IE 1035 Engineering Management

Fall 2024

Class

- Time: Tuesday 8:15 AM -11:00 AM
- Location: Rm 4-204

Instructor

- Name: Di Liu
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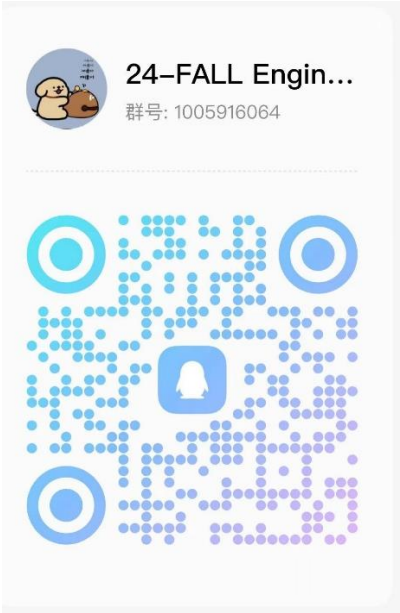
- Office: New Building, Rm 413

TA

- Name: Yunqi Li
  Email: 2021141520211@stu.scu.edu.cn

Office hours

- Right after each class in the classroom.
- Instructor: Tuesday: 14:00 - 17:00, or by appointment.
- Online via QQ Group, 1005916064



Notes

- This syllabus is subject to change. Please follow updates announced during class and posted on Blackboard website.
- When emailing the instructor or TAs, please include "IE 1035" in the subject field of your message. Use your university email account (student_ID_number@stu.scu.edu.cn), since mails from other accounts might be stopped by the SCU spam filter. Thanks! ^_^

Course Description

This course focuses on the management theory which can be applied to engineering and technical organizations. Specific topics include: management process and functions (leading, planning, organizing, and controlling); technology management (research and development, design, production, and operation); project management; managing technical people; and other contemporary management concepts.

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.
- 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 social context. A recognition of the need for, and an ability to engage in life-long learning. A knowledge of contemporary issues.

Applicable ABET Outcomes

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Textbook

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

Grade

90.00 – 100.00 A	85.00 – 89.99 A-	80.00 – 84.99 B+	76.00 – 79.99 B	73.00 – 75.99 B-
70.00 – 72.99 C+	66.00 – 69.99 C	63.00 – 65.99 C-	60.00 – 62.99 D	0.00 – 59.99 F

Assessments

- Class Participation: 25%
- Homework: 25%
- Project: 15%
- Midterm Exam: 17%
- Final Exam: 23%
- Total: 105% (5% for extra points; Total grade given will not exceed 100. ^_^)

Class Policy

Regular attendance is essential and expected. Important dates and plans will be announced during class. **It is imperative that you come to class prepared.** This will generally involve reading one or more chapters of the textbook, thinking, engaging with fellow students, practice and performing preliminary calculations. This is a three credit hours class, which means you should expect to devote at least 9 to 12 hours of effort outside the scheduled class time every week.

Class Participation

In-class discussion, exercises, group work, games, checking class preparation, 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 before the participations start.

Homework and Other Assignments

Approximately 5 assignments; Individual work or group work; Due in one, two, or three weeks depending on the difficulty; 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.

Homework problems and other assignments will be assigned periodically and are due as stated in the assigned paper. All work will be submitted electronically through the Blackboard system. Late submission **WILL NOT** be accepted. **Students' names and ID**

numbers must be listed on the first page. It is your duty to make sure that submission through Blackboard has been properly processed. Unless specifically requested, emailed homework will not be accepted. If you have a compelling emergency that prevents you from turning in the homework on time, please email the instructor.

All of the homework scores will be used in your grade computation. Unless otherwise indicated, you can work with your fellow classmates in the class, but you must submit a distinct and independent write-up to receive credit. If plagiarism is caught, zero score for all homework.

If you believe an error has been made in the grading of an assignment, bring it to the attention of your TA **within ONE WEEK** from its return.

Exams

There will be two exams (one Midterm and one Final), open paper-based materials, open scientific calculator, closed electronics. If you must miss an exam, you **MUST** make alternative arrangements with the instructor before the exam is given. If you miss an exam without prior notification, you will receive a score of "**ZERO**" for that exam except under extenuating circumstances.

Make-Up Exams

Students who have not taken any one of the exams are NOT eligible to take the make-up exam. The make-up exam grade will be used to replace the final exam grade. Students taking make-up exams can only attain at most a "D" grade.

Avoiding Plagiarism

- 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 or journal articles.
- Paraphrasing, when the original statement is still identifiable and has also no acknowledgement, 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.

Tentative Topics

No.	Topic	Chapters in Textbook
1	Introduction of Engineering Management	Chapters 1 & 13
2	Management Functions -- Leading	Chapter 3
3	Management Functions -- Planning	Chapter 4
4	Management Functions – Decision Making	Chapter 5
5	Management Functions -- Organizing	Chapters 6 & 7
6	Management Functions -- Controlling	Chapter 8
7	Managing Technology -- R&D, Design	Chapters 9 & 10
8	Managing Technology -- Planning Production	Chapter 11
9	Managing Technology – Production Operations, Project Planning and Acquisition	Chapters 12 & 14