IE 492-101: Engineering Management

Cesar Jaramillo Cueva

Follow this and additional works at: https://digitalcommons.njit.edu/mie-syllabi

Recommended Citation
https://digitalcommons.njit.edu/mie-syllabi/161

This Syllabus is brought to you for free and open access by the NJIT Syllabi at Digital Commons @ NJIT. It has been accepted for inclusion in Mechanical and Industrial Engineering Syllabi by an authorized administrator of Digital Commons @ NJIT. For more information, please contact digitalcommons@njit.edu.
New Jersey Institute of Technology
Industrial and Mechanical Engineering Department
IE492 Course syllabus

INSTRUCTOR INFORMATION:
Name: Cesar Jaramillo
Email Address: cesar.jaramillo@njit.edu
Office Location: By apt only
Office Hours:

COURSE INFORMATION:
Course Number: IE492
Credit Hours: 3.0
Course Title: Engineering Management
Meeting Starting Time: Friday 6pm
Classroom: Asynchronous Distance Learning Module
First Day of Classes: Sep1st, 2020

TEXTBOOKS:

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 ontme. 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Participation/Assignments/Case Studies</td>
<td>5-10%</td>
</tr>
<tr>
<td>and Questions</td>
<td></td>
</tr>
<tr>
<td>Group Assignment Activities, Evaluation and</td>
<td>15%</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
</tr>
<tr>
<td>Quizzes/extra credit</td>
<td>30%</td>
</tr>
<tr>
<td>Term Project</td>
<td>15%</td>
</tr>
<tr>
<td>Project Presentation</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Week</td>
<td>Topics</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| 1    | Introduction and Class Requirements  
Engineering Management, Engineering Economics 
& Decision Making | 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  
Presence Worth, Future Worth, Annual Equivalence Analysis | Chapter 6 & 7 Schaum's  
Post and Comment on Assigned Problem (IA)  
Business Plan Assignment (GA)  
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 |
| 6    | Project Selection and Evaluation Methodology  
Net Present Value, Rate of Return, Pay Back Period, Benefit  
Cost-Ratio, Investment Alternatives | Posted Notes  
Post and Comment on Assigned Problem (GA)  
Quiz 1 - Chap 2 - 9  
IA |
| 7    | Project Selection and Evaluation Methodology - Part II  
Retirement, Depreciation and Taxes  
Fundamentals of Engineering FE (Exam) | |
Engineering Economics Introduction

8  Part 1: The Life of a Project
    Project Management Concepts
    Needs Identification

9  Part 1 Cont: The Life of a Project
    Proposed Solutions
    The Project

10 Part 2: Project Planning and Control
     Planning, Scheduling and Schedule Control

11 Part 2: Project Planning and Control
     Resource Considerations
     Cost Planning and Performance

12 People and the Project
     Project Manager
     Project Team

13 People and the Project Control
     Project Communication and Documentation
     Decision Making and Ethics
     Project Management Software

14 People and the Project Cont
     Type of Project Organization

Subject to changes by the instructor
Will be notified to students accordingly.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Final Exam Review</td>
<td>Review all course materials</td>
</tr>
<tr>
<td>16</td>
<td>Reading Day</td>
<td></td>
</tr>
</tbody>
</table>

**Final Exam Week**

**Final Exam**

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