The University of Southern Mississippi
College of Science and Technology - Department of Construction
IET 350 – Industrial Cost Control

COURSE SYLLABUS

Instructor
- Name: Mohammad A. Rahman
- Office Address: 248 TEC (Chain) building, Hattiesburg, MS 39406
- Office Number: 601-266-4902  Cell phone: 225-436-5300
- Fax Number: 601-266-5717
- E-mail: mohammad.rahman@usm.edu

Office Hours
- Wednesday & Thursday: 2:00 – 4:00 pm; Or by e-mail appointment

Drop Date
- Last day to drop classes with 100% financial credit: January 28, 2015 (Tuesday)
- Last day to drop full-semester classes without academic penalty: February 24, 2015 (Monday).

Prerequisites
- (Highly Recommended) Calculus I & II

Credit Hours
- 3 hours

Course Description
- This course provides Cost Analysis and Estimating aspects for engineers and technology management providers. The theme of the course shares latest available principles and techniques for evaluating engineering design. The analysis begins with discussion on labor cost, material cost, accounting, and forecasting, it continuous to various estimating methods related to operations, products, and marketplace. After a versatile discussion on how the design processes works, where economic analyses fits, as well as the role of information, the end part of discussion is the engineering economy, enterprise and entrepreneurship, how business are organized and compete globally.

Course Overview
- This course has been prepared to assimilate theories and practices for engineers and technologists to learn various cost control aspects that are broadly applicable to a variety of fields such as production, construction, calculated risks, economic evaluation, sales and innovation.
Course Outcome

- Students will have the foundation to understand financial and cost analysis aspects commonly used in industry. This will enable them to provide effective managerial decisions and qualitative response with a view to establish profit-makings in the decision making process.

Student Learning Outcome(s)

- This course provides understanding of engineering cost works – the theories and practices, thereby attractive to all engineering students, sales, and technology management providers. At the end of the course, students will be able to:
  - Define cost components in the engineering designs, operations, products, projects, or systems by following logical manners to develop estimating scheme.
  - Estimate costs related to product, labor, material, and other components that are converted to finished product and prediction process.
  - Understand dimensional conversions for international trade
  - Analyze money transactions of business before the actual spending, balance sheet, income, information, control of cost with aspects of accounting
  - Understand general estimating methods, advantages and shortcomings
  - Predict the dominated project by making choices among engineering alternatives in terms of investment, future revenue and costs.
  - Provide concept about creativity and details for starting a new business or augmenting the opportunity for an existing business.
  - Evaluate the economic context of the enterprise and entrepreneurship activities.

Course Communication

- All class lecture notes and videos to the corresponding lectures will be uploaded in the course webpage via Blackboard. Course communication will be via USM e-mail, Blackboard e-mail, and discussion board. Students can meet the instructor during office hour or by making appointment as needed.

Required Text(s) and Readings


Technology Requirements

- Students will require Computer, internet connection, and headphones/speaker. Students also require software Microsoft Word, Excel, Power Point and scientific calculator to complete the assignments and course exams.

Class Procedures and Requirements

- Students should read all the lecture notes, (power point presentations), text chapters, and listen to recorded audio lectures post in the course website to accomplish the best performance. There will be assignments related to the class lectures in order to test the understanding the subject matters. Assignment will be post in the Assignment box. Assignment should be submitted as a MS Word or Spreadsheet document or a pdf format. If an assignment is hand-written, it should be scanned
to one pdf file prior to upload. Scanned document **must not** be any picture file *not as jpg or bmp*. All submission should be via Assignment Drop Box within the assignment due date.

- Homework can be discussed with other students, but must be compiled by each student individually. The case study, assignment, exams or report should reflect student’s individual style, approach and appeal to solve the problem and report writing. It is recommended that each homework /assignments should contain a title page with student name on it.

- A student may (only) **re-submit** the assignments (in the same week); if he believes he achieved better understanding or better results, after the first submission, within the same week.

**Class Participation Policy**

- This is an online course, there is no in-class participation needed.

