Spring 1-1-2020

CET 413-002: Environmental Science

David Washington

CET 413–ENVIRONMENTAL SCIENCE

COURSE NUMBER	CET 413-002
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)	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)
SUPPLEMENTARY MATERIALS	Fluids Text Book
MANDATORY FIELD TRIP	**TBA**
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	Biology, 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. (Related CLO 1 & 2) Outcome b - An ability to apply current construction knowledge, adapt emerging applications of mathematics, science, engineering and technology. (Related to CLO 2) Outcome c - an ability to conduct, analyze and interpret experiments, and apply experimental results to improve construction processes (refer to CLO 1thru 2 &3) Outcome d - An ability to apply creativity in the designs of systems, components or processes appropriate to program objectives. (Related to CLO 1 & 2) Outcome e -an ability to function effectively on teams (refer to CLO 3 & 4) Outcome f - an ability to identify, analyze and solve technical problems (refer to 1 & 2) Outcome k - A commitment to quality, timeliness and continuous improvement. (Related to CLO 3 & 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 1 & 2)

GRADING POLICY

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

Homework, Sample problems and Quizzes	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 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:

Homework is due the week following the date they are assigned (see syllabus), and must be submitted in pdf format on Canvas. 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 Canvas. Sample Problems are due on the date of the exam and will turned in through Canvas.

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.	21-Jan 24-Jan	Read Chapter 1	Homework assignment in Canvas for week 1	Course Outline and Overview
2.	28-Jan 31-Jan			Biology and Math for Science Application
3.	4-Feb 7-Feb		Homework assignment in Canvas for week 3	Biology and Math for Science Application
4.	11-Feb 14-Feb	Read Chapter 2		Hydrology
5.	18-Feb 21-Feb			**Test #1** Hydrology
6.	25-Feb 28-Feb	Read Chapt. 4	Homework assignment in Canvas for week 6	Water Quality
7.	3-Mar 6-Mar			Water Quality
8.	10-Mar 13-Mar	Read Chapt. 5	Optional Homework assignment in Canvas for week 8	**Test #2** **Water Pollution**
9.		SPRING RECESS		MARCH 15TH TO 21st, 2020
10.	24-Mar 27-Mar	Read Chapt. 9	Optional Homework assignment in Canvas for week 10	Water Pollution
11.	31-Mar 3-Apr	Read Chapt. 14	Monday, April 8th – Last Day to Withdraw	Water Pollution
12.	7-Apr 10-Apr			**Test #3** Industrial Speakers -TBA
13.	14-Apr 17-Apr		Good Friday April 19th School Closed	Industrial Speakers -TBA
14.	21-Apr 24-Apr			Storm Water Management
15.	28-Apr 1-May			Sound
16.	5-May 8-May		**Tuesday May 7th, Follows A FRIDAY Schedule**	Miscellaneous Topics Finals Begin

CLASS HOURS

TUES, FRI 2:30 PM – 3:50 PM KUPF 103

OFFICE HOURS (GITC 2504)

Tuesday and Friday 12:00 PM – 1:00PM 12:30 PM – 1:30PM

Or by appointment: **(973) 642-7915** or **washd@njit.edu** home page: http://web.njit.edu/~washd/