COST ENGINEERING & CONTROL
ENCE 666 Course Syllabus

CATALOGUE DESCRIPTION

ENCE 666 Cost Engineering & Control (3) Majors only, or department permission. Analytical techniques to estimate and control project costs, including site investigation, quantity takeoff, work analysis, and bid preparation. Systematic cost control as related to job production and historical data. Includes the fundamentals of different types of cost estimating, the appropriate use of each, and examination of popular software.

TEXTBOOKS


COURSE OBJECTIVE

This course is designed to help students develop the ability to utilize techniques of cost estimating, cost and schedule control and project management as they apply to engineering and construction work. Students will understand why it is crucial to understand the various types of cost estimating and the appropriate use of each, activity-based costing, conceptual estimating and budgeting, unit cost estimating, parametric estimating, detailed estimating, learning curves and progress functions.

Students set up in teams will prepare several case studies to monitor all cost engineering and controls necessary during the life cycle of a project. The cases will be based on construction documents for an actual project. Through simulation techniques, student teams will learn how to analyze and prepare the estimate, bid, control budget, change order process, schedule and cost impacts, and other related cost engineering requirements on a project. Options include guest lecturer and field trip to construction project site.
LOGISTICS

**Time & Location**
On-line section only: Scopia video conference Wednesdays 7:00 PM – 8:00 PM
Dates on Class Schedule on last page are for on campus classes. On-line Scopia video conferences are the next day.
On campus only: Tuesdays 6:00 PM – 8:30 PM; Room JMP 2217

**Instructor**
Neil R. Schulman; e-mail: nrs@umd.edu

**Office Hours**
Office Hours-by appointment

**Graduate Assistant**

**Learning Management System (LMS)**
Canvas is the current system. All assignments for this course are posted on Canvas as well as lecture slides/notes and other materials. Some answers to homework problems as well as practice tests are posted. We use Canvas for all examinations. Canvas can be used for team sites, wiki’s, blogs, and emails to the class, groups, or individuals. [http://bb.eng.umd.edu](http://bb.eng.umd.edu)

**Videoconferences**
For our On-Line students, weekly videoconferences are required. They are an integral element of the On-Line course paradigm. The conferences encourage the students to ask clarifying questions and to get to know one another. The software we are using is Scopia and it may be accessed at [http://emeeting.eng.umd.edu/scopia/index.jsp](http://emeeting.eng.umd.edu/scopia/index.jsp). The meeting room is 60 plus the course number: 666, or 60666. Campus students may use Canvas for video conferencing.

POLICIES

**Grading**
Grading is based on comprehension and mastery of the material. Incremental elements that influence the final grade approximately include: evaluations, attendance, & class participation (10%), 3 project case studies (35%), tests and quizzes (55%).

**Grading**
Final grades will be assigned according to the grading scale below:

- A- = 90% and above
- B- = 80-89%
- C- = 70-79%
- D- = 60-69%
- F = 59% and below
A final numerical grade will be determined at the end of the semester. You will receive, at a minimum, the letter grade assigned to the numerical grade as shown above. In the event that the instructor deems it necessary to adjust the scale, you may receive a higher letter grade. In no instance will you receive a lower letter grade. Final grades will be mailed to you by the Registrar’s Office after the final examination period. The instructor or the department secretary will not make them available.

**On Time Delivery**

We expect all deliverables to be on time or early. Despite the best laid plans, life does sometimes intervene. We can be flexible in assignment due dates as long as the student makes arrangements in advance. After the fact submissions, without prior approval, will not be accepted.

**Individual Extra Work**

The answer is no! We cannot permit extra work for additional credit in hopes of earning a higher grade because it simply is not fair to the other students. This is firm.

**Students w/ Disabilities**

The University has a legal obligation to provide appropriate accommodations for students with disabilities. Please inform the instructor of any accommodations needed relative to disabilities.

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**CODE OF ACADEMIC INTEGRITY**

The course is subject to the Code of Academic Integrity and Honor Pledge available on the web at [http://www.studenthonorcouncil.umd.edu/index.html](http://www.studenthonorcouncil.umd.edu/index.html). They prohibit students from cheating on exams, plagiarizing papers, submitting the same paper for credit in two courses without authorization, buying papers, submitting fraudulent documents, and forging signatures. The instructor is not reluctant to assign the grade “XF” for the course should any of the above apply.
CLASS SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Introduction &amp; Overview. Industry and the Project. The Project Management Process.</td>
<td>Ch 1, 2</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Construction estimates and bids Construction job site visit – Tentative Date – College Park, MD</td>
<td></td>
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<tr>
<td>6</td>
<td></td>
<td>Simulated bid; Case #1 due.</td>
<td>Handout</td>
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<tr>
<td>9</td>
<td></td>
<td>Activity Duration and Network Calculations. Scheduling Calculations. Critical Path. Cost Loaded CPM Schedules.</td>
<td>Ch. 10</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Guest Speaker-TBA - Tentative; Case #2 due.</td>
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<tr>
<td>15</td>
<td></td>
<td>Case #3 due. Test Review. Summary. Test #2 this week.</td>
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Note: This syllabus is a plan and is subject to change!