Ecotoxicology
Biology 5868
Spring 2009

Syllabus

Instructor:
Patrick K. Schoff, Ph.D.
Center for Water and the Environment
Natural Resources Research Institute
5013 Miller Trunk Hwy
Duluth, MN 55811

720-4368
pschoff@nrri.umn.edu

Campus Office:
Room 253B, SSB
phone 726-6319

Office Hours:
Mondays, 12:00 - 1:00
Wednesdays, 12:00 - 1:00
- or by appointment on campus or at NRRI

Text:

Course Goals:
Ecotoxicology is the study of effects of toxicants on constituents of the biosphere at levels of biological organization ranging from biochemical and molecular to ecosystems, landscapes, and global. The goal of this course is to provide students with background knowledge concerning environmental toxins, methods to study the nature and extent of environmental contamination, and techniques to quantify toxicant effects on individual organisms and populations. The course also aims to provide a background on the existing regulatory framework that governs environmental contaminants, and mechanisms used by scientists, managers, and regulators to ameliorate harm and protect ecosystems.

Course Outcomes:
Students in Ecotoxicology will:
1. Learn and apply the basic concepts of toxicology in an ecological framework.
2. Become familiar with the interactions of biology, chemistry, biochemistry, and other sciences within an ecotoxicological context.
3. Learn the appropriate application and interpretation of biomarker assays and toxicity tests.
4. Learn the basis for toxicological effects at multiple levels of biological organization.
5. Become familiar with ecological risk assessment.
6. Be able to assess and understand current ecotoxicological issues.

**Course Format and Student Expectations:**

*Lectures.* The class will consist primarily of lectures conducted by faculty or outside speakers. The text will be used extensively, and reading the assigned pages prior to class is required. Occasionally, other reading material will be assigned, and will be made available in a timely manner. When possible, assigned reading material will be available in pdf format on the Ecotoxicology webpage ([www.d.umn.edu/~pschoff](http://www.d.umn.edu/~pschoff)).

*Homework, testing and attendance.* Student performance will be evaluated using periodic homework assignments, quizzes, and a final exam. Attendance is expected for all class periods, and quizzes will not necessarily be announced in advance. There is no provision for make-up quizzes and no extra-credit assignments will be available. However, if an absence is anticipated and arrangements are made prior to the scheduled class period, alternative arrangements can be made. Absences due to health or other unanticipated circumstances will be dealt with on an individual basis. Unless otherwise noted, homework will be due (either electronically or on paper) at the beginning of the pertinent class period. Late homework submission will result in a scoring reduction.

*Project.* All students will participate in a major project focused on the application of ecotoxicological concepts to current issues. The project will be prepared in teams, but grading will depend primarily on individual contribution. Performance and grading landmarks will include outline, abstract, draft and final manuscript preparation, as well as project presentation.

**Grading:**

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>40%</td>
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<tr>
<td>Homework</td>
<td>13%</td>
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<tr>
<td>Project</td>
<td>30%</td>
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<tr>
<td>Final exam</td>
<td>17%</td>
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**Access for Student With Disabilities:**

Individuals with any disability, either temporary or permanent, which might affect their ability to perform in this class, are encouraged to inform the instructor at the start of the semester. Adaptation of methods, materials, and/or testing may be modified as required to provide for equitable participation.

**Promotion of Bias-Free Instruction:**

The University of Minnesota is committed to the practice that all of its students shall have equal educational opportunities. The University expressly forbids discrimination on the basis of race, color, gender, sexual orientation, disability, veteran’s status, ethnicity, religion, creed, national origin, or marital status. If you believe that your biology instructor has not followed this policy, you are invited to bring this to the attention of the Biology Department Head (211 Life Science, 726-7263) or to the Associate Dean of the College of Science and Engineering (140 Engineering, 726-7585). Your conference will be kept confidential.