

Fall 2019

IE 492-103: Engineering Management

Amit Desai

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Recommended Citation

Desai, Amit, "IE 492-103: Engineering Management" (2019). *Mechanical and Industrial Engineering Syllabi*. 35.
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NEW JERSEY INSTITUTE OF TECHNOLOGY

Department of Mechanical and Industrial Engineering

COURSE:	IE-492 ENGINEERING MANAGEMENT (HYBRID) -- Sections 103
SEMESTER:	Fall 2019
INSTRUCTOR:	Amit Desai, Associate at Marx Okubo Associates, Inc. Cell: (201) 993-7485 EMAIL: adesai@asme.org
LOCATION:	Faculty Memorial Hall FMH 412
TEXTBOOKS:	Gido, J. and Clements, J., <i><u>Successful Project Management, 4th Edition</u></i> , South-Western Publishing, 2009 (<i>6th Edition also acceptable</i>) Sepulveda, J., Souder, W. and Gottgfried, B., <i><u>Schaum's Outline of Theory and Problems of Engineering Economics</u></i> , McGraw-Hill, Inc., 1984

COURSE DESCRIPTION:

This course introduces engineering majors to the fundamentals of engineering economics and the factors necessary for successful project management.

Engineering economics topics include basic concepts of engineering economics, capital project economics, time value of money and engineering ethics.

Project management topics include project management concepts, needs identification, the project manager, project organizations, project communications, project planning, scheduling, control, cost performance and project management software tools.

Restriction: Junior or Senior standing.

INSTRUCTIONAL

METHODS:

Methodologies

- Peer to peer discussion about subject matter and relating to real world examples
- Association to real world; using case studies to put learning into practice
- Practice problems
- Independent reading

Moodle

- For access to syllabus, lectures, assignments and discussion (dialogue) thread posting

- Online Quizzes
- Document sharing

Web Resources

- URLs for podcast, videos and websites for additional references will be provided in Moodle.

NJIT HONOR CODE:

Please read and follow the NJIT University Code for Academic Integrity. It will be enforced in this course. Any violation of the code will null and void all assignments and other grading factors. The alleged action will be reported to the Dean of Students office for further action. The NJIT Integrity and Honor Code site is provided below. <http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>

GRADING:

In-class Attendance	10%
Online Assignments (Moodle Discussions)	20%
4 Quizzes (10% each)	40%
Term Project and Presentations	20% 30%
Final Exam	20%

Letter Grade	Percentage	Description
A	+90	Superior
B+	+85	Excellent
B	+80	Very Good
C+	+75	Good
C	+70	Acceptable
D	+60	Minimum
F	Less the 60	Inadequate
AUD	NA	Audit
I	NA	Incomplete--given in rare instances to students who would normally have completed the course work but who could not do so because of special circumstances. It is expected that coursework will be completed during the next regular semester. If this grade is not removed before final grades are due at the end of the next regular semester, a grade of F will be issued.
W	NA	Withdrawal (Refer to academic calendar for last day for withdrawal)

