

## Industrial Engineering Program

<b>1. COURSE NUMBER AND NAME</b>	<b>IE 335 – Engineering Cost Analysis</b>
<b>2. CREDITS AND CONTACT HOURS</b>	3 Credits. 3 Contact Hours
<b>3. COURSE INSTRUCTOR</b>	Athanassios K. Bladikas
<b>4. TEXT BOOK</b>	Horngren, C.T., et.al., <i>Introduction to Management Accounting Chapters 1-17</i> , 15 <sup>th</sup> Edition, Prentice Hall, Upper Saddle River, NJ, 2011.
<b>4A. OTHER MATERIAL</b>	Handouts and searches in Management Accounting, Cost Management, Cost Engineering, Harvard Business Review, Sloan Management Review, Manufacturing Engineering, and Industrial Engineering.
<b>5A. CATALOG DESCRIPTION</b>	The tools and techniques applicable for cost analysis and control including standard costs, variance analysis, cost volume relationships, cost estimation, and utilization of accounting data for control of operations.
<b>5B. PREREQUISITES</b>	Junior Standing
<b>5C. REQUIRED, ELECTIVE OR SELECTED ELECTIVE</b>	Required
<b>6A. SPECIFIC OUTCOMES OF INSTRUCTION</b>	<p>The students will:</p> <ol style="list-style-type: none"> <li>1 Learn the terminology and principles of accounting and be able to record transactions in the appropriate accounts (f, j, h).</li> <li>2 Be able to analyze financial statements using a variety of ratios (f, j, h).</li> <li>3 Learn cost/volume relationships and use cost drivers to compute break-even points or determine profit/loss levels (h, i, j).</li> <li>4 Be able to do budgeting and activity-based costing (h, i, j).</li> <li>5 Demonstrate their possession of written and oral communication skills (g, i, j).</li> <li>6 Use other than cost considerations in economic analysis (g, i, j).</li> </ol>
<b>6B. CRITERION 3 OUTCOMES ADDRESSED</b>	<p>The mapping of the six (6) outcomes of instruction of item 6A to the Criterion 3 outcomes (a-k) is as follows:</p> <ol style="list-style-type: none"> <li>1. Satisfies Criterion 3 outcomes f, j, and h.</li> <li>2. Satisfies Criterion 3 outcomes f, j, and h.</li> <li>3. Satisfies Criterion 3 outcomes h, i, and j.</li> <li>4. Satisfies Criterion 3 outcomes h, i, and j.</li> <li>5. Satisfies Criterion 3 outcomes g, i, and j.</li> <li>6. Satisfies Criterion 3 outcomes g, i, and j.</li> </ol>
<b>7. TOPICS COVERED</b>	<ol style="list-style-type: none"> <li>1. Interaction between engineering, economics, finance and accounting.</li> <li>2. Basics of financial/cost management.</li> <li>3. Elements of financial accounting and development of income statements and balance sheets.</li> </ol>

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|  | <ol style="list-style-type: none"><li>4. Cash flow statements.</li><li>5. Inventory valuation methods.</li><li>6. Analysis of financial statements.</li><li>7. Ratio analysis, difficulties of income measurement</li><li>8. Cost- Volume relationships, cost drivers.</li><li>9. Fixed and variable costs, breakeven points.</li><li>10. Profit planning and analysis</li><li>11. Cost function development and behavior.</li><li>12. Methods of measurement, application of regression analysis</li><li>13. Cost analysis - Marketing applications.</li><li>14. Relevant costs, special orders.</li><li>15. Product addition or deletion, target costing, pricing decision.</li><li>16. Opportunity cost, make or buy, joint product costs, sunk costs.</li><li>17. Flexible budgets, standard cost and variance analysis.</li><li>18. Cost allocation - activity based costing, job order cost systems.</li><li>19. Process cost systems and overhead, cost allocation, analysis and control</li></ol> |
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