**Evaluation Criteria**

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<tbody>
<tr>
<td>Midterm exam</td>
<td>20%</td>
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<tr>
<td>Final exam</td>
<td>20%</td>
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<tr>
<td>Assignment /</td>
<td>50%</td>
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<tr>
<td>Case studies</td>
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<tr>
<td>Term Project</td>
<td>10%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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**Grading Scale**

- Total 100-point scale below:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100</td>
<td>A</td>
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<tr>
<td>80-89</td>
<td>B</td>
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<tr>
<td>70-79</td>
<td>C</td>
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<tr>
<td>60-69</td>
<td>D</td>
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<tr>
<td>0-60</td>
<td>F</td>
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**Late Assignments or Projects**

- There are penalties for late submissions. A 2-5 days late submission will reduce 25% points from earned grade of an assignment. Solution will be post by the next week. Therefore, assignment will not be graded at all, if it is submitted after one week from due date. Or, a completely different assignment may assign for make-up (if there is a viable reason for being late).

**Academic Honesty**

The following is from the USM Undergraduate Bulletin:

“When cheating is discovered, the faculty member may give the student an F on the work involved or in the course. If further disciplinary action is deemed appropriate, the student should be reported to the Dean of Students. In addition to being a violation of academic honesty, cheating violates the Code of Student Conduct and may be grounds for probation, suspension, and/or expulsion.”
Students on disciplinary suspension may not enroll in any courses offered by The University of Southern Mississippi.

This is optional: Students must send the instructor an e-mail using the course web site e-mail stating that they understand USM’s academic honesty policy and also understand that if they do not uphold the standards of academic honesty, the instructor will enforce all applicable punishment.

ADA Policy—Pick one of these.

ADA Syllabus Statement for the Hattiesburg Campus

If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:
The University of Southern Mississippi  
Office for Disability Accommodations  
118 College Drive # 8586  
Hattiesburg, MS 39406-0001

Voice Telephone: (601) 266-5024 or (228) 214-3232  
Fax: (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.

ADA Syllabus Statement for the Gulf Coast Campus

If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:
The University of Southern Mississippi on the Gulf Coast  
Office for Disability Accommodations  
730 East Beach Blvd  
Long Beach, MS 39560

Voice Telephone: (228) 214-3232 or (601) 266-5024  
Fax: (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.
### Class Schedule**

<table>
<thead>
<tr>
<th>Module</th>
<th>Topic</th>
<th>Chapter</th>
<th>Case Studies</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Overview  Importance of Engineering &amp; Design</td>
<td>Ch 1</td>
<td>Case I</td>
</tr>
<tr>
<td>2</td>
<td>Labor Analysis -I</td>
<td>Ch 2</td>
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<tr>
<td>3</td>
<td>Labor Analysis-II</td>
<td>Ch 2</td>
<td>Case II</td>
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<tr>
<td>4</td>
<td>Material Analysis, Cost &amp; Policies</td>
<td>Ch 3</td>
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<tr>
<td>5</td>
<td>Accounting Analysis</td>
<td>Ch 4</td>
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<tr>
<td>6</td>
<td>Accounting Analysis, depreciation, Budgeting &amp; Overhead</td>
<td>Ch 4</td>
<td>Case III</td>
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*Assign Term Project* (Estimating)

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<tr>
<th>Module</th>
<th>Topic</th>
<th>Chapter</th>
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<tbody>
<tr>
<td>7</td>
<td>Forecasting Interpretation – part 1</td>
<td>Ch 5</td>
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<tr>
<td>8</td>
<td>Forecasting Calculation – part 2</td>
<td>Ch 5</td>
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**Midterm** (Forecasting)

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<tr>
<th>Module</th>
<th>Topic</th>
<th>Chapter</th>
<th>Case Studies</th>
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<tbody>
<tr>
<td>9</td>
<td>Estimating Methods – Universal, Operation, Product, &amp; Project Methods</td>
<td>Ch 6</td>
<td>Case IV</td>
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<tr>
<td>10</td>
<td>Operation Estimating</td>
<td>Ch 7</td>
<td>Case V</td>
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<thead>
<tr>
<th>Module</th>
<th>Topic</th>
<th>Chapter</th>
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</thead>
</table>
| 11     | Engineering Economy – Part I  
  - Engineering Economics  
  - Cash Flow  
  - Time Value of Money  
  - Examples | Ch 10 | |
| 12     | Engineering Economy – Part II  
  - Interest Factors  
  - Interest Tables | Ch 10 | |
| 13     | Engineering Economy – Part III  
  - Comparison of alternatives | Ch 10 | |
| 14     | The Enterprise, Entrepreneurship & Ethics | Ch 11 | |

*Project Assignment Due: Last day of class*

**Final Exam** (Engineering Economy & Enterprise)

**Instructor may revise the course schedule if necessary. Students will be notified if this is the case.**