CIM 305 – Concrete Applications II

COURSE NUMBER	CIM 305
COURSE NAME	Concrete Applications II
COURSE STRUCTURE	(3-0-3) (lecture hr/wk - lab hr/wk – course credits)
COURSE DESCRIPTION	This course is the second of two courses designed to provide a detailed study of the many applications of concrete. This course is a continuation of CIM 210 and teaches students how to diagnose and prevent problems related to concrete production, testing, construction, and performance. Students identify causes of fresh and hardened concrete problems such as fast and slow setting, air content variations, low strength, cracking, and scaling.
PREREQUISITE(S)	CIM 210
COREQUISITE(S)	CIM 310
REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Required
REQUIRED MATERIALS	Main Text: **Concrete Repair and Maintenance Illustrated, Problem analysis, Repair Strategy, and Techniques, Peter Emmons (Online free pdf).** Besides, **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. Define and recognize concrete behavior and its use. 2. Understand the properties and performance of concrete and how to evaluate it and decide its status. 3. Choose the best repair techniques and define its applicability. 4. Be aware of the issues associated with concrete repair. 5. Define safety practices.
CLASS TOPICS	Concrete basics, concrete sustainability, concrete behavior, concrete evaluation, concrete troubleshooting, concrete ingredients, various field visits, guest speakers, concrete construction, concrete safety, cement and SCM materials, admixtures, aggregates, strengthening and stabilization, Protection, concrete reinforcing, concrete formwork, and work ethics.
STUDENT OUTCOMES	The Course Learning Outcomes support the achievement of the following CIM Program Outcomes. 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 COODINATED BY	Dr. M. Mahgoub

CLASS HOURS

Monday -lecture 6:00 – 9:00 PM CKB 330

OFFICE HOURS (GITC 2511)

Monday 4:00 AM – 6:00 PM

Or by appointment: **(973) 596-6081** or **mahgoub@njit.edu**

COURSE OUTLINE

Week	Topic
1	Course Introduction & Overview Concrete Problems
2	Concrete Behavior
3	Concrete Behavior
4	Concrete Evaluation
5	Concrete Evaluation
6	Surface Repair
7	Surface Repair
8	Spring Break - No class
9	Midterm Exam
10	Surface Repair
11	* Strengthening and Stabilization
12	Strengthening and Stabilization
13	Protection
14	Protection
15	Class Presentations and Final Exam Review

GRADING POLICY

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

Homework	15%
Final Presentation and Report	20%
Quizzes	15%
Mid-Term Exam	20%
Final Exam	30%

Letter grades will be assigned based on the following scale

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

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

STUDENT BEHAVIOR

- No eating is allowed at the lectures.
- 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 turned off during lecture.
- Class time should be participative. You should try to be part of a discussion