Fall 2019

IE 492-101: Engineering Management

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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 on time. Therefore, it is highly important to learn how to work individually and as a group.
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>Activity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Online Participation/Assignments/Case Studies /and Questions</td>
<td>5-10%</td>
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<tr>
<td>Group Assignment Activities, Evaluation and Performance</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes/extra credit</td>
<td>30%</td>
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<tr>
<td>Term Project</td>
<td>15%</td>
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<tr>
<td>Project Presentation</td>
<td>30%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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Subject to changes by the instructor
Will be notified to students accordingly.
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>Introduction and Class Requirements</strong>&lt;br&gt;Engineering Management , Engineering Economics &amp; Decision Making</td>
<td>IA: Individual  &lt;br&gt;GA: Group  &lt;br&gt;M: Moodle forum  &lt;br&gt;Self-Introductions and expectations (IA) - IC/M  &lt;br&gt;Group first class summary (GA)- IC/M</td>
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<td>2</td>
<td><strong>Engineering Economics</strong>&lt;br&gt;Basic Concepts and Annual Compounding&lt;br&gt;Interest, Time Value of Money, Cash Flows&lt;br&gt;Single Payment , Uniform Series, Gradient Series</td>
<td>Chapter 1 &amp;2 Schaum's  &lt;br&gt;Post and Comment on assigned problem (GA)  &lt;br&gt;Specified problems in chp 1&amp;2 (GA)</td>
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<td>3</td>
<td><strong>Basic Relationships &amp; Continuous Compounding</strong>&lt;br&gt;Algebraic relationships and Solutions procedures&lt;br&gt;Discrete, Periodic Compounding, Continuos Compounding</td>
<td>Chapters 3,4 &amp;5 Schaum's  &lt;br&gt;Specified problems in chp 3,4 &amp;5 (GA)  &lt;br&gt;Team Building and Introduction (GA)</td>
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<td>4</td>
<td><strong>Group and Team Building</strong>&lt;br&gt;The Engineer's Role in Business&lt;br&gt;Team Work</td>
<td>Team Building</td>
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<td>5</td>
<td><strong>Project Selection and Evaluation Methodology</strong>&lt;br&gt;Equivalence&lt;br&gt;Presence Worth, Future Worth, Annual Equivalence Analysis</td>
<td>Chapter 6 &amp; 7 Schaum's  &lt;br&gt;Post and Comment on Assigned Problem (IA)  &lt;br&gt;Business Plan Assignment (GA)  &lt;br&gt;Chapters 8 &amp; 9  &lt;br&gt;Schaums and Prep Test  &lt;br&gt;Review Chp 1 to Chp 9  &lt;br&gt;Specified Problems chapters 8 &amp; 9 (GA)  &lt;br&gt;Company Log and Team Progress Report 1</td>
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<td>6</td>
<td><strong>Project Selection and Evaluation Methodology</strong>&lt;br&gt;Net Present Value, Rate of Return, Pay Back Period, Benefit Cost-Ratio, Investment Alternatives</td>
<td>Posted Notes  &lt;br&gt;Post and Comment on Assigned Problem( GA)  &lt;br&gt;Quiz 1 - Chap 2- 9  &lt;br&gt;IA</td>
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<td>7</td>
<td><strong>Project Selection and Evaluation Methodology - Part II</strong>&lt;br&gt;Retirement , Depreciation and Taxes&lt;br&gt;Fundamentals of Engineering FE (Exam)</td>
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# Engineering Economics Introduction

## Part 1: The Life of a Project
- **Chap 1 & 2 Gido**
  - Chap 1 & 2 - Assigned Questions (GA)
  - Term Project Part 1 & 2

## Part 1 Cont: The Life of a Project
- **Chap 3 & 4 Gido**
  - Chap 4 Case Study (GA)
  - Term Project Part 3 & 4
  - Company Log / Team Progress Report -2

## Part 2: Project Planning and Control
- **Chap 5, 6 & 7 Gido**
  - Chap 5, 6 & 7 (IA & GA questions)
  - Term Project Part 5 &6

## Part 2: Project Planning and Control
- **Chap 8 & 9 Gido**
  - Chap 8 & 9 assigned questions (IA/GA)
  - Quiz # 3 Chap 1 -7

## People and the Project
- **Chap 10 & 11 Gido**
  - Chap 10 & 11 - see assigned questions (IA/GA)
  - Draft Term Project

## People and the Project
- **Chap 12 & App. A Gido**
  - Chap 12 & App. A Questions #3 (IA/GA)
  - Company Log Team Progress Report 3

## People and the Project Cont
- **Chap 13 & Gido**
  - Final Project

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<tr>
<th></th>
<th>Final Exam Review</th>
<th>Review all course materials</th>
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<tbody>
<tr>
<td>15</td>
<td>Reading Day</td>
<td></td>
</tr>
<tr>
<td>16</td>
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Final Exam Week

Final Exam