Mechanical and Industrial Engineering Syllabi

NJIT Syllabi

Fall 2019

IE 492-453: Engineering Management

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NEW JERSEY INSTITUTE OF TECHNOLOGY

Department of Mechanical and Industrial Engineering

COURSE:	IE-492 ENGINEERING MANAGEMENT
SEMESTER:	FALL 2019 - ONLINE
INSTRUCTOR:	Lucie Thibeaud Tchouassi E.I.T
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TEXTBOOKS: *Schaum's Outline of Theory and Problems of Engineering Economics,*
Sepulveda, J., Souder, W. and Gottgfried, B., McGraw-Hill, Inc., 1984
Gido, J. and Clements, J., Successful Project Management, 4th, 5th or 6th Edition,
South-Western Publishing, 2009, 2012, 2015

COURSE DESCRIPTION: This course introduces engineering majors to the fundamentals of engineering economics and the factors necessary for successful pr

**INSTRUCTIONAL
METHODS:**

Methodologies
Online conversations, 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

Moodle
For access to syllabus, lectures, assignments and discussion (dialogue) thread posting
Article, video, term paper and URL sharing
Document sharing

Articles, Books, Videos and internet– All will be used to enhance and aid in your experience.

Required Resources
Article URLs, title, authors and journals shared in Moodle resources
Required video clips with associated URLs will be posted in Moodle

Optional Resources
Occasional posting of resources in Moodle that will be helpful to read in order to enhance your course performance.

Web Resources

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

NJIT HONOR C 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 a
://www.njit.edu/academics/pdf/academic-integrity-code.pdf

GRADING:

Online Participation/Case Studies and Questions	20%
Group Evaluation/Performance	10%
Quizzes	30%
Term Project	15%
Project Presentation	5%
Final Exam	20%

SPRING 2019 - COURSE SCHEDULE

DATE	WEEK	TOPICS	ASSIGNMENT	DUE DATES
			IA: Individual *GA: Group*	
9/1/2019	1	**Introductions and Class Requirements**	**Posted Notes**	
		Engineering Management, Engineering Economics	Self Introductions and expectations (IA)	9/5/2019
		Decision Making & Ethics	**Group introductions: My emoticon (GROUP)**	**9/7/2019**
9/8/2019	2	**Engineering Economics**	**Chapters 1 & 2 Schaum's**	
		Basic Concepts & Annual Compounding	Post assigned Problem (IA)	9/12/2019
		Interest, Time Value of Money, Cash Flows	**Team building: Two Truths and a Lie (GROUP)**	**9/14/2019**
		Single-Payment, Uniform-Series, Gradient Series		
9/15/2019	3	**Basic Relationships & Continuous Compounding**	**Chapters3, 4 & 5 Schaum's**	
		Algebraic relationships and Solutions procedures,	Specified problems in chapters 3, 4 & 5 (IA)	9/19/2019
		Discrete, period compounding,	**Specified problems in assigned chapters (GROUP)**	**9/21/2019**
		continuous compounding		
9/22/2019	4	**Team**	Posted Notes & Chapter 11 Gido	
		Project Team & Team Development	*Project Log/Team Progress Report-1 (GROUP)*	9/26/2019

		Teamwork, Team Building, Effective Project Teams	**QUIZ 1 - CHAPTERS 1-5**	**9/28/2019**
		Ethical Behavior & Time Management		
9/29/2019	5	**Project Selection and Evaluation Methodology**	**Chapters 6 & 7 Schaum's**	
		Equivalence	Post assigned Problem (IA)	10/3/2019
		Present Worth, Future Worth,	**Team building: Pass Around a Story (GROUP)**	*10/5/2019*
		AnnualEquivalence Analysis		
10/6/2019	6	**Project Selection and Evaluation Methodology**	**Chapters 8 & 9 Schaum's**	
		Net Present Value, Rate of Return	Specified problems in chapters 8 & 9 (IA)	10/10/2019
		Payback Period, Benefit-Cost Ratio	**Specified problems in assigned chapters (GROUP)**	**10/12/2019**
		Investment Alternatives		
	7	**Project Selection and Evaluation Methodology - Part II**	**Posted Notes**	
10/13/2019		Retirement, Depreciation and Taxes	Post and Comment on assigned Problem (IA)	
		Fundamentals of Engineering (FE) Exam	**QUIZ 2 - CHAPTERS 6-9**	10/17/2019
		Engineering Economics Introduction		**10/19/2019**
	8	**Initiating a Project**	**Chapters 1, 2 & 3 Gido**	
10/20/2019		Project Management Concepts	See assigned questions (IA)	
		Project Identification and selection	*Project Log/Team Progress Report-2 (GROUP)*	10/24/2019
		Proposal Development	**Project Plan Assignment (GROUP)**	**10/26/2019**
10/27/2019	9	**People: The key to Project Success**	**Chapters 10, 11 & 12 Gido**	
		Project Manager, Project Team	See assigned questions (IA)	10/31/2019
		and Project Communication and Documentation	**Term Project Part 1 & 2(GROUP)**	**11/3/2019**
11/3/2019	10	**Project Planning, Performing and Controlling**	**Chapters 4, 5 & 6 Gido**	
		Scope Development	Chapter 4 Case Study 1 (IA)	11/7/2019
		Scheduling and Resource Utilization	**QUIZ 3 - CHAPTERS 1-3, 10-12**	**11/9/2019**
11/10/2019	11	**Project Planning, Performing and Controlling-Cont.**	**Chapters 7, 8 & 9 Gido**	
		Cost, Budget, Risk managementand	See assigned questions(IA)	11/14/2019

		Project closing	**Term Project Part 3 & 4 (GROUP)**		**11/17/2019**
11/17/2019	12	**Project Planning, Performing and Controlling**	See assigned questions(IA)		
			Project Log/Team Progress Report-3 (GROUP)		11/21/2019
			Term Project Part 5 & 6 (GROUP)		**11/24/2019**
11/24/2019	13	**Project Management Software**	**App. A Gido**		
12/1/2019		Project Management Software	Chapter 12 & App. A Questions #3 (IA)		12/5/2019
		Project Management Information Systems	**Draft Term Project (GROUP)**		**12/8/2019**
12/8/2019	14	**Term Project Wrap-up**	**Final Project (GROUP)**		**12/12/2019**
			Group Presentation (GROUP)		**12/12/2019**
		Final Exam Review	*Review all course Materials*		
12/8/2019					
12/13/2019		**Reading Day**			**12/13/2019**
12/14/2019		**Final Exam Week**		**Final Exam**	**12/14/2019**
12/22/2019					**12/15/2019**

ASSIGNMENT REQUIREMENTS

You will be assigned a number at the beginning of the semester, please safeguard your number because your assignments will be based on that number.For your assignment, please label with

You will be setup with in groups or three or four.All group members are equally responsible for all assignments.Please make sure that you list your group number, and names of all members of

Problem Solving Questions (PSQ)

Each student will be asked to solve and post his/her assigned problem.You must post your assigned problem on time in a clear and step by step manner.You are encouraged to review all the pr

Please note the following abbreviation for the location of your assignments:
·Gido, Reinforce Your Learning Questions - LR
·Gido, Questions – Q
·Gido, Internet Exercises- IE

Discussions: You must complete all your assignments in addition to the introduction.Participation is required in 2 forms: 1) Your answer to the question (100 - 200 words apiece); 2) Your re

Case Study Answers:You are required to contribute meaningful; substantive responses demonstrating you understand the concepts from the course readings. Your discussions contributions

Assignment Requirement:All assignments will be posted in advance.Please do not go far ahead. For example, you must post your assigned solved problems or answers to questions and cas

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 bes

Term Project

The term project consists of developing a plan and a schedule for a real life project, based on the project plan that you developed in the beginning of the course. The project should be based o

Part 1:

A brief proposal of what project will be the basis for the course project. Team-based projects should include a list of all team members. (1 paragraph)

Part 2:

A detailed description of the project scope of work, including any assumptions. Clearly state project objective(s). (1–2 pages)

Part 3:

Work breakdown structure.
List of activities, including estimated duration of each activity (20–40 tasks).
Budget for each activity (hours for each person and any material costs).

Part 4:

Network diagram of the logical sequence of all activities.

Part 5:

Schedule table showing the duration, earliest start and finish times, latest start and finish times, and slack for each activity. Identify activities that make up the critical path. Discu

Part 6:

Computer-generated network, schedule, resource histograms, and cost graphs.

Part 7:

Create a PPT presentation of your term project. Submit, in a report format, a final copy of all documents (parts) previously submitted and a copy of presentation visuals.

Final Project Due on	**12/12/2019**
Presentation of Final Project Due on	**12/12/2019**