

Department of Public Health
MPH, Environmental Health Program

PH 577 Environmental Toxicology
Web Course

Professor:

Ritchie D. Taylor, Ph.D.

Department of Public Health

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Website: Course Website on Blackboard

Office Hours and Appointments:

Email or call Dr. Taylor to set up an appointment.

Non-mandatory class meetings will occur throughout the semester.

Course Description:

The purpose of this course is to provide students with a background to apply advanced principles of environmental toxicology. Students will explain how public health may be impacted through routes of exposure to environmental contaminants. As such, the emphasis will be on evaluating environmental toxicants in relation to ecosystem and human health, and techniques used in managing the risk of environmental toxicants. We will begin the course by discussing basic scientific principles related to environmental toxicology. The course will culminate with students completing a final project to assess an environmental toxicant of global concern.

Course Objectives:

Students will:

1. Explain principles of environmental toxicology when required.
2. Summarize the effects of major environmental agents when given exposure scenarios.
3. Statistically analyze environmental toxicant data and summarize results in comparison to regulatory limits, when given a database of environmental concentration data.
4. Describe the information and evaluate the potential public health risks when given results of statistical analyses of environmental toxicant data.
5. Develop public health management strategies when given concentration data for toxicants in the environment.
6. Describe and explain laws, regulations, and policies that govern the use and levels of environmental toxicants.
7. Evaluate a chemical of local and global concern by applying the principles of

environmental risk assessment.

8. Critique methodologies, results, and conclusions presented in environmental toxicology research studies based on principles presented in the textbook and course materials.

Course Credit:

Three (3) hours of college credit on the graduate level

Course Format:

- ☐ Web Based through Blackboard
- ☐ Review of Environmental Toxicology Literature
- ☐ Discussion Board and Participation
- ☐ Quizzes and Exams
- ☐ Class Assignments and Projects
- ☐ Presentations

Course Calendar:

Review the list of tasks for each section on Blackboard. This will serve as the calendar for the course. When a section is posted the list of tasks can be found under the Section folder.

Complete each task by the due date given.

Each section will be completed before another is posted on Blackboard.

Course Outline:

- Introduction
 - Section 1: Toxicology and Environmental Toxicology
 - Section 2: Chemical Properties and Toxicity
 - Section 3: Environmental Pollutants and Their Fate
 - Section 4: Dose and Response, and Absorption of Toxicants
 - Section 5: Distribution, Storage, Elimination, and Biotransformation of Toxicants
 - Section 6: Chemicals: Mutagenesis and Cancer
 - Section 7: Systemic Toxicology
 - Section 8: Practice, Regulatory Considerations, and Toxicity Testing
 - Section 9: Public Safety, Management, Risk Assessment, and Decision Making

Required Texts and Materials:

Richards, I.S. 2008. Principles and Practice of Toxicology in Public Health. Jones and Bartlett Publishers. Sudbury, Massachusetts. 464 pp.

Suggested Readings

Carson, Rachel. 1962. *Silent Spring*. Houghton Mifflin Company, New York. 368 pp.

Online Resources

Course Web Site: use the WKU blackboard website to access course tasks, materials, quizzes, assignments, and information

You will need access to World Wide Web – student labs are available on campus

Please check the course Blackboard site and your WKU email for messages.

Additional course materials will be provided through Blackboard

Post questions pertaining to the course on the Course Questions, Discussion Board.

Do not send questions to Dr. Taylor's email unless it is of a personal nature.

Supplemental Materials:

- ☐ Library
- ☐ Websites
- ☐ Technical Documents

Expectations and Important Information:

- ▽ Please review the course outline and check the tasks for each section to determine what needs to be completed for each section. The task list for each section can be found under "Course Documents" and then select the Section that is under study. All tasks to be completed will be posted under the task list in each section on Blackboard. This will allow you to determine what tasks you have and have not completed.

Assignments for a Section will be posted under the "Assignments" folder for that section. All quizzes and tests will be posted under the "Test" folder for that section. The final project will be posted under "Course Documents" in the "Final Project" folder. Discussion questions will be posted under the "Discussion Board".

You must complete all assignments, quizzes/tests, and the final project by the due date and time.

Do not wait until the last minute to ask a question or upload a file pertaining to an assignment or the final project. If you have problems please post a question to the discussion board or call me on my cell phone.

Access to course assignments, tests, activities, and projects will be through Blackboard.

All assignments will have a due date and you will be expected to submit these through Blackboard.

1. For each assignment there will be a link under the Assignments folder for that section.
2. You will need to download the assignment document, complete your work, and then submit your completed assignment through the link for that assignment.
3. Always save your work on your computer or storage media. Also, save a backup on a disc or thumb drive. Additionally, you can save a copy to Blackboard.
4. Please note, once you submit an assignment you will not be able to go back and work on that assignment. You can save your work under each

assignment by selecting the "Save" button under the link for a particular assignment. However, you must select the "Submit" button to turn in your work. If you accidentally select "Submit" before your assignment is completed you must post that you have done this on the Course Questions discussion and Dr. Taylor will clear the attempt. Just remember that this will delete your work that was saved on Blackboard. So you must have a backup on your computer or elsewhere.

5. Alternatively, you can save your document on blackboard and access it until complete, then submit when you are finished.

All Quizzes will be on-line. Quizzes and tests may be T/F, multiple choice, matching, essay and other formats. Quizzes and tests will be graded through the Blackboard system.

1. Some quizzes and tests may allow multiple attempts (up to three).
2. All quizzes and tests will be for a specified time period.
3. All quizzes and tests are open note and open book.
4. All quizzes and tests are expected to be completed by the student enrolled in the class. If it is determined that a student has cheated on an exam, a failing grade will be given at a minimum.

Required assignments and projects will be completed and submitted through the Blackboard system.

Plagiarism will not be tolerated. You are expected to do your own work and cite all references. All papers will be evaluated for plagiarism using a computer tool. Do not copy the work of another student. If you are found to be plagiarizing there will be serious consequences, such as a failing grade in the course. University policy will be followed. Copying a paper of another student or directly from a source will result in a failing grade.

Course Grading:

- ☐ All assignments will be given a due date.
- ☐ Late assignments will not be accepted.
- ☐ Assignments can be submitted prior to the class meeting via email or turned in on the due date.
- ☐ Assignments will be graded within one week of completion

Course Assignments and Testing:

Quizzes – 35%

Class assignments, exercises, and challenges, including online discussions – 35%

Environmental Toxicology Paper: Assessment of a global environmental toxicant of local concern – 30%

*****This paper will be a series of components that will be submitted separately throughout the semester.*****

Environmental Toxicology Paper

This project will occur throughout the semester. A guide to the paper will be posted by the second week of the course.

Syllabus Changes

The professor reserves the right to make syllabus changes, dependent upon the needs of the class. For example, the class may dictate only two exams and more emphasis on applied environmental toxicology research.

Attendance Policy

You will be expected to review all materials, complete assignment, tests, and the final project. The Blackboard site will be checked for your participation. Assignments and completion of tests will be taken as your participation.

Disability Statement:

”Students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Disability Services, Room 101, Garrett. The OFSDS telephone number is (270) 745-5004 V/TDD.”

“Per university policy, please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office of Student Disability Services.”

Plagiarism

Plagiarism will not be tolerated. You should use the APA (2009) style manual as a guide to cite all references and for writing assignments. You can purchase a copy in the WKU Bookstore. If you need assistance we can meet to discuss. Also, I will post a guide to writing.