

Semester: Spring**Year: 2023****Class Day/Time:** Online**Class Location:** No classroom**Instructor of Record:** Larry Lowry, Ph.D.

Professor

Office: H-260**Office Phone:** 903-877-1411**Email:** Larry.lowry@uthct.edu;lloewry@uttyler.edu

Preferred mode of communication

Office Hours: By appointment

Course Description: This course is an introductory graduate course that focuses on the impact of chemicals in the environment on global health, including global climate change, energy issues, and the impact on special populations including children, those living in border communities and underserved populations. The impact of global environmental changes on human health will be the prime area of concern.

Prerequisite: None**Co-requisite:** None

New Student Orientation

Congratulations on being admitted as a student to The University of Texas at Tyler Health Science Center. We welcome you and want to provide you an orientation to our campus. We provide this online orientation so that students who are working or are too busy to travel here for an orientation will still be familiar with our campus culture. [New Student Orientation](#).

Student Learning Outcomes:

- Understand the impact of chemicals in the global environment to include global climate change, the impact of energy production on the environment, and current events in environmental health.
- Explore the special concerns for susceptible populations such as residents living along the border, children and underserved populations
- Explore the impacts of air and water pollution on the global environment and human health.
- Review current models for toxicology and alternative practices for the application of toxicology practices used in the European Union and in other countries.
- Explore the role of GIS in global environmental health.

Subject Specