NEW JERSEY INSTITUTE OF TECHNOLOGY

Department of Mechanical and Industrial Engineering

COURSE: IE-492 ENGINEERING MANAGEMENT -- Sections 104 (Face-to-Face Course)

SEMESTER: SPRING 2024 (Saturday Mornings)

INSTRUCTOR: Amit Desai, Senior Associate MEP Engineer @ Marx|Okubo Associates, Inc.
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LOCATION: Meets every week on Saturdays, 9:00 am to 11:50 am @ KUPF 207

OFFICE HOURS: Available remotely by appointment.

TEXTBOOKS: Project Management Institute (PMI), ***A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition and The Standard for Project Management***, *7th Edition, Project Management Institute*, 2021.
ISBN-101628256648# ; ISBN-13# 978-1628256642

Sepulveda, J., Souder, W. and Gottgfried, B., ***Schaum's Outline of Theory and Problems of Engineering Economics,*** McGraw-Hill, Inc., ISBN-13# 978-0070238343

COURSE DESCRIPTION:

This course covers the fundamental concepts of Engineering Economics and Project Management. It is designed to introduce engineering majors to application of basic finance, time value or money, and project management principles to general engineering problems. Application of these principles help facilitate decision making in practice and provide a foundation for engineers for working with senior management, and eventually transitioning into management roles.

There are two parts to this course:

1. The Engineering Economics section of the course will encompass the following topics: Interest Rates, Time Value of Money, Financial Statements with focus on Cash Flows, Estimating Capital Projects, Economic Feasibility Analysis and Engineering Ethics.

2. The Project Management section of the course will cover all phases of the project life cycle, starting from Project Initiation through Project Closeout. We will review various tools and methodologies that have been effective in managing various aspects of the project.

Restriction: Junior or Senior standing.

There will be assignments, exams, term project and presentation to assess and reinforce concepts learnt in this class. This course offers a mixture of individual assignments and group term project/presentation.

INSTRUCTIONAL METHODS:

Face-to-Face: Delivery of instruction is structured around in-person classroom meeting times. Instruction is delivered in person and students are expected to attend class. (Sometimes referred to as traditional classroom courses). This course will require weekly engagement via Canvas and face-to-face lectures, which we will be met on every week, except when noted on detailed schedule. Refer to the detailed schedule for the course meeting days.

Canvas:

- Canvas is an online platform used by NJIT to facilitate delivery of online lectures and materials.
- Accessed via canvas.njit.edu
- PowerPoint slides, homework problems, video links and other supporting materials will be uploaded for student review and download.
- Online Exams and Assignments will be posted on Canvas.
- Submissions will be via Canvas as well.
- Canvas will also serve as a tool for group collaborations and discussions related to all class assignments and projects.

Textbooks/Assigned Literature:

- There are two textbooks for this course. Both are required as one of the textbook covers Engineering Economics and the other covers Project Management section of the course.
- It is expected that the students will read and refer to assigned textbooks as we will be covering materials from the same. Homework assignments will also be mostly from textbook. Lecture materials make the best effort to explain the material, but students must read/refer to the assigned literature for detailed explanation and understanding of the topic.

Web Resources:

- Links to articles, videos, and other materials will be posted in Canvas in respective weeks. These links will be helpful in reinforcing concepts learned in this course.
- It is also expected that students review online resources and current news to reinforce concepts learnt in class. It is all about connecting theory to real-life situations!

NJIT HONOR CODE:

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. The alleged action will be reported to the Dean of Students office for further action. The NJIT Integrity and Honor Code site is provided below.

"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu."

GRADING:

Attendance	5.0%
Assignments	15.0%
Exam 1 (Engineering Economics)	12.5%
Exam 2 (Engineering Economics)	12.5%
Exam 3 (Project Management)	12.5%
Exam 4 (Project Management)	12.5%
Term Project and Presentations (Group Project)	30.0%
Total	100.0%

Letter Grade	Percentage	Description
A	+90	Superior
B+	+85	Excellent
B	+80	Very Good
C+	+75	Good
C	+70	Acceptable
D	+60	Minimum
F	Less the 60	Inadequate
AUD	NA	Audit
I	NA	Incomplete--given in rare instances to students who would normally have completed the course work but who could not do so because of special circumstances. It is expected that coursework will be completed during the next regular semester. If this grade is not removed before final grades are due at the end of the next regular semester, a grade of F will be issued.
W	NA	Withdrawal (Refer to academic calendar for last day for withdrawal)

Exams:

All Exams will be timed (90 minutes) and conducted online via Canvas (un-proctored). Exams will be available the evening after scheduled lecture and will continue to be available throughout out the week until the start of the next class the following week. Exams will consist of a multiple-choice question with four answer choices. A few Project-Management related Exams may have some true/false questions. Read each question and answer from the choices carefully and choose the ONE best answer. Try to answer all questions. In general, if you have some knowledge about a question, it is better to try to answer it.

Note: Students will be allowed only one attempt for each exam during week the exam is issued. Be sure you are well prepared, located in a quiet environment and have a secured connection to a reliable internet (Wi-Fi) and reliable power source. Any accidental interruption to the exam will be consider as a submission. No extra attempts will be provided!

Assignments:

To gain maximum benefit from the course, there will be individual assignments to be completed over the course of the semester. These assignments will be due each week. Typically, group of assignments will be due before the start of next class. Please make sure that the assignments are submitted via Canvas in a designated area on time every week. Assignments will NOT be accepted via email on any other medium. NO EXCEPTIONS! Please make sure you read the syllabus carefully and get to know the assignment due dates.

- Assignments related to **Engineering Economics** lectures will require weekly upload on Canvas of solved handwritten (or typed) Economics problems from Schaum's Outline of Theory and Problems of Engineering Economics. The solved problems must be solved in a step-by-step manner, showing all the work, formula and illustration used. Your comments on the completed problem and solution should indicate whether the problem is correct, if you would solve the problem using a different approach, what the approach is and if the problem is not correct, you need provide what you think is the correct answer.
- Assignments related to **Project Management** lectures will require weekly reading of textbook chapters and input into textbox on Canvas of open-ended questions from assigned podcast (with a minimum 50 words a piece). Response to the open-ended questions must contribute meaningful substantive responses, which demonstrates you have understood the concepts from the course readings and/or Podcasts. Contributions must be grounded in the course content and demonstrate an analytical or evaluative level of comprehension and thought.

Note: If you do not submit your Assignment or Exam by the assigned time, you will automatically get no credit for that part of the Assignment or Exam. Please adhere to this timeline to ensure that you get the best grades for your efforts.

Term Project:

The term project consists of developing a plan and a schedule for a realistic project. You and your group do not have to perform the project for this course; rather, you will have to develop a detailed plan/budget and schedule for it. You may develop a plan/budget and schedule for a project that you are currently working on, one recently completed, or one that you will be undertaking in the near future. Projects may be related to your academic program, work experience, or personal interest. Term Project requirements and details will be further explained in class. Refer to Term Project Requirement uploaded on Canvas for more details.

Note: Shared Group Grade - The group submits one product, and all group members receive the same grade, regardless of individual contribution.