Syllabus for EVE 290.001  
*Introduction to Environmental Engineering*  
**Fall Semester 2009**  
**TR**  
9:25 am to 10:40 am  
Room SEB 144

**Instructor:** Dr. Richard O. Mines, Jr., P.E., Professor and Director MSE & MS Programs  
Department of Environmental Engineering

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**Textbooks and Supplies:**  

**Catalog Description:** An overview of the major topics in environmental engineering, including water quality and treatment, solid and hazardous waste management, and air pollution; mass and energy balance principles; pollutant fate and transport characteristics; ethical implications of global business practices.

**Web site:** http://egrweb.mercer.edu/eve290/default.htm

**Course Learning Objectives:** Upon successful completion of this course, you should be able to do the following:

1. Perform materials and energy balances around simple environmental processes and systems (Outcomes #1 and #2).
2. Identify environmental engineering problems associated with air, land, and water environments (Outcome #1).
3. Select, analyze, and design basic treatment systems for environmental problems identified in air, land, and water environments (Outcome #3).
4. Perform a technical literature review on some contemporary, global issue related to environmental engineering and communicate findings in a 5- to 10-page technical paper (Outcomes #6 and #7).

**Prerequisites:** CHM 111 and MAT 191.

**Course Content (Tentative):**
### Course Expectations:

1. **Attendance.** Class attendance is mandatory and students should be on-time. Students missing classes are responsible for material covered in the lectures and for any announced changes to the schedule. More than three absences will result in a final grade penalty of 1 point per absence. If you are more than 10 minutes late to a lecture, please do not enter the classroom. **Students missing examinations** will receive a 'zero' grade except under very special circumstances (hospitalization, member of armed forces involved in mobilization, etc). Athletes who miss class due to scheduled events in which they are officially participating are expected to make arrangements **in advance** of their absence.
2. **Homework problems are noted on the course syllabus and will be turned in at the beginning of class on the due date.** Homework will be prepared in teams. **Late assignments will receive a grade of zero.** All assignments shall be presented in a professional manner on engineering paper. Name, course number and section, and date shall be listed at the top of each page. Each problem should contain a problem statement: what is given and what is to be found, followed by a logical stepwise solution. Work shall be presented on the front side of the paper and not on the back. Figures or diagrams should accompany the solution if necessary; and note all assumptions made. Answers should be "boxed-in" and reported to 3 significant figures. You cannot "make up" experiential learning and to perform well in the course, it is essential that you complete work homework problems. For those whose handwriting is not good; I suggest that you consider printing out your results using the Equation Editor in Word.

3. **Work for Grade:** Anything that you turn in for grade should reflect professionalism and something that you would be proud of turning in to your boss at work.

4. **Technical Paper:** A 5- to 10-page, double-spaced “technical paper” will be prepared individually by each student. Use a 12-point font and write in third person, past tense. A current topic in or related to environmental engineering should be selected and approved by the instructor. A minimum of five quality-refereed journals should be referenced in the paper to qualify for a grade of 70. Use format of the ASCE Journal of Environmental Engineering. Late papers will receive a grade of zero. Paper is due November 17, 2009 at 9:25 AM.

5. **Exams:** There will be a mid-term and final exam. They will be CLOSED BOOK and CLOSED NOTES. The format may be a combination of multiple choice, discussion, problems, acronyms, and definition of terms. Approximately 85 to 90% of the problems will be based on lectures, readings, and instructor’s notes. Approximately, 10 to 15% of the problems will contain questions that require students to synthesize and apply information to new situations. The final exam is the major means of assessing student performance in the course. ABET 2000 requires professors assess student performance.

6. **Class preparation:**
   a) Read and study materials in *Introduction to Environmental Engineering,* Richard O. Mines, and Laura W. Lackey before coming to class.
   b) Work the assigned homework problems and seek help from the instructor when you don’t understand. Don’t wait until it’s too late to get help!

7. **Grading** encompasses every aspect of the course, from participation through final products. You can assume that every task requested directly or indirectly factors into your grade. Regular feedback will be given on documents handed in. The final grade will be determined as follows: homework (20%), tech paper (20%), mid-term exam (30%), and final exam (30%). Your final grade will be calculated by dividing the total number of points earned by the total points possible. The following weighted average numerical grade will determine each student’s final letter grade: A = ≥ 90; B+ = ≥ 85 but < 90; B = ≥ 80 but < 85; C+ = ≥ 75 but < 80; C = ≥ 70 but < 75; D = 60 but < 70; and F = < 60. Your final grade will depend on your interest and organization.

8. You are encouraged to schedule a **conference** at any point that you need it. The best way to reach me is through e-mail. I will check my e-mail once each day and generally this will be in the mornings.

9. Out of courtesy for all those participating in the learning experience, all cell phones and pagers must be turned off before entering any class, lab, or formal academic or performance event.
10. The **honor code** provisions as outlined in the *Bulletin* and in the student handbook, *The Lair*, will be assumed for everyone. It should be clear from class discussion, which projects will be collaborative and which ones must be individual. When in doubt, please ask to avoid potentially embarrassing situations. Plagiarism is a violation of the honor code and is prohibited. All exams will be **closed book** and **closed note**. You will not be allowed to consult any references.

11. This syllabus is subject to change.

**Electronic Communication:**
Electronic communication is an important adjunct to face-to-face communication, including from professor to students, students to professor, and students to students. You must have regular access to your e-mail. If you do not have an active e-mail address on the first day of class, please secure one. Access to the Web and to the Internet is also integral to the class work. A number of laboratories on campus will provide access, in addition to EGC 102 EGC 116-A and EGC 116-B.

**Important Additional Information:**
“Students with a documented disability should inform the instructor at the close of the first class meeting or as soon as possible. If you are not registered with Disability Services, the instructor will refer you to the Student Support Services office for consultation regarding documentation of your disability and eligibility for accommodation under the ADA/504. In order to receive accommodations, eligible students must provide each instructor with a “Faculty Accommodation Form” from Disability Services. Students must return the completed and signed form to the Disability Services Coordinator on the 3rd floor of the Connell Student Center. Students with a documented disability who do not wish to use academic accommodations are strongly encouraged to register with Disability Services and complete a Faculty Accommodation Form each semester, also. For further information, please contact Carole Burrowbridge, Disability Services Coordinator, at 301-2778 or visit the website at [http://www.mercer.edu/stu_support/swd.htm](http://www.mercer.edu/stu_support/swd.htm).”

**From the ASCE Code of Ethics**
Engineers uphold and advance the integrity, honor, and dignity of the engineering profession by:
1. Using their knowledge and skill for the enhancement of human welfare and the environment;
2. Being honest and impartial and serving with fidelity the public, their employers and clients;
3. Striving to increase the competence and prestige of the engineering profession; and;
4. Supporting the professional and technical societies of their disciplines.

**Program Outcomes:** Students at the time of graduation will know and be able to do the following:
1. Apply mathematics and science principles to the solution of engineering problems.
2. Apply appropriate breadth and depth of skills in identification of engineering problems.
3. Apply appropriate breadth and depth of skills in engineering design and analysis of engineering problems.
4. Design and conduct experiments and analyze data.
5. Function on interdisciplinary teams.
6. Communicate to both specialized and public audiences in a variety of modes, i.e., writing, presentation, etc.
7. Relate the practice of engineering to global contemporary issues, to professional ethics, and to the need for lifelong learning.
8. Contribute to sustaining and improving community.
Acknowledgment of Receipt of Course Syllabus

EVE 290.001 Introduction to Environmental Engineering

Fall Semester 2009

The undersigned hereby acknowledges receipt of a copy of the course syllabus for EVE 290.001 Introduction to Environmental Engineering for the 2009 fall semester. I have received and read the requirements for EVE 290.

Signature of Student

Date

Signature of Instructor

Date