & 7
7	Oct 13	Management Functions Controlling	Textbook Chapter 8
8	Oct 20	Managing Technology Research	Textbook Chapter 9
9		Midterm Exam	Covers blue
10	Nov 3	Managing Technology Design	Textbook Chapter 10
11	Nov 10	Managing Technology – Planning & Managing Production	Textbook Chapter 11 & 12
12	Nov 17	Managing Technology Marketing	Textbook Chapter 13
13	Nov 24	Managing Projects – Project Planning and Acquisition	Textbook Chapter 14
14	Dec 1	Managing Projects – Project Organization, Leadership, and Control	Textbook Chapter 15
15	Dec 8	(holiday classes makeup)	
16	Dec 15	Project Presentation	
17		Final Exam	Covers blue $(20\%)$ , red + orange $(80\%)$

### **SPECIAL ACCOMMODATIONS**

If you have specific physical, psychiatric, or learning disabilities that you believe may require accommodations for this course, please meet with me after class to discuss appropriate adaptations or modifications that might be helpful for you.