

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

**Professor Christopher Hanna:** Email: [jerseyengineer@gmail.com](mailto: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 1/15 – 1/21	Class Introduction/ Project Planning and Control Principles Arrow Diagrams	1,16
Week #2 1/22 – 1/28	Network Modeling and Analysis	2, 3
Week #3 1/29 – 2/4	Duration in Scheduling, Time in Contract Provisions	4,5
Week #4 2/5 – 2/11	Project Progress Monitoring and Control	8
Week #5 2/12 – 2/18	Introduction to Computer Scheduling MS Project Basics	9
Week #6 2/19 – 2/25	Change Management, CPM in Claims and Dispute Management. Assignment of Semester Project	12
Week #7 2/26 – 3/4	Resource Management	6
Week #8 3/5 – 3/11	<b>MIDTERM EXAM ON MOODLE</b>	
Week #9 3/12 – 3/18	<b>SPRING BREAK</b>	
Week #10 3/19 – 3/25	MS Project Tutorial – Part 2 Resource Allocation/ Earned Value	
Week #11	Introduction to Project Accounting, Billing	7

3/26 – 4/1	Methods, Project Cash Flow, Earned Value	
Week #12 4/2 – 4/8	Earned Value	10
Week #13 4/9 – 4/15	Cost Schedule Integration and Productivity Analysis	11
Week #14 4/16 – 4/22	Advanced Scheduling Techniques – Short Interval Scheduling	13
Week #15 4/23– 4/29	Advanced Scheduling Techniques – Linear Scheduling	14
Week #16 4/30 – 5/4	Advanced Scheduling Techniques – PERT	15
Week #17 5/5– 5/11	<b>FINAL EXAMINATION ON MOODLE*</b> <b>PROJECT DUE</b>	

**Lectures for each lesson will be posted Sunday of each week. For example Lecture for Week #4 will be posted on 2/4. 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 2/12 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.

**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**