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# CET 435 – TEMPORARY STRUCTURES

**COURSE NUMBER** CET 435-102

**COURSE DESCRIPTION** TEMPORARY STRUCTURES

**COURSE STRUCTURE** (3-0-3) (lecture hr/wk - lab hr/wk – course credits)

**COURSE DESCRIPTION** 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.

**PREREQUISITE(S)** Prerequisite: CET 331
**COREQUISITE(S)** None

**REQUIRED MATERIALS** Formwork For Concrete By M.K . Hurd - Latest Edition (SP-4)
**Note**: ACI Discount available as a free student member
Phone# 248-848-3800 or fax 248-848-3801
Approximate Cost is $99.00 plus shipping (regular price approx. $250)

**MANDATORY FIELD TRIP** (Based on Availability)
**COURSE OBJECTIVES** By the end of the course students should be able to:

1. Producing and utilizing design, construction and operations documents
2. Selecting appropriate construction materials and practices
3. Applying Structures
4. Knowing Construction Safety

**CLASS TOPICS** Statics and Mechanics, Steel Design, Timber Design, and Formwork
**OUTCOMES** The Course Learning Outcomes support the achievement of the following CET Program Outcomes and TAC of ABET Criterion 9 requirements

**Outcome a** - An appropriate mastery of the knowledge , techniques skills and modern tools of the construction industry. **(Related CLO 1 thru 3)**
**Outcome b** - An ability to apply current construction knowledge, adapt emerging applications of mathematics, science, engineering and technology. **(Related to CLO 1 thru 3)**
**Outcome d** - An ability to apply creativity in the designs of systems, components or processes appropriate to program objectives. **(Related to CLO 1 thru 3)**
**Outcome e** -an ability to function effectively on teams **(refer to CLO 1 thru 4)**
**Outcome f** - an ability to identify, analyze and solve technical problems **(refer to CLO 1 thru 3)**
**Outcome g-** An ability to communicate effectively **(refer to CLO 1 thru 4)**
**Outcome k** - A commitment to quality, timeliness and continuous improvement. **(Related to CLO 2 thru 4)**
**Outcome p** - Apply basic technical concepts to the solution of construction problems involving hydraulics and hydrology, geotechnics, structures, construction scheduling and management and construction safety. **(Related to CLO 3)**
**Outcome q** - Selecting appropriate construction materials and practices **(Related to CLO 1 thru 3)**

**GRADING POLICY**

Note: Grading Policy may be modified by Instructor for each Section in the Course)

| | |
|---|---|
| Homework/Sample Problems | 30% |
| Tests | 35% |
| Final Exam | 35% |

**Note**: Cannot pass course if you having failing grades on tests and final exam

Makeup examinations will not be given. Therefore, if any student has a valid reason for missing an exam, they should discuss with the instructor an alternate method of weighing the final grade.

The student is responsible for those materials covered in class and any materials assigned as readings as noted by instructor. A student who misses a class is still responsible for submitting materials in on time or they can give adequate notice of any late submittals to the professor before the due date.

All exams are cumulative unless otherwise noted by the instructor. All exams are open book and open notes.

The final letter grade will be determined by the total number of points received during the course. Any variations to any of the above requirements are at sole discretion of the instructor.

**HOMEWORKS:**

All homeworks are due one week after it has been assigned. No homework will be accepted one week after its due date or after it has been reviewed in class. All homeworks will be graded on the basis of the student attempt to understand the concept presented in the text or class. Projects must follow the outline or format as directed in class. ABET course guidelines are in effect. The homework must show how you derived the answers. Homework must be handed in individually through moodle. Sample Problems are due on the date of the exam and will be turned in through Moodle.

**ATTENDANCE:**

The student is responsible for those materials covered in class and any materials assigned as readings as noted by instructor. A student who misses a class is still responsible for submitting materials in on time or they can give adequate notice of any late submittals to the professor before the due date.

**ACADEMIC INTEGRITY**

NJIT has a zero-tolerance policy regarding cheating of any kind and student behavior that is disruptive to a learning environment. Any incidents will be immediately reported to the Dean of Students. In the cases the Honor Code violations are detected, the punishments range from a minimum of failure in the course plus disciplinary probation up to expulsion from NJIT with notations on students' permanent record. Avoid situations where honorable behavior could be misinterpreted. For more information on the honor code, go to http://www.njit.edu/academics/honorcode.php

**STUDENT BEHAVIOR**

- No eating or drinking is allowed at the lectures, recitations, workshops, and laboratories.
- Cellular phones must be turned off during the class hours – if you are expecting an emergency call, leave it on vibrate.
- No headphones can be worn in class.
- Unless the professor allows the use during lecture, laptops should be closed during lecture.
- During laboratory, if you are finished earlier, you must show the professor your work before you leave class
- Class time should be participative. You should try to be part of a discussion

**MODIFICATION TO COURSE** The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course outline.

**PREPARED BY** Dr. D. Washington
**PROGRAM COORDINATOR** Prof. John Wiggins

## COURSE OUTLINE

| Week | Date | Textbook | Assignment | Topics |
|---|---|---|---|---|
| 1. | 24-Jan | | Homework | Review of Course Outline and Overview |
| 2. | 31-Jan | | | Statics and Mechanics |
| 3. | 7-Feb | | Homework in Moodle for week 3 | Statics and Mechanics<br>**Test #1** |
| 4. | 14-Feb | | Homework | Steel Design |
| 5. | 21-Feb | | Homework assignment | Timber Design |
| 6. | 28-Feb | | Homework assignment | Soil Stress Analysis |
| 7. | **7-Mar** | | | Soil Stress Analysis<br>**Test #2** |
| 8. | **14-Mar** | Read Text | | Disaster and Safety in Formwork |
| 9. | 21-Mar | SPRING BREAK MARCH 17TH TO 24 TH, 2019 | | |
| 10. | 28-Mar | Read Text | | Design |
| 11. | 4-Apr | Read Text | | Design |
| 12. | 11-Apr | Read Text | With Date 4-8-19 | Design |
| 13. | 18-Apr | Read Text | GOOD FRIDAY (4-19-19) | **Test# 3**<br>Design |
| 14. | 25-Apr | Read Text | | Design |
| 15. | 2-May | Read Text | | Design |

## CLASS HOURS

Thursday 6:00 PM – 8:50 PM KUPF 206

**OFFICE HOURS (GITC 2504)**

WEDNESDAY 5:00 PM – 6:00 PM
Or by appointment: **(973) 642-7915** or **washd@njit.edu**