

ENVIRONMENTAL ENGINEERING
CIVE 3331 (Section#01609)
FALL 2003

11:30 a.m. – 1:00 p.m. on Tuesdays and Thursdays at E218 – D3

- Professor:** Dr. Shankar Chellam – Room N-113 Building D.
Tel. 713-743-4265, Fax: 713-743-4260, E-mail: chellam@uh.edu
- Textbook:** “Introduction to Environmental Engineering and Science” 2nd Ed. by Gilbert M. Masters, Prentice Hall. *Please bring the textbook to every class.*
- Course objectives:**
1. Impart knowledge of the current issues in environmental science and engineering.
 2. Teach fundamental concepts of environmental systems, especially related to pollutant treatment (purification) and migration.
 3. Help students learn how to approach environmental engineering problems and design concepts in a systematic and organized fashion.
- Performance criteria:** By the end of the semester, the students are expected to:
1. Use the world-wide-web and libraries to find legislative and technical documents relevant to environmental engineering.
 2. Be capable of writing critical essays on selected environmental issues.
 3. Conceptually design and select appropriate treatment processes for pollutant removal or purification.
 4. Apply material balance equations in the analysis of environmental engineering problems.
 5. Analyze data to support engineering decisions.
- Office hours:** Tue. and Thu.: 1:30 – 5:30 p.m.
Mon. and Wed.: 4:00 – 5:00 p.m. and Fri. by appointment.
I will have an open-door policy. However, I prefer that you make appointments.
- Topics:** Introduction to Environmental Engineering and Science
Airborne and waterborne pollutants
Transformation processes; chemical reactions including stoichiometry, equilibrium, kinetics, and partitioning
Transport phenomena; general materials balances, mass and particle transport,
Water quality engineering; oxygen demand, pollution prevention and treatment
Air quality engineering; sources, pollution control and treatment, models
Solid and hazardous wastes; storage and resource recovery
- Grading:**
- | | |
|-----------------------|-----|
| Exam 1 (in class) | 25% |
| Exam 2 (in class) | 25% |
| Final Exam (in class) | 35% |
| Homework assignments | 15% |
- Exams may not be made up. Students with adequate documented reason(s) (e.g. a car accident) for missing one exam may take the final exam at 60% weight. The final exam will be on Thursday, December 11th from 11 a.m. – 2 p.m.
- Homeworks:** I expect every student to turn in a clean, well-written copy of his or her homework. You can work together, but I will not accept any copying. Unless otherwise specified, you will have one week to complete each homework. They will be due to me at the start of each class. Class participation is an integral component of undergraduate education and will be considered favorably for borderline grades.
- Catalog Listing:** **Prerequisites.** Chemistry including fundamental laws, atomic and molecular structure, states of matter, equilibrium, kinetics, and elementary inorganic and organic chemistry. (CHEM 1332 and CHEM 1112)
Description. Introduction to air, water, and environmental pollutants, and concepts of design for treatment.

Students with special needs should contact the Student Service Center, Room 307 (Tel. 713 743-5400).