

**Department of Entomology
College of Agriculture and Environmental Sciences
University of Georgia**

**ENTO/EHSC 6060 (3 credit hours)
Ecotoxicology
Fall, 2007**

Course Information

Instructor: Jay Overmyer
Office Location: Room 109, Riverbend Research
Phone: 706-542-1184
Email: jayo@uga.edu
Office Hours: by appointment

Course Meeting Time and Location

Building: Poultry Science
Room: 242
Day: Monday, Wednesday, Friday
Time: 11:15-12:05

Textbooks and Other Required Course Material

Text: *Fundamentals of Ecotoxicology* Second Edition, MC Newman and MA Unger (eds), 2003 Lewis Publishers, Boca Raton, FL.

Course Description

The **goal** of this class is to introduce students to the various aspects of the field of Ecotoxicology with an emphasis on the toxic effects of contaminants on non-human organisms. Students will achieve a basic understanding of the types of contaminants impacting ecological systems, the fate and transport of these contaminants in the environment, and the effects these contaminants have on organisms at levels of biological organization ranging from biochemical reactions in the cell to ecosystem function. Students will also lead discussions and review papers in the literature that relate to topics covered in class.

Course Learning Objectives

Learning objectives:

1. The student will be able to identify sources and types of contaminants affecting ecosystems.
2. The student will be able to predict the fate of environmental contaminants based on chemical-physical properties of the contaminants.

3. The student will learn how chemicals are absorbed, metabolically transformed and excreted.
4. The students will learn ways to assess toxic effects of contaminants at the biochemical, cellular, individual, population, community and ecosystem level.
5. The students will learn the components of an ecological risk assessment

Course Requirements for Grading Purposes

Tests: 3 tests (50%)

Quizzes: 10 quizzes on lecture materials and discussion papers when applicable (20%)

Research Paper: A 5-10 page paper on an Ecotoxicological topic (15%)

Final Exam: (15%)

Topical Outline

8/17: Welcome

8/20: Introduction to Ecotoxicology

8/22: Introduction to Ecotoxicology

8/24: Chemical Fate

8/27: Chemical Fate, Organic contaminants, quiz 1

8/29: Organic contaminants

8/31: Organic contaminants, Inorganic contaminants

9/03: **NO CLASS – labor day**

9/05: Inorganic contaminants, Bioaccumulation

9/07: Paper discussion, quiz 2

9/10: Bioaccumulation, paper topic due

9/12: Bioaccumulation

9/14: Bioaccumulation

9/17: Factors influencing bioaccumulation, quiz 3

9/19: Factors influencing bioaccumulation

9/21: Test 1

9/24: Paper discussion 2

9/26: Bioaccumulation from food

9/28: Bioaccumulation from food

10/01: Molecular effects and Biomarkers, quiz 4

10/03: Molecular effects and Biomarkers

10/05: Molecular effects and Biomarkers

10/08: Molecular effects and Biomarkers, quiz 5

10/10: Paper discussion 3

10/12: Molecular effects and Biomarkers, Cells, Tissues, and Organs

10/15: Cells, Tissues, and Organs, quiz 6

10/17: Test 2

10/19: Sublethal effects

10/22: Sublethal effects

10/24: Sublethal effects, Lethal effects

10/26: **NO CLASS – fall break**

10/29: Paper discussion 4, quiz 7

10/31: Lethal effects

11/02: Lethal effects

11/05: Lethal effects, Rough draft due
11/07: Populations
11/09: Populations, quiz 8
11/12: NO CLASS - SETAC
11/14: NO CLASS - SETAC
11/16: Populations
11/19: Test 3
11/21: NO CLASS - Thanksgiving
11/23: NO CLASS - Thanksgiving
11/26: Paper discussion 5
11/28: Communities and Ecosystems
11/30: Communities and Ecosystems
12/03: Landscape and Global, quiz 9
12/04: Landscape and Global, Risk assessment
12/05: Risk assessment, quiz 10
Final Exam: Monday December 10, 12-3:00 pm

*Schedule is subject to change. Students will be notified of changes as far in advance as possible

Grading Policy

100-95 (A), 94-90 (A-), 89-87 (B+), 86-83 (B), 82-80 (B-), 79-77 (C+), 76-73 (C), 72-70 (C-), 69-60 (D), < 60 (F)

Make-Up Policy

Instructor must be notified in advance if missing graded work. Emergency situations will be dealt with on a case by case basis.

Attendance Policy

Attendance is expected for all class periods. Participation in the class is expected.

University Honor Code and Academic Honesty Policy

All academic work must meet the standards contained in "A Culture of Honesty." All students are responsible to inform themselves about those standards before performing any academic work.

Students with Disabilities

Students with disabilities who require reasonable accommodations in order to participate in course activities or meet course requirements should contact the instructor or designate during regular office hours or by appointment.

General Disclaimers

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.