

**New Jersey Institute of Technology**  
**Department of Engineering Technology**  
**MNET 414 Industrial Cost Analysis**

<b>COURSE NUMBER</b>	MNET 414-002
<b>COURSE DESCRIPTION</b>	Industrial Cost Analysis
<b>COURSE STRUCTURE</b>	3-0-3 (lecture hr/wk - lab hr/wk – course credits)
<b>COURSE COORDINATOR/ INSTRUCTOR</b>	Dr. S. Lieber/ R. Baseil
<b>COURSE DESCRIPTION</b>	An introduction to general costing techniques. Time value of money concepts are introduced to decision-making matters such as equipment justification, design selection and fabrication costs.
<b>PREREQUISITE(S)</b>	None, but course not recommended for freshman or sophomores
<b>COREQUISITE(S)</b>	None
<b>REQUIRED MATERIALS</b>	Engineering Economic Analysis, Twelfth Edition, by Donald G. Newnan et al, Oxford Press, ISBN: 978-0-19-933927-3 and Study Guide
<b>COMPUTER USAGE</b>	Spreadsheets
<b>COURSE LEARNING OUTCOMES</b>	By the end of the course students should be able to: <ol style="list-style-type: none"><li>1. Calculate industrial costs and benefits using a variety of techniques</li><li>2. Understand the importance of time-value of money in economic analyses and calculate its effects on investments and loans</li><li>3. Analyze realistic cost:benefit scenarios in typical industry problems</li><li>4. Evaluate economic alternatives considering the effects of depreciation and taxes</li><li>5. Parse complex real-world technical cost issues, identify and analyze cost reduction alternatives, and make an oral and written presentation to “management”</li><li>6. Demonstrated ability to read-ahead course materials in advance of class lecture, and report both key learnings and issues to instructor before class</li><li>7. Understand and practice how to recognize and analyze ethical issues</li></ol>
<b>CLASS TOPICS</b>	Making Economic Decisions, Engineering Costs and Cost Estimating, Interest & Equivalence, Interest Formulae, Present Worth Analysis, Annual Cash Flow Analysis, Rate of Return Analysis, Incremental Analysis, Other Analysis Techniques, Depreciation, Income Taxes, Ethics
<b>STUDENT OUTCOMES</b>	The Course Learning Outcomes support the achievement of the following MET Student Outcomes and TAC of ABET Criterion 9 requirements:  <b>Student Outcome a</b> - an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities; <b>Related CLO – 1-4</b>

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**Student Outcome f** - an ability to identify, analyze, and solve broadly-defined engineering technology problems;

**Related CLO – 5**

**Student Outcome h** - an understanding of the need for and an ability to engage in self-directed continuing professional development.

**Related CLO – 6**

**Student Outcome i** –an understanding of and commitment to address professional and ethical responsibilities including a respect for diversity.

**Related CLO – 7**

**GRADING POLICY**

~~3 Exams “drop the lowest” 40%; Final Exam 30%;  
HW 10%; 3 Quizzes “drop the lowest” 10%; Special Project 10%~~

**ACADEMIC INTEGRITY**

NJIT has a zero-tolerance policy regarding cheating of any kind. Student behavior that is disruptive to the learning environment will not be tolerated. Incidents will be reported to the Dean of Students. Honor Code violations may result in failure in the course, disciplinary probation, and/or expulsion from NJIT. Refer to <http://www.njit.edu/academics/honorcode.php>.

**STUDENT BEHAVIOR**

See the following information files in Moodle:

- About the Instructor
- Academic Integrity
- Accessing Slides
- Attendance and Tardiness
- Calculator Requirement
- Cell Phones in the Classroom
- Class Participation
- Course Description
- Course Grading
- Emailing
- Forums
- Free Writing Tutoring
- Getting Started with Moodle
- Homework Process
- Laptops in the Classroom
- Microsoft Office
- Quizzes and Exams
- Semester Academic Calendar
- Study Groups
- Textbook & Study Guide
- Time and Place

**MODIFICATION TO  
COURSE**

The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be consulted if any changes occur. .

**PREPARED BY**

R. Baseil

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**INSTRUCTOR** Richard J. Baseil: [baseil@njit.edu](mailto:baseil@njit.edu) Backup: rich@baseil.com  
Home Office: 732-739-6952  
Cell (emergencies only, please): 732-241-2600

**MOODLE ACCESS AND USAGE** Required for this course. All lecture and lab materials are posted in Moodle, and student assignments are to be submitted electronically through Moodle. (<http://moodle.njit.edu>) This semester, Moodle 3 will be used.

**COURSE COORDINATED BY** Dr. S. Lieber

**CLASS HOURS**

Monday 10:00 AM to 12:55 PM CKB 315

**OFFICE HOURS**

Available to meet by appointment via email; [nkabakib@njit.edu](mailto:nkabakib@njit.edu)

**SNOW / HURRICANE PHONE**

973-596-3000 (Day classes by 6 A.M., evening classes by 2 P.M.) Check NJIT Homepage

**Grading:**


Element	Weight	Remarks
Homework	17%	Regularly assigned, reviewed in class, due in advance
Examinations	40%	Two exams, each 20%
Project	18%	Report 12%, Presentation 4.5%, Interim status report 1.5%
Quizzes	20%	Occasional, often unannounced, some may be online
Class Participation	5%	Volunteering for board problems

**Schedule:**

On next page – may change, depending on student progress.  
Students will be consulted on schedule changes.

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**MNET-414-002: Industrial Cost Analysis**

<i>Date</i>	<i>Reading Due*</i>	<i>Topics &amp; Activities</i>	<i>Homework Due (TWO DAYS BEFORE Date Shown)*</i>
1/23		Making Economic Decisions	
1/30	Ch 2-3	Engineering Costs, Interest and Equivalence	Chapters 2- 3 Instructor-assigned problems
2/6	Ch 4	Equivalence for Repeated Cash Flows (omit Geometric Gradient and Continuous Compounding)	Chapter 4a Instructor-assigned problems
2/13			Chapter 4b Instructor-assigned problems
2/20	Ch 5	Present Worth Analysis	Chapter 5 Instructor-assigned problems
2/27	Ch 6	Annual Cash Flow Analysis	Chapter 6 Instructor-assigned problems
<b>3/6</b>	<b>Exam #1</b>		
<b>3/13</b>		<b>NO CLASS – NJIT SPRING BREAK</b>	
3/20	Ch 7	Rate of Return Analysis	Chapter 7 Instructor-assigned problems
3/27	Ch 9	Other Analysis Techniques	Chapter 9 Instructor-assigned problems
4/3	Ch 11	Depreciation (omit SOYD and Declining Balance Depreciation)	Chapter 11 Instructor-assigned problems
4/10	Ch 12	Income Taxes (Part 1)	Chapter 12a Instructor-assigned problems
4/17		Income Taxes (Part 2)	Chapter 12b Instructor-assigned problems
4/24		Other topics	Instructor-assigned problems
5/1		Course Review	
<b>TBA</b>	<b>Exam #2 (Final)</b>		

\* DUE DATES for Reading Comprehension and Homework Assignments are two days BEFORE indicated class date – e.g., problems from the first class on 1/23 are due 1/28.

All homework problems will appear at the end of each week’s slide set, posted in Moodle in advance of class – e.g., problems due 1/28 will appear at the end of the Class 1 slide set, available by 1/22 and presented on 1/23.

**Moodle Course Access: <http://moodle.njit.edu>**

RJB – 12/27/16