CE 561  Construction Project Management, Fall, 2009

Instructor: Dr. M.L. Leming, 212 Mann  5-7823  (leming@eos.ncsu.edu)  Off Hrs: TBA
Meetings: 8:30 – 9:45, Tuesdays and Thursdays; 327 Daniels

Text:  Lecture notes; additional readings (note: several texts are on Reserve)

Grading:   Hourly Exams (2 x 20%)   40%
Course grades   Homework; Projects   10%
are plus/minus   Final Exam   50%

Letter grades assigned will be no lower than:  A+ (97-100); A (93-96.99); A- (90-92.99); B+ (87-89.99); B (83-86.99); B- (80-82.99); C+ (77-79.99); C (73-76.99); C- (70-72.99); D+ (67-69.99); D (63-66.99); D- (60-62.99); F (less than 60) [numerical grades rounded to 2 decimal places for assigning letter grades].

Course Objectives: Successful Construction Project Management is not only critical to the success of the project engineer, construction manager and the contractor, but reduces the overall costs to the owner. Modern construction presumes an in-depth understanding of both the theory and techniques associated with planning and scheduling, resource allocation, cost analyses and control, and the effects of cash flow, modern tools, contracting methods, and perspectives.

This is a reasonably fast-paced, "survey" course, covering a number of related topics important to understanding Construction Project Management. The course is practice oriented and emphasizes network based tools, time-money analysis and standard quantitative techniques, including those used in cost control. Topics also include advanced analytical and management techniques. The objective of this course is to enable students to develop construction project management and control skills which will permit them to adequately plan and manage the large scale, complex, time sensitive, and multi-faceted projects which are becoming more and more common in today's market.

Course Outcomes: By the end of the course students must be able to:

1. Conduct Cash Flow analysis of construction projects based on schedules of values and schedules of payments, and demonstrate fundamental understanding of profit and profitability, including benchmarking.

2. Develop and analyze network based schedules of activities of construction projects using Activity-on-Arrow and Activity-on-Node (Precedence) methods, including the use of lead/lag factors. Develop and analyze linear schedules; develop and analyze schedules with stochastic durations.

3. Design effective resource allocation plans for given applications, including the effects of float, priority, and lead and lag factors,

4. Conduct both activity and project cost analysis, including earned value analysis with and without the effects of lead and lag factors.

5. Demonstrate basic understanding of site layout principles.

6. Demonstrate basic understanding of project and contract effects on bid strategies.
Notes on Homework:
1. Problems may be assigned during class sessions. These homework assignments are due at the beginning of the next scheduled class unless otherwise announced in class; late homework may not be accepted.
2. Results of homework assignments must be communicated in a professional manner, using a standard Engineering format (an example appropriate for most classes is provided separately). Homework which does not conform to this requirement will not receive full credit and may not be graded.

Other Important Notes:
1. Make up exams will be given only in situations where the student has an excused absence. See the NC State policy for absences for additional details.
   2a. Each student is expected to follow the NC State Academic Integrity policy. Each student is expected to conduct their professional lives as befitting a Registered Professional Engineer. Therefore, each student will be governed by the Honor Pledge.
   2b. It is the instructor's understanding and expectation that each student will neither give nor received unauthorized aid or assistance on any test, mid-term exam, or final exam. While group work on homework assignments is acceptable, it is expected that all members of the group will contribute as equally as possible to all of the problems assigned.
3. The NC State policy on students with disabilities will be implemented on a case by case basis. Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653.
http://www.ncsu.edu/dss/

Schedule - Important Dates
Exam #1 is tentatively scheduled for Tuesday, 6 October, 2009
Exam #2 is tentatively scheduled for Tuesday, 24 November, 2009
The Final Exam time is scheduled by the University for Tuesday, 15 December, 2009