

EVSP594

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Course : EVSP594 **Title :** Environmental Toxicology

Length of Course : 8

Prerequisites : N/A **Credit Hours :** 3

Description

Course Description: This course presents an introduction to the dynamics of ecosystems and the effects of toxic substances on its living and nonliving components, and incorporating human health issues and concerns. Students will examine the regulatory framework for environmental contaminants issues and detail the federal regulations, policies, and guidelines under which current environmental remediation is done. A key aspect of the course will be the application of risk assessment principles through case studies to gain an understanding of how to develop remediation plans and restoration alternatives that meet or exceed established regulatory guidelines.

Course Scope:

This course seeks to introduce students to basics of environmental toxicology and contemporary issues in toxicology in the regulatory environment. There are no science prerequisites; however, an understanding of basic principles of environmental science, chemistry and/or physics will be helpful in easily understanding environmental toxicology concepts.

Objectives

After successfully completing this course, you will be able to:

- LO-1 Examine the origins of environmental toxicology as a science, and definitions and concepts of toxicology.
- LO-2 Distinguish pathways and mechanisms of the uptake of toxicants.
- LO-3 Detail methods of determining and documenting toxicity of various compounds.
- LO-4 Research new methods of determining and documenting toxicity of various compounds.
- LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems.
- LO-6 Analyze the environmental toxicology of organic compounds.
- LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.
- LO-8 Synthesize knowledge of toxicological principles to conduct an environmental risk assessment.

Outline

Week 1: Concepts & Definitions

Learning Objectives

LO-1 Examine the origins of environmental toxicology as a science, and definitions and concepts of toxicology.

LO-2 Distinguish pathways and mechanisms of the uptake of toxicants.

LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems

Readings

Wright & Welbourn, Chapters 1 & 2

Weekly Lesson

Assignments

Forum 1

Homework 1

Week 2: Routes & Kinetics

Learning Objectives

LO-1 Examine the origins of environmental toxicology as a science, and definitions and concepts of toxicology.

LO-2 Distinguish pathways and mechanisms of the uptake of toxicants.

LO-3 Detail methods of determining and documenting toxicity of various compounds.

LO-6 Analyze the environmental toxicology of organic compounds.

LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.

Readings

Wright & Welbourn, Chapter 3

Weekly Lesson

Assignments

Forum 2

Homework 2

Week 3: Methodological Approaches

Learning Objectives

LO-1 Examine the origins of environmental toxicology as a science, and definitions and concepts of toxicology.

LO-2 Distinguish pathways and mechanisms of the uptake of toxicants.

LO-3 Detail methods of determining and documenting toxicity of various compounds.

LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems.

LO-6 Analyze the environmental toxicology of organic compounds.

LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.

Readings

Wright & Welbourn, Chapter 4

Weekly Lesson

Assignments

Forum 3

Homework 3

Week 4: Methodological Approaches (continued)

Learning Objectives

LO-2 Distinguish pathways and mechanisms of the uptake of toxicants.

LO-4 Research new methods of determining and documenting toxicity of various compounds.

LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems.

LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.

Readings

Wright & Welbourn, Chapter 4 - review

Weekly Lesson

Assignments

Forum 4

Homework 4

Week 5: Factors Affecting Toxicity

Learning Objectives

LO-4 Research new methods of determining and documenting toxicity of various compounds.

LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems.

LO-6 Analyze the environmental toxicology of organic compounds.

LO-8 Synthesize knowledge of toxicological principles to conduct an environmental risk assessment.

Readings

Wright & Welbourn, Chapter 5

Weekly Lesson

Assignments

Forum 5

Homework 5

Powerpoint Project

Week 6: Metals & Inorganic Chemicals

Learning Objectives

LO-1 Examine the origins of environmental toxicology as a science, and definitions and concepts of toxicology.

LO-2 Distinguish pathways and mechanisms of the uptake of toxicants.

LO-4 Research new methods of determining and documenting toxicity of various compounds.

LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems.

LO-6 Analyze the environmental toxicology of organic compounds.

LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.

Readings

Wright & Welbourn, Chapter 6

Weekly Lesson

Assignments

Forum 6

Homework 6

Week 7: Organic Compounds

Learning Objectives

LO-1 Examine the origins of environmental toxicology as a science, and definitions and concepts of toxicology.

LO-4 Research new methods of determining and documenting toxicity of various compounds.

LO-6 Analyze the environmental toxicology of organic compounds.

LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.

Readings

Wright & Welbourn, Chapter 7

Weekly Lesson

Assignments

Forum 7

Homework 7

Ely Mine Summary Report

Week 8: Risk Assessment

Learning Objectives

LO-5 Assess multiple factors affecting toxicity, particularly in aquatic systems.

LO-6 Analyze the environmental toxicology of organic compounds.

LO-7 Analyze the environmental toxicology of metals and other inorganic compounds.

LO-8 Synthesize knowledge of toxicological principles to conduct an environmental risk assessment.

Readings

Wright & Welbourn, Chapter 10

Weekly Lesson

Assignments

Forum 8

Homework 8

Evaluation

Grading:

Name	Grade %
Forums	24.00 %
Forum 1	3.00 %
Forum 2	3.00 %
Forum 3	3.00 %
Forum 4	3.00 %
Forum 5	3.00 %
Forum 6	3.00 %
Forum 7	3.00 %
Forum 8	3.00 %
Homeworks	36.00 %
Homework 1 Soil and Sediment Toxicity	4.50 %
Homework 2 Drinking Water	4.50 %
Homework 3 Surface Water Toxicity	4.50 %

Homework 4 The Biotic Ligand Model and Surface Water Toxicity	4.50 %
Homework 5 Biologic Indicators in Stream and in the Lab	4.50 %
Homework 6 Metals & Inorganic Chemicals	4.50 %
Homework 7 Organic Compounds	4.50 %
Homework 8 Risk Assessment	4.50 %
Term Projects	40.00 %
Mid-Term Contaminant Power Point Project	20.00 %
Final Ely Mine Summary Project	20.00 %

Materials

Book Title: Environmental Toxicology

Author: Wright, David A. / Welbourn, Pamela

Publication Info: Cambridge University Press

ISBN: 9780521588607

Other readings as identified in the Lessons

Additional Resources: Please go to the program guides in the APUS Library for additional resources:

Environmental Policy and Management:

http://apus.campusguides.com/environmental_policy_management?hs=a

Software Requirements

- Microsoft Office (MS Word, MS Excel, MS PowerPoint) - American Public University System provides Microsoft Office 365 to AMU/APU students and faculty at no cost
- Adobe Acrobat Reader

Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- [Tutor.com](https://www.tutor.com) offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please

visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 15% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments area of the course.

Academic Dishonesty

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

Submission Guidelines

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

Disclaimer Statement

- Course content may vary from the outline to meet the needs of this particular group.

Communicating on the Forum

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting view points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

University Policies

[Student Handbook](#)

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

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