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EM 691-101: Cost Estimating for Capital Projects

Raymond Wong

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NEW JERSEY INSTITUTE OF TECHNOLOGY
Department of Mechanical and Industrial Engineering

COURSE: EM691--Cost Estimating for Capital Projects

SEMESTER: Fall 2020

INSTRUCTOR: Raymond Wong, Director of Operations at A&J Consulting
(973) 777-9696
EMAIL: rwong@anjengineer.com

TEXTBOOKS: Sullivan, Willam; Wicks, Elin; Koelling, C. Patrick, ***Engineering Economy, 17th Edition***, Pearson

Sepulveda, J., Souder, W. and Gottgfried, B., ***Schaum's Outline of Theory and Problems of Engineering Economics***, McGraw-Hill, Inc., 1984

**COURSE
DESCRIPTION:**

This course introduces engineering majors to the fundamentals of engineering economics and capital cost estimation for successful project management.

**INSTRUCTIONAL
METHODS:**

Methodologies

- Peer to peer discussion about subject matter and relating to real world examples
- Association to real world; using case studies to put learning into practice
- Practice problems

Moodle

- For access to syllabus, lectures, assignments and discussion (dialogue) thread posting
- Article, video, term paper and URL sharing
- Document sharing

Articles, Books, Videos and internet – All will be used to enhance and aid in your experience.

Required Resources

- Article URLs, title, authors and journals shared
- Required video clips with associated URLs

Optional Resources

- Occasional posting of resources in Moodle that will be helpful to read in order to enhance your course performance.

Web Resources

- URLs for articles, videos and websites for additional references will be provided in Moodle.

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. <http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>

GRADING

Participation (Attendance/HW/and Talking)	20%
Case studies and Questions	20%
Quizzes	20%
Mid-Term Exam	20%
Final Exam	20%

FALL 2018 - COURSE SCHEDULE

Week	Chapter	
1	Introduction to Engineering Economy Cost Concepts and Design Economics	Chapters 1 and 2
3	Cost Estimation Techniques The Time Value of Money Evaluating a Single Project	Chapter 4, 1, and 2
5	Comparison and Selection among Alternatives Mid Term Exam	Chapter 3
7	Depreciation and Income Taxes Evaluating Projects with Benefit-Cost Ratio	Chapter 6 Chapter 3,5,6
9	Price Changes and Exchange Rates Breakeven and Sensitivity Analysis	Chapter 11 Chapter 7
11	Replacement Analysis Probabilistic Risk Analysis	Chapter 14
13	Final Project	

ASSIGNMENT REQUIREMENTS

You will be assigned a number at the beginning of the semester, please safeguard your number because your assignments will be based on that number. For the problem solving, I will refer to your number when assigning specific problems or questions.

There might be slight change in grouping depending on the number of students and I will update the information at the appropriate time.

Case Study Answers: You are required to contribute meaningful; substantive responses demonstrating you understand the concepts from the course readings. Your discussions contributions must be grounded in the course content and demonstrate an analytical or evaluative level of comprehension and thought. The CS question participation is not an attempt to evoke right or wrong answers. It is an opportunity for you to engage in meaningful dialogue in the online environment.

Assignment Requirement: All assignments will be posted in advance. Please do not go ahead. You must post your assigned solved problems or answers to questions and case studies by Wednesday, 11:58 PM and comment on responses by Friday 11:58 PM, of that same week.

Note: if you do not submit your assignment by the assigned time you will automatically get an F for that part of the assignment. Please adhere to this timeline to ensure that you get the best grades for your efforts.

Term Project

- Create a PPT presentation of your term project. Submit, in a report format, a final copy of all documents (parts) previously submitted and a copy of presentation visuals.