



**School of Applied Engineering and Technology
Department of Engineering Technology
Construction Engineering Technology Program
Course Syllabi**

Course Number and Name: CET 416, Senior Construction Project

Credits and Contact Hours: Credits - 1; Contact Hours – 1.5 Hour Lectures, twice a week

Course Coordinator's Name: John A. Wiggins, P.E., Senior University Lecturer & Program Coordinator

Text Book and Supplemental Materials: Course Manual for CET 416, Senior Construction Project, J. Wiggins, 2023.

Specific Course Information

Brief Description of the content of the course

Simulates the methods and procedures used to successfully manage a construction project. Provides familiarization with constructability analysis, value engineering, productivity improvement, quality control, advanced field and office administration techniques, problem solving, and construction automation. Extensive use of construction-related computer software. Written submittals and oral presentations required.

Prerequisites or Co-requisites: CET 415, Construction Project Man

Course Status: Required Course

Specific Goals for the Course

Specific Outcomes of Instruction

At the conclusion of the course, the student will demonstrate the ability to undertake a project and, working with a technical team, complete various projects in design, estimating, scheduling as well as make technical presentations for broadly defined projects.

Relation to Student Outcomes

Student Outcomes

- (1) an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline;
- (2) an ability to design systems, components, or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline;
- (3) an ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;



(5) an ability to function effectively as a member as well as a leader on technical teams.

Program Specific Criteria

- a. utilization of techniques that are appropriate to administer and evaluate construction contracts, documents, and codes;
- b. estimation of costs, estimation of quantities, and evaluation of materials for construction projects;
- c. utilization of measuring methods, hardware, and software that are appropriate for field, laboratory, and office processes related to construction;
- d. application of fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering;
- e. production and utilization of documents related to design, construction, and operations;
- f. performance of economic analyses and cost estimates related to design, construction, and maintenance of systems associated with construction engineering;
- g. selection of appropriate construction materials and practices; application of appropriate principles of construction management, law, and ethics;
- h. application of appropriate principles of construction management, law, and ethics; and
- i. performance of standard analysis and design in at least one sub-discipline related to construction engineering.

Brief list of topics covered

Projects assigned will run the gamut from heavy civil construction projects, such as utility construction, road reconstruction and road resurfacing to building construction projects such as a concrete building structure and a structural steel construction project. Students will be expected to prepare all necessary documents that would be required in these projects such as safety, estimating, scheduling, plan review and preparation. Ethics and diversity problems will also be assigned as part of the course.