

Spring 1-1-2020

MNET 414-002: Industrial Cost Analysis

Ahit Chaudhuri

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

COURSE NUMBER	MNET 414
COURSE DESCRIPTION	Industrial Cost Analysis
COURSE STRUCTURE	3-0-3 (lecture hr/wk - lab hr/wk – course credits)
COURSE COORDINATOR/ INSTRUCTOR	Dr. S. Lieber/ A. Chaudhuri
COURSE DESCRIPTION	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.
PREREQUISITE(S)	None
COREQUISITE(S)	None
REQUIRED MATERIALS	Engineering Economic Analysis, <u>Fouteenth Edition</u> , by Donald G. Newnan et al, Oxford Press, ISBN: 9780190931919and Study Guide
COMPUTER USAGE	Spreadsheets
COURSE LEARNING OUTCOMES	By the end of the course students should be able to: <ol style="list-style-type: none">1. Calculate industrial costs and benefits using a variety of techniques2. Understand the importance of time-value of money in economic analyses and calculate its effects on investments and loans3. Analyze realistic cost:benefit scenarios in typical industry problems4. Evaluate economic alternatives considering the effects of depreciation and taxes5. Parse complex real-world technical cost issues, identify and analyze cost reduction alternatives, and make an oral and written presentation to “management”6. Demonstrated ability to read-ahead course materials in advance of class lecture, and report both key learnings and issues to instructor before class7. Understand and practice how to recognize and analyze ethical issues
CLASS TOPICS	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
STUDENT OUTCOMES	The Course Learning Outcomes support the achievement of the following MET Student Outcomes and TAC of ABET Criterion 9 requirements: Student Outcome a - an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities; Related CLO – 1-4

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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
MODIFICATION TO
COURSE**

Will be discussed in class
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
COURSE COORDINATED
BY**

Ajit Chaudhuri
Dr. S. Lieber

CLASS HOURS

Monday 10:00 AM to 12:50 PM CKB 303

OFFICE HOURS

Before Class After Class or By Appointment:
Email chaudhur@njit.edu

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GRADING LEGEND

GRADE	NUMERIC RANGE
A	90 to 100
B+	85 to 89
B	80 to 84
C+	75 to 79
C	70 to 74
D	60 to 69
F	0 to 59

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COURSE OUTLINE

Week	Date	Topics	Reading-Assignment	Homework\Classwork Assignment
1	1/27	Making Economic Decisions Engineering Costs and Cost Estimating	Ch 1 Ch 1-2	Will be in the moodle/Canvas
2	2/3	Engineering Costs and Cost Estimating	Ch 2 Cont.	Will be in the moodle/Canvas
3	2/10	Interest and Equivalence (omit selected section)	Ch 3	Will be in the moodle/Canvas
4	2/17	Equivalence for Repeated Cash Flows (omit selected section) Quiz # 1	Ch 4	Will be in the moodle/Canvas
5	2/24	Review Test 1 (Ch 1,2,3,4)	---	Will be in the moodle/Canvas
6	3/2	Present Worth Analysis	Ch 5	Will be in the moodle/Canvas
7	3/9	Annual Cash Flow Analysis	Ch 6	Will be in the moodle/Canvas
SPRING BREAK 3/15-3/22				
8	3/23	Rate of Return Analysis	Ch 7	Will be in the moodle/Canvas
9	3/30	Other Analysis Techniques Quiz # 2	Ch 9	Will be in the moodle/Canvas
10	4/6	Review Test 2 (Ch 5,6,7,9)	---	Will be in the moodle/Canvas
11	4/13	Depreciation (omit selective section)	Ch 11	Will be in the moodle/Canvas
12	4/20	Income Taxes Review and Quiz # 3	Ch 12	Will be in the moodle/Canvas
13	4/27	Test 3 (Ch 11,12) R Nov 28 Thanksgiving holiday)	---	Special Project (Selected problems or Case studies)
14	5/4	Replacement analysis, Inflation and price change, Selection of attractive return, (Selected sections from chapters)	Ch 13,14,15	
	TBD	Final Exam	All Chapters	

Note:

01/31/2020	Friday	Last day to add/drop and 100% refund
02/03/2020	Monday	Last day for 90% refund; full or partial withdrawal
02/17/2020	Monday	Last day for 50% refund, Full withdrawal
03/09/2020	Monday	Last day for 25% refund, Full withdrawal
03/15-22/2020	Sunday-Sunday	Spring recess
04/06/2020	Monday	Last day to withdraw