

Fall 2019

IE 492-101: Engineering Management

Cesar Jaramillo

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New Jersey Institute of Technology
Industrial and Mechanical Engineering Department
IE492 Course syllabus

INSTRUCTOR INFORMATION:

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Office Hours:

COURSE INFORMATION:

Course Number: IE492

Credit Hours: 3.0

Meeting Starting Time:

First Day of Classes: September 6th, 2019

Course Title: **Engineering Management**

Classroom: CK 317

TEXTBOOKS: Gido, J. and Clements, J., Successful Project Management, 6th Edition, South-Western Publishing, 2009 Sepulveda, J., Souder, W. and Gottfried, B., Schaum's Outline of Theory and Problems of Engineering Economics, 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 organization include project management concepts, needs identification, the project manager, project organizations, project communications, project planning, scheduling, control, cost performance and project management software tools.

**INSTRUCTIONAL
METHODS:**

Methodologies

Online individual and group assignments, online peer to peer discussions about subject matter and relating to real world examples Association to real world; using case studies to put learning into practice. All members of the group assigned will be responsible to complete the assignment ontime. Therefore, it is highly important to learn how to work individually and as a group.

**Subject to changes by the instructor
Will be notified to students accordingly.**

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.

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. Please read and follow NJIT University Code for Academic integrity. It will be enforced in this course. Be reported to the Dean of Students office for further action. The NJIT integrity and Honor Code site is provided below.

NJIT HONOR CODE:

<http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>

GRADING:

Online Participation/Assignments/Case Studies /and Questions	5-10%
Group Assignment Activities, Evaluation and Performance	10%
Quizzes/extra credit	30%
Term Project	15%
Project Presentation	30%
Final Exam	20%

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Week	Topics	Assignment
1	Introduction and Class Requirements Engineering Management , Engineering Economics & Decision Making	IA: Individual GA: Group M: Moodle forum Self-Introductions and expectations (IA) -IC/M Group first class summary (GA)- IC/M
2	Engineering Economics Basic Concepts and Annual Compounding Interest, Time Value of Money, Cash Flows Single Payment , Uniform Series, Gradient Series	Chapter 1 &2 Schaum's Post and Comment on assigned problem (GA) Specified problems in chp 1&2 (GA)
3	Basic Relationships & Continuous Compounding Algebraic relationships and Solutions procedures Discrete, Periodic Compounding, Continuous Compounding	Chapters 3,4 &5 Schaum's Specified problems in chp 3,4 &5 (GA) Team Building and Introduction (GA)
4	Group and Team Building The Engineer's Role in Business Team Work	Team Building
5	Project Selection and Evaluation Methodology Equivalence Present Worth, Future Worth, Annual Equivalence Analysis	Chapter 6 & 7 Schaum's Post and Comment on Assigned Problem (IA) Business Plan Assignment (GA)
6	Project Selection and Evaluation Methodology Net Present Value, Rate of Return, Pay Back Period, Benefit Cost-Ratio, Investment Alternatives	Chapters 8 & 9 Schaums and Prep Test Review Chp 1 to Chp 9 Specified Problems chapters 8 & 9 (GA) Company Log and Team Progress Report 1
7	Project Selection and Evaluation Methodology - Part II Retirement , Depreciation and Taxes Fundamentals of Engineering FE (Exam)	Posted Notes Post and Comment on Assigned Problem(GA) Quiz 1 - Chap 2- 9 IA

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Engineering Economics Introduction

8	Part 1: The Life of a Project Project Management Concepts Needs Identification	Chap 1 & 2 Gido Chap 1& 2 - Assigned Questions (GA) Term Project Part 1 & 2
9	Part 1 Cont: The Life of a Project Proposed Solutions The Project	Chap 3 & 4 Gido Chap 4 Case Study (GA) Term Project Part 3 &4 Company Log / Team Progress Report -2
10	Part 2: Project Planning and Control Planning , Scheduling and Schedule Control	Chap 5, 6 & 7 Gido Chap 5, 6 & 7 (IA & GA questions) Term Project Part 5 &6
11	Part 2: Project Planning and Control Resource Considerations Cost Planning and Performance	Chap 8 & 9 Gido Chap 8 & 9 assigned questions (IA/GA) Quiz # 3 Chap 1 -7
12	People and the Project Project Manager Project Team	Chap 10 & 11 Gido Chap 10 & 11 - see assigned questions (IA/GA) Draft Term Project
13	People and the Project Control Project Communication and Documentation Decision Making and Ethics Project Management Software	Chap 12 & App. A Gido Chap 12 & App. A Questions #3 (IA/GA) Company Log Team Progress Report 3
14	People and the Project Cont Type of Project Organization	Chap 13 & Gido Final Project

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15 **Final Exam Review**

Review all course materials

16 **Reading Day**

Final Exam Week

Final Exam

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