

Spring 2020

CE 611-852: Project Planning & Control

Christopher Hanna

Follow this and additional works at: <https://digitalcommons.njit.edu/ce-syllabi>

Recommended Citation

Hanna, Christopher, "CE 611-852: Project Planning & Control" (2020). *Civil and Environmental Engineering Syllabi*. 348.

<https://digitalcommons.njit.edu/ce-syllabi/348>

This Syllabus is brought to you for free and open access by the NJIT Syllabi at Digital Commons @ NJIT. It has been accepted for inclusion in Civil and Environmental Engineering Syllabi by an authorized administrator of Digital Commons @ NJIT. For more information, please contact digitalcommons@njit.edu.

Text: Hinze, Jimmie, Construction Planning & Scheduling, 4th Edition.
 ISBN: 13: 978-0132473989

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

Prerequisite: CE 610. 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.

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 1/20 – 1/26	Class Introduction/ Project Planning and Control Principles Arrow Diagrams	1,16
Week #2 1/27 – 2/2	Network Modeling and Analysis	2,3
Week #3 2/3 – 2/9	Duration in Scheduling, Time in Contract Provisions	4,5
Week #4 2/10 – 2/16	Project Progress Monitoring and Control Introduction to Computer Scheduling MS Project Basics	8,9
Week #5 2/17 – 2/23	Change Management, CPM in Claims and Dispute Management. Assignment of Semester Project	12
Week #6 2/24 – 3/2	Resource Management	6
Week #7 3/3 – 3/9	Introduction to Project Accounting, Billing Methods, Project Cash Flow	7
Week #8 3/10 – 3/16	MIDTERM EXAM ON MOODLE	
Week #9 3/17– 3/23	SPRING BREAK	
Week #10 3/24 – 3/30	Earned Value Analysis	10

Week #11 3/31 – 4/6	MS Project Tutorial – Part 2 Resource Allocation/ Earned Value	-
Week #12 4/7 – 4/13	Cost Schedule Integration and Productivity Analysis	11
Week #13 4/14 – 4/20	Advanced Scheduling Techniques – Short Interval Scheduling	13
Week #14 4/21– 4/27	Advanced Scheduling Techniques – Linear Scheduling & PERT	14, 15
Week #15 4/28 – 5/4	Alternate Project Delivery Methods Risk Analysis	-
Week #16 5/5– 5/11	FINAL PROJECT DUE	
Week #17	FINAL EXAMINATION ON MOODLE	

Lectures for each lesson will be posted Sunday of each week. For example Lecture for Week #4 will be posted on Sunday 2/9. Homework will be assigned on the same day.

Homework is due on Sunday Evening at 11:59 PM of the following week. For example homework for Week #4 will be due on 2/16 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.

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.

“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”

OTHER REQUIREMENTS:

Students are required to have access to a computer at least once a week and the installation of software on it.

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!

Syllabus is Subject to Change due to Class Format