

1. CEE 4500 (5500) - Construction Engineering Management
2. Course credit hours: 3  
Contact hours per week: 3  
Credit category: Engineering Topics
3. Course coordinator: Lenly Weathers
4. Textbook: Construction Project Management (4th Edition) by Gould & Joyce. Pearson.
5. Course information:

2020 Catalog description	The design and management of the construction phase of a project: scheduling, estimating, contracts, laws, financing, and safety.
Prerequisite(s) or Concurrent Enrollment	Within two semesters of graduation
Course type	Selected Elective

6. Course instructional outcomes:

Course Outcome No.	Course Outcome (CO)	ABET Student Outcome
CO1	Apply knowledge of project organization and the responsibilities of key personnel in construction projects	4
CO2	Apply knowledge of construction contracts and selected legal issues related to construction	4
CO3	Apply knowledge of safety issues during construction	4
CO4	Plan construction projects using a work breakdown structure	5
CO5	Schedule construction projects using the critical path method (CPM) and Microsoft Project	5, 7
CO6	Make estimates of construction projects	1
CO7	Perform cash flow analysis calculations	1

ABET criterion 3 Student Outcomes addressed by this course:

SO No.	Student Outcome (SO)
3.1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
3.4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

3.5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
3.7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

7. Course topics:

1. Project participants
2. Organizing and leading the construction project
3. Project delivery methods
4. Project chronology
5. Construction services during design
6. Bidding and procurement
7. Project administration
8. Construction and closeout
9. Estimating project costs
10. Project planning and scheduling
11. Controlling project cost, time and quality
12. Construction safety and health

Program criteria (curriculum) addressed by this course:

1. Analyze and solve problems in at least four technical areas appropriate to civil engineering
2. Explain basic concepts in project management, business, public policy, and leadership
3. Analyze issues in professional ethics

8. Additional topics, assignments, or requirements for dual-level (4000/5000) course:  
Graduate students are required to pursue the above topics in more depth.

9. Date: 07/15/2020