Civ-Env 330, Engineering Project Management Fall 2025

Description: Methods for coordinating decisions and actions among various parties involved in the design and construction of civil and environmental engineering projects. Includes delivery systems, preconstruction services, project planning and scheduling, estimating, bidding, and project control.

Specific Goals for the Course:

The students will be able to explain the stages of the capital project delivery life cycle, understand the project management focus areas needed to progress from one stage to the next, and gain a high-level understanding of how the stages, focus areas, and their associated processes and controls interconnect, based on project-specific value drivers, the risk environment, and the selected delivery model.

By the end of the course, students should be able to:

1. Describe Contemporary issues in the construction industry.
2. Explain the roles of the owner, designer, and contractor.
3. Recognize the variety of delivery systems for construction projects.
4. Explain different types of estimating and scheduling.
5. Explain concepts and techniques for monitoring and controlling project performance.
6. Understand the use of new technology in the construction industry

Topics Covered:

Date	**Subject**	**Readings Before Lecture**	**Comments**
September 17	Introduction Course Goals The Construction Industry Trends in the Industry	Chapters 1-2	
September 22	History of CM Project Management		
September 24	Players & Their Roles Owner, Designer, Construction Professionals	Chapters 5-7	

September 29	Delivery Systems Construction Documents	Chapters 8-9	
October 1	Bidding and Estimating	Chapters 10-14	
October 6	TBD		Guest Speaker
October 8	Contracts	Chapters 15-16	
October 13	Contracts	Chapters 17-19	Guest Speaker
October 15	Planning/Preconstruction Activities	Chapters 20-22	
October 20	Scheduling	Chapters 23-24	
October 22	Midterm		
October 27	Project Cost Control and Reporting	Handouts	
October 29	Lean Construction	Handouts	
November 3	TBD		No Class
November 5	Equipment	Handouts	
November 10	Building Information Modeling	Chapters 3-4	
November 12	Changes and Claims	Chapter 26-28	
November 17	Bonding and Liens	Chater 11	
November 19	How to hire subcontractors	Chapter 25	
December 1	Close-out and Occupancy Safety	Chapter 29 Handouts	
December 3	Course Review		
December 8	Final Exam/Project		

Textbook: Construction Project Management: A Complete Introduction, Third Edition.by Alison Dykstra

Supplemental material: Industry publications and reading material will be provided in Canvas.

Course Grade: Homework Assignments 20%, Mid-Term Exam 30%, Final Exam/Project 30%, Class Participation 20%

Instructor: Professor Ahmad Hadavi, Tech A112, Email: a-hadavi@northwestern.edu, Phone: 847-467-3219