CET 413 – ENVIRONMENTAL SCIENCE

COURSE NUMBER CET 413-102

COURSE DESCRIPTION ENVIRONMENTAL SCIENCE

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

COURSE DESCRIPTION An introduction to construction-related environmental science topics, including basic environmental chemistry, geology, ground water hydrology, basic air quality, surface water run-off, erosion and sedimentation control, indoor air quality, and vibration analysis. Case studies cover various construction activities with respect to their effect on the environment and the manner in which they can be controlled

PREREQUISITE(S) Prerequisite: CET 313,314 Construction Procedures I & II, Construction Testing CET 431, Hydraulics

COREQUISITE(S) None

REQUIRED MATERIALS Basic Environmental Technology - Water Supply , Waste Management, And Pollution Control By Jerry R. Nathanson (Latest Edition)

MANDATORY FIELD TRIP Nutley Park (Based on Availability)

COURSE OBJECTIVES By the end of the course students should be able to:

1. Understand the design of Hydrologic Systems
2. Apply hydraulics and Fluids mechanics to construction systems
3. Recognize Environmental Conditions on a Construction Site
4. Apply a Life Long Learning Skills

CLASS TOPICS Hydrology, Hydraulics, Water Pollution, and Stormwater Management

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

Outcome b - An ability to apply current construction knowledge, adapt emerging applications of mathematics, science, engineering and technology

Outcome f - An ability to identify, analyze, and solve technical problems

Outcome k- A commitment to quality, timeliness, and continuous improvement

GRADING POLICY

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

Homework/Sample Problems	20%
Tests	25%
Field Trip/Papers/Projects	25%
Final Exam	30%

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 closed book and closed notes. A formula sheet written by the student will be accepted in accordance with the instructor's limitations.

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. Copy all of your work before submitting!!

Homework is **due the week following the date they are assigned (see syllabus), and must be given to the instructor.** The homework must show how you derived the answers. They will not count towards your final grade if **they are turned in more than one week late**. Homework must be handed in individually through moodle. Sample Problems are due on the date of the exam and will 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
PROGRAM COORDINATOR

Dr. D. Washington
Prof. John Wiggins

COURSE OUTLINE

Week	Date	Textbook	Assignment	Topics
1.	No class			
2.	1-24	Read Chapter 1	Homework assignment in Moodle for week 1	Review of Course Outline and Overview - Biology and Math for Science Application
3.	1-31	Read Chapter 2	Homework assignment in Moodle for week 3	Library Orientation
4.	2-7	Read Chapter 3		Hydrology
5.	**2-14**			Hydrology **Test #1**
6.	2-21	Read Chapt. 4	Homework assignment in Moodle for week 6	Water Quality
7.	2-28			Water Quality
8.	**3-7**	Read Chapt. 5	Optional Homework assignment in Moodle for week 8	Water Pollution **Test #2**
9.	3-14	SPRING BREAK MARCH 13TH TO 19TH, 2011		
10.	3-21	Read Chapt. 9	Optional Homework assignment in Moodle for week 10	Industrial Speakers -TBA
11.	3-28	Read Chapt. 14		Industrial Speakers - TBA
12.	**4-4**			Sound **Test# 3**
13.	4-11			Water Pollution
14.	4-18			Storm Water Management
15.	4-25			Storm Water Management
16.	5-2			Class Presentation of Term Project and extra credit -Final Review

CLASS HOURS

Monday 6:00 PM – 9:05 PM KUPF 108

OFFICE HOURS (GITC 2504)

Monday 5 :00 PM – 6:00 PM

Or by appointment: **(973) 642-7915** or **washd@njit.edu**

HOME PAGE: HTTP://WEB.NJIT.EDU/~WASHD/

PRESENTATIONS AND REPORT

During the last period, on week 15 or 16, you will be asked as a group, to give a 5-10 minute discussion on one of the topics listed below. The termproject **MUST** be submitted through turnitin.com at the posted deadline. The paper will be double space with 1 inch margins. The powerpoint should be given to the professor through moodle after the class. You will need to tell me what topic will be chosen at the posted time in moodle. While this is a group presentation, each person must participate in the presentation.

The report should include an introduction, description of the topic and relevant topics. It must also include at least 10 references with journal paper, book, scholarly articles from the databases and scholarly web items. The written report should not be in overhead style (i.e. bulleted) but must be written as a regular report.

PROJECT SUMMARY (Can also be used as an Extra Credit for individual students)
[NOTE: This option includes a presentation as well.]

Term Project Submission Dates

Jan 31st – Library instruction and research
Feb 14th – Group leader submits the topic and the list of references to Dr. Washington and Haymwantee Singh via moodle
March 21st – Draft of paper submitted with list of references to turnitin.
April 18th – Final draft of paper