CE 611 - Project Planning & Control Fall 2017

Text: Hinze, Jimmie, Construction Planning & Scheduling, 4th Edition.

Professor Christopher Hanna: Email: jerseyengineer@gmail.com, website: http://njit2.mrooms.net

Prerequisite: *CE 610.*

Instructor's Office Hours*: I am available by email listed above. If there is a need to have office hours, I can schedule one on campus. Please feel free to email me, and I will do my best to return a prompt reply.*

Week Beginning	Topic	Reading Assignment (Chap No.)
Week #1 9/3 – 9/9	Class Introduction/ Project Planning and Control Principles Arrow Diagrams	1,16
Week #2 9/10 – 9/16	Network Modeling and Analysis	2,3
Week #3 9/17 – 9/23	Duration in Scheduling Time in Contract Provisions	4,5
Week #4 9/24 – 9/30	Project Monitoring & Control	8
Week #5 10/1 – 10/7	Introduction to Computer Scheduling MS Project Tutorial – Part 1 Getting To Know the Basics	9
Week #6 10/8 – 10/14	Dispute Resolution and Litigation	12
Week #7 10/10 – 10/26	Resource Management	6
Week #8 10/15 – 10/21	**MIDTERM EXAM ON MOODLE**	
Week #9 10/22 – 10/28	Introduction to Project Accounting, Billing Methods, Project Cash Flow	7
Week #10 10/29 – 11/4	Earned Value	10

Week #11 11/5 - 11/11	MS Project Tutorial – Part 2 Resource Allocation/ Earned Value	-
Week #12 11/12 – 11/18	Cost Schedule Integration and Productivity Analysis	11
Week #13 11/19 – 11/25	PERT and Probabilistic Scheduling -Advanced Scheduling Techniques	13
Week #14 11/26 – 12/2	Advanced Scheduling Techniques – Linear Scheduling	14
Week #15 12/3 – 12/09	Advanced Scheduling Techniques – Short Interval Scheduling	15
Week #16 12/10 – 12/18	**FINAL EXAMINATION ON MOODLE** **PROJECT DUE**	

Lectures for each lesson will be posted Sunday of each week. For example Lecture for Week #4 will be posted on 9/24. Homework will be assigned on the same day.

Homework is due on the following Sunday at 11:59 pm. For example homework for Week #4 will be due on 10/1 at 11:59 pm.

COURSE DESCRIPTION AND OBJECTIVES:

Management tools as related to construction projects are analyzed and applied to individual projects. Emphasis is on network scheduling techniques, time-cost analysis, resource allocation and leveling, cost estimating, bidding strategy, and risk analysis. The course is divided in two key modules: Project Planning, which focuses on the development of financial and operational plans and schedules, and Project Control, which emphasizes performance measurement and control, real-time updating of project plans, control metrics and analysis.

LEARNING OUTCOMES:

Using the cases and background materials, and methodologies covered, you should be able to:

- Plan a construction project and develop realistic and efficient schedules.
- Allocate Resources and adjust usage based on time and cost constraints.
- Set up a project control environment and system.
- Understand the link between estimating and cost control systems
- Understand project performance measurement, productivity and risk analysis.
- Learn operations management, industrial systems and management science techniques applications to construction planning, scheduling and control

- Apply the range of management methods to realistic construction company and project cases.

Basis of Grading:

Class Participation 5%

Homework /Quizzes = 10%;

Midterm = 25%

Report = 30%,

Final Exam = 30%

Homework/ Quizzes:

Please submit homework in Moodle under each assignment and label per the instructor's request. **Late assignments will not be accepted**. No notice quizzes may be given about assigned homework.

Report:

The Term Project includes MS Project and report writing submissions. More details to follow on Moodle near Week 5.

Midterm and Final Exam:

Will be done in Moodle and you will have 2 hours since you begin the exam, make sure your computer is fully charged and you are able to do it without interruptions, extra time will not be allowed.

Honor Code:

Students are advised that the NJIT Honor Code will be upheld in this course, and any violations will be brought to the immediate attention of the Dean of Students.

OTHER REQUIREMENTS:

Students are required to have access to a computer at least once a week and the installation of software on it. Computers are free to use at any lab on the NJIT Campus.

The course requires the adoption of a computerized project planning and control system. The MS project system and MS Office are provided by NJIT free of charge, they are both

required for this class! MS Project is not available for Mac computers. Students must be able to use a PC.

Syllabus is Subject to Change due to Class Format