NJIT New Jersey's Science & Technology University

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

Course Number and Name: CET 435, Design of Temporary Structures

Credits and Contact Hours: Credits - 3; Contact Hours – 3.0 Hour Lecture, once a week

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

Text Book and Supplemental Materials

Specific Course Information
Brief Description of the content of the course
Analysis of loadings on, and design of, temporary structures required in construction. Formwork, shoring and scaffolding systems, temporary bridges, trenching, and temporary retaining walls are among the subjects covered. Construction safety associated with temporary structures is stressed.

Prerequisites or Co-requisites: CET 331, Structural Systems

Course Status: Required Course

Specific Goals for the Course
Specific Outcomes of Instruction
By the end of the course, student will be able to analyze and design formwork for concrete, analyze and design bracing for cuts, analyze and design steel sheeting.

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;

(4) an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and

Program 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;

d. application of fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering; The subdiscipline in this case is structural issues in construction.

e. production and utilization of documents related to design, construction, and operations;

g. selection of appropriate construction materials and practices; application of appropriate principles of construction management, law, and ethics;

i. performance of standard analysis and design in at least one sub-discipline related to construction engineering.

Brief list of topics covered

Topics covered include design and analysis of formwork for slabs, columns and beams; multistory construction; design and analysis of sheet piling and braced cuts in wood and steel, safety aspects of construction of formwork and braced excavations.