

**CE 370 – INTRODUCTION TO ENVIRONMENTAL ENGINEERING**  
**Fall 2010**

**Lecture:** 10:10 – 11:00 am MWF, 102 Leonard

**Instructor:** **Dr. Stephanie Velegol**

406A Sackett Building; [sbv1@psu.edu](mailto:sbv1@psu.edu)

**Office hours:** *Monday 1 pm – 2:30 pm*

*Tuesday 12:30 pm – 2:30 pm (only on Tuesdays before homework is due)*

If these times don't work or you have any other questions, feel free to e-mail me.

**TA:** **Lance Larson**

Basement of Sackett, 5A-2, (grad offices), [ln15053@psu.edu](mailto:ln15053@psu.edu)

**Office hours:** *Tuesday 6:30 – 8 PM*

**Textbook:** Introduction to Environmental Engineering and Science, 3<sup>rd</sup> edition, 2008, G.M. Masters, W.P. Ela

**Course Objectives:** 1) Develop students' environmental literacy, and an appreciation for the environmental impacts of their future careers; 2) Prepare students for the Environmental Engineering section of the FE/EIT exam by introducing them to the basic principles of science and engineering pertinent to the natural and engineered environment; and 3) Discuss the various classes of environmental pollution and introduce a variety of traditional and alternative methods available to prevent and remediate their presence.

**Topics Covered in Class:** We will learn the basics of environmental engineering by looking at the challenges and solutions to a number of real environmental problems. Here is a partial list:

- Acid Mine Drainage (especially as it relates to I99)
- PCB contamination in the Hudson River
- Marcellus Shale drilling and water quality issues
- Water and wastewater treatment
- Groundwater remediation
- Eutrophication in the Chesapeake Water Shed
- LEED designed buildings
- Clean energy and Global climate change

**Lecture materials:** Lecture notes will be posted on Angel by 5PM the afternoon before the class period. No class notes will be handed out in class. I suggest that you print out the outlined notes and bring them to class. Completed notes will not be posted and you will be responsible for filling in the blanks on the notes.

**Guest Lectures:** We may have a few guest lectures throughout the course. Questions regarding the guest lecturers will be included on weekly quizzes.

**Grading:**

<b>Exam 1</b>	<b>23% Wednesday, October 6<sup>th</sup>, 8:15 – 10:15 PM, 10 Sparks</b>
<b>Exam 2</b>	<b>23% Wednesday, October 27<sup>th</sup>, 8:15 – 10:15 PM, 10 Sparks</b>
<b>Final Exam</b>	<b>24% (During Finals Week)</b>
<b>Quizzes</b>	<b>15% (~12 quizzes due Wednesdays, lowest 2 dropped)</b>
<b>Homework</b>	<b>15% (~ 8 per semester due Wednesdays)</b>

The standard grading system will be used to assign final letter grades in the course (A = 93 – 100%; A- = 90 – 92%; B+ = 87 – 89%; B = 83 – 86%; B- = 80 – 82%; C+ = 76 – 79%; C = 70 – 75%; D = 60 – 69%; F = 0 – 59%).

**Homework:** Homework assignments will be due on Wednesdays. Due dates will be announced during lectures and posted on Angel. There will be approximately 8 homework assignments. There are 2 options for turning in homework:

1. You may bring the homework to class on Wednesday and turn it in before the end of class
2. You may scan your homework assignment and hand it in electronically via homework drop boxes on Angel by noon on the Wednesday it is due. Please convert the scan to a .pdf and make sure the scan size is less than 5 MB.

If the homework assignment is handed in 12 hours after the time it is due 25% will be docked. If the homework is handed in 12 – 24 hours late, 50% will be docked. Homework will not be accepted after 1 day. Homework problems should be written neatly with a **box placed around the final answer**. You must show your work to receive credit. Neatness counts – illegible or messy solutions will be penalized at the discretion of the grader. Solution sets will be placed on Angel after all assignments have been received.

**Quizzes:** There will be weekly quizzes posted every Friday afternoon on Angel. You will need to take this quiz before class on the following Wednesday. The 2 lowest quiz grades will be dropped. The quizzes will serve many purposes. The questions will be:

- Usually qualitative in nature – to test your conceptual understanding
- On material covered during the class period
- On posted articles
- Similar to questions that will be found on the exams.

**Extra credit:** You may receive extra credit for developing up to 5 power point slides on a topic that you learned outside of class that relates to the class material. Each assignment will add up to 1 point to your final grade in the class (For example, if your final grade in the class is an 89% and you receive a 100% on your extra credit presentations you final grade will be a 90% in the class.) You should hand in all extra credit assignments in the drop box on Angel. You could find a topic any number of places including: a seminar at Penn State, a newspaper article, a journal article, a documentary or a tour.

The first draft of the extra credit presentation is due in the drop box before Wednesday November 10<sup>th</sup>. I will give you a grade on this first draft by Wednesday November 18<sup>th</sup> and you can submit a revised final draft before Wednesday December 1<sup>st</sup>.

Requirements for extra credit: This presentation should be interesting and concise. The first slide should be a description of the problem (i.e. water shortage in Arizona, contaminated water in Africa, etc.). The following slides should then each describe one solution to the problem. Each slide should include one image (photo or diagram) and 3 bullet points with at least *20 point font*.

**Exams:** Evening exam will be given twice during the semester (to accommodate both sections). The dates and locations are listed below:

<b>Exam 1</b>	<b>23% <u>tentatively</u> Wednesday, October 6th</b>
<b>Exam 2</b>	<b>23% <u>tentatively</u> Wednesday, November 3<sup>rd</sup></b>
<b>Final Exam</b>	<b>24% (During Finals Week)</b>

Exams will be based on material from the textbook, assigned reading, lecture notes, and homework. You may bring 1 “cheat sheet” to the exam. This sheet should be 8 ½ x 11 and you can use both sides. Makeup exams will only be arranged for students with valid excuses provided at least one class period before the scheduled exam. If you have a valid conflict, please let me know as soon as possible. The final will be cumulative but will focus mostly on the last section of the course.

**Class Participation:** Throughout the lectures we will have discussions and group exercises. This makes the class more interesting for everyone! Please share your thoughts, questions and concerns.

**Academic Honesty:** Students are encouraged to work together on homework assignments; however, original solutions are required. If cheating or copying is suspected, all students involved will receive a zero for that assignment. **Cheating or plagiarism** on any graded activity (homework, quiz, exam, report, etc.) will be penalized with a minimum of a zero points for the assignment, and up to a **failing grade** in the class. I will also place academic integrity violation reports in the offenders’ permanent files. If you are not familiar with what constitutes an academic integrity violation, I encourage you to read Penn State’s policies on the following web site: <http://www.engr.psu.edu/CurrentStudents/acadinteg.asp>.