CIMT 315 – Concrete Construction Methods

COURSE NUMBER	CIMT 315
COURSE NAME	Concrete Construction Methods
COURSE STRUCTURE	(3-0-3) (lecture hr/wk - lab hr/wk – course credits)
COURSE DESCRIPTION	This course is designed to provide a detailed study of the many construction methods and applications of concrete. This course is a continuation of CIM 210 and teaches students how to order, batch, transport, handle, finish, and cure concrete mixtures to be used in construction projects. Students will also learn how to prepare structures at the jobsite to receive the concrete, how to minimize risks and common problems, and environmental conditions that could affect the performance of the concrete mixture.
PREREQUISITE(S)	CIMT 210
COREQUISITE(S)	
REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Required
REQUIRED MATERIALS	Main Text: **Design and Control of Concrete Mixtures. PCA, 14th 15th or latest Edition.** **ACI and PCA Publications. ASTM Standards. B**esides, **v**arious resources and handouts will be disseminated in class.
COMPUTER USAGE	Word, Excel, PowerPoint
COURSE LEARNING OUTCOMES (CLO)	By the end of the course students should be able to: 1. Become familiar with the process of ordering, batching, mixing, transporting, and handling concrete according to the Standards 2. Learn how to place, finish, and cure concrete mixtures using tools and techniques that enhance the properties of the material. 3. Understand the effects of working with concrete in hot and cold weather. 4. Use the proper technique and methods to handle volume changes in the concrete mixture after placement.
CLASS TOPICS	Batching, Mixing, Transporting, Handling, Placing, and curing concrete. Building and finishing Flat Floors. Jointing concrete for Volume Changes. Hot and Cold Weather Concreting. Pumping Concrete. Pre-Cast and Tilt-Up Concrete. Fibers in Concrete
STUDENT OUTCOMES	The Course Learning Outcomes support the achievement of the following CIM Program Outcomes and TAC of ABET Criterion 9 requirements OUTCOME 1 Understand how each ingredient of concrete affect its properties and performance (Relates to CLO 2) OUTCOME 2 Define the concrete problem in the field and understand how to help solving it. (Relates to CLO 3 and 4) OUTCOME 3 Develop models appropriate to study of a wide-range of different problems relevant to concrete technology. (Relates to CLO 4)

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
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.
COURSE COORDINATED BY	Ricardo Arocha arocha@njit.edu (732) 489-4634

CLASS HOURS

Thursday -Lecture 6 pm – 8:50pm CKB 310

Contact Information: **arocha@njit.edu or (732) 489-4634**

COURSE OUTLINE

Week	Dates	Topic
1	9/8	Class Introduction, Course Outline. 1st. Class Construction & Fundamentals of Concrete
2	9/15	Lecture: Batching, Mixing, Transporting, and Handling Ready Mixed Concrete
3	9/22	QUIZ # 1. Lecture: Placing, Finishing, and Curing Concrete.
4	9/29	QUIZ # 2. Lecture: Finishing Tools & Techniques. Jointing Concrete
5	10/6	1st. TERM EXAM
6	10/13	Lecture: Curing Concrete and Pumping Concrete
7	10/20	QUIZ # 3. Hot & Cold Weather Concreting. Concrete Mix Design Proportioning. Introduction
8	10/27	2nd. TERM EXAM. **Reading Assignment Chapter 9 14th Edition**
9	11/3	Concrete Mix Design Proportioning. Homework Assignment
10	11/10	Homework Assignment Due GUEST SPEAKER. TBD.
11	11/17	GUEST SPEAKER. TBD. 3rd. **TERM EXAM Project Assignment**
12	11/24	**THANKSGIVING**
13	12/1	Review of Mix Design Proportioning & Project Presentation Guidelines.
14	12/8	**3rd. TERM EXAM (Project Presentation)**
15	12/15	**READING WEEK**
16	12/22	**FINAL EXAM**

GRADING POLICY

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

Attendance & Class Participation	20%	
Quizzes	10%	
Homework	10%	
Term Exams (average 3 exams)	30%	
Final Exam	30%	
Social Events, CIM Activities	5%	Based on Min. 4 events, and Proof of Attendance. EXTRA POINTS.

Letter grades will be assigned based on the following scale

A	90 - 100
B	80 – 89
C	70 – 79
D	60 – 69
F	0 - 59

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

STUDENT BEHAVIOR

- No eating 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 head phones can be worn in class.
- Unless the professor allows the use during lecture, laptops should be closed during lecture.
- **Class time should be participative. You should try to be part of a discussion**