Course Outline/ Schedule

	Lecture Topics	Assignments Due the following week in-class
Week 1 (online) 9/4/19	Introductions and Class Requirements (via Conference Call. Refer to Announcements)	<i>Post self-introduction and expectations</i>
Week 2 (in-class) 9/18/19	Engineering Economics, Chapter 1 - Basic Concepts	<i>Review and practice Schaum's Outline of Engineering Economics Chapter 1 & 2 Solved Problems</i>
	Engineering Economics, Chapter 2 - Annual Compounding	
Week 3 (online) 9/25/19	Successful Project Management, Chapter 1 - Project Management Concepts	<i>Listen to specified Podcast, Read Gido's Successful Project Management Chapter 1, 2 & 3 and Post Responses to Moodle Discussions</i>
	Successful Project Management, Chapter 2 – Identifying and Selecting Projects	
	Successful Project Management, Chapter 3 – Developing Proposed Proposals	
Week 4 (in-class) 10/2/19	Quiz 1	<i>Review and practice Schaum's Outline of Engineering Economics Chapter 3 & 4 Solved Problems</i>
	Engineering Economics, Chapter 3 - Algebraic Relationships and Solutions Procedures	
	Engineering Economics, Chapter 4 - Discrete, Periodic Compounding	
Week 5 (online) 10/9/19	Successful Project Management, Chapter 4 – Defining Scope, Quality, Responsibility, and Activity Sequence	<i>Listen to specified Podcast, Read Gido's Successful Project Management Chapter 4, 5 & 6 and Post Responses to Moodle Discussions</i>
	Successful Project Management, Chapter 5 – Developing the Schedule	
	Successful Project Management, Chapter 6 – Resource Utilization	
Week 6 (in-class) 10/16/19	Quiz 2	<i>Review and practice Schaum's Outline of Engineering Economics Chapter 5 & 6 Solved Problems</i>
	Engineering Economics, Chapter 5 - Continuous Compounding	
	Engineering Economics, Chapter 6 - Equivalence	
Week 7 (online) 10/23/19	Successful Project Management, Chapter 7 – Determining Cost, Budget, and Earned Value	<i>Listen to specified Podcast, Read Gido's Successful Project Management Chapter 7, 8 & 9 and Post Responses to Moodle Discussions</i>
	Successful Project Management, Chapter 8 – Managing Risk	
	Successful Project Management, Chapter 9 – Closing the Project	
Week 8 (in-class) 10/30/19	Quiz 3	<i>Review and practice Schaum's Outline of Engineering Economics Chapter 7 & 8 Solved Problems</i>
	Engineering Economics, Chapter 7 - PW, FW, EUAS/EUAC	
	Engineering Economics, Chapter 8 - Net Present Value, Rate of Return, Payback Period, Benefit-Cost Ratio	

	Review Term Project Requirements	
Week 9 (online) 11/6/19	Successful Project Management, Chapter 10 - The Project Manager	<i>Listen to specified Podcast, Read Gido's Successful Project Management Chapter 10, 11, 12 & 13 and Post Responses to Moodle Discussions</i>
	Successful Project Management, Chapter 11 - The Project Team	
	Successful Project Management, Chapter 12 - Project Communication and Documentation	
	Successful Project Management, Chapter 13 – Project Management Organizational Structures	
Week 10 (in-class) 11/13/19	Quiz 4	<i>TBD</i>
	Review Term project Scope and Content in class	
Week 11 (online) 11/20/19 11/27/19	Prepare for Term Project	<i>TBD</i>
	Friday Classes Meet. Happy Thanksgiving!	
	Presentations (Groups who elected to do their Presentation on this day will get 10 extra for their final term paper and presentation. Presentation must be done via video calling or conference call.)	
Week 12 (online) 12/4/19	Presentations (Groups who elected to do their Presentation on this day will get 10 extra for their final term paper and presentation. Presentation must be done via video calling or conference call.)	
Week 13 (in-class) 12/11/19	Presentations (Groups who elected to do their Presentation on this day does not get any bonus points. All Presentation must be done in class.)	<i>TBD</i>

In-class Quizzes - Problem Solving Questions

All students will be asked to solve a number of problems during in-class quiz. You are encouraged team up in groups of two(three max) to solve all specified problems. The solved problems must be solved in a step by step manner, showing all the work, formula and illustration used. Your comment on the completed problem should indicate whether the problem is correct, if you would solve the problem using a different approach, what the approach is and if the problem is not correct, you need provide what you feel is the correct answer.

Online Assignments (Moodle Discussions): You are required to contribute meaningful; substantive responses demonstrating you understand the concepts from the course readings and Podcasts. Your discussions contributions must be grounded in the course content and demonstrate an analytical or evaluative level of comprehension and thought. The Case Study question participation is not an attempt to evoke right or wrong answers. It is an opportunity for you to engage in meaningful dialogue.

Note: if you do not submit your assignment by the assigned time you will automatically get an F for that part of the assignment. Please adhere to this timeline to ensure that you get the best grades for your efforts.

Term Project

The term project consists of developing a plan and a schedule for a real project. You do not have to perform the project for this course; rather, you will have to develop a detailed plan and schedule for it. You may develop a plan and schedule for a project that you are currently working on, one recently completed, or one that you will be undertaking in the near future. Projects may be related to your academic program, work experience, or personal interest. Term Project requirements and details will be further explained in class.