

COURSE SYLLABUS

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|---|---|
| Course Number and Title: | CIVEN 5823 Environmental Risk Assessment and Management |
| Class Times: | Monday 4:30 to 7:10 PM ES 213A |
| Instructor: | William F. McTernan 405/744-9308 109A Engineering South FAX: 405-744-7554 email: william.mcternan @okstate.edu |
| Course Objectives: | To provide the student with an introduction into the theory, techniques and background of Risk Assessment and Management as applied to environmental issues. |
| Grading: | 90 - 100 A 80 - 89 B 70 - 79 C 60 - 69 D Below 60 F |
| Final Grade: | Homework and projects 30% Seminar(s) 20% Term Paper 25% Final exam 25% |
| Attendance Policy: | You are responsible for materials presented in class as well as for all assignments made. I will not take roll routinely. |
| Policy for Homework and Test Makeup: | Late assignments will not be graded. There will be no make-up exams without prior approval by the instructor. |
| Drop Policy and Date: | Stated at: http://osu.okstate.edu/acadaffr/aa/syllabus.htm |
| Academic Dishonesty: | Any student who is academically dishonest on any assignment will receive a grade of "F" for the assignment. A second occurrence of dishonesty will result in expulsion from the course. |

Textbooks and Software:

To be provided to students.

Office Hours:

Monday 2:30- 3:30 PM and by appointment.

Final Examination:

Monday December 8, 2008, 4:30- 7:50 PM
ES 213A

Tentative Course Outline

| <u>Topic</u> | <u>Schedule</u> |
|---|-----------------|
| Course overview and introduction | week 1 |
| Probability Review | weeks 1- 2 |
| EPA Risk Assessment Protocol | weeks 3-5 |
| Available Assessment Tools | weeks 3-5 |
| Environmental Modeling | weeks 6-10 |
| Introduction | |
| Model hierarchy | |
| Model and parameter uncertainty | |
| Applications to Risk Assessment | |
| Probabilistic Modeling | weeks 10-14 |
| Monte Carlo Simulation | |
| Kriging and related topics | |
| Unconditional and Conditional Simulation | |
| Bayesian analysis | |
| Subjective probabilities | |
| Decision Analysis Modeling | |
| Other Topics | weeks 14-15 |
| Ecological Risk Assessment | |
| Optimization methods | |
| Type I and II errors as applied to Risk Assessment and Management | |
| Project Presentations | weeks 15 and 16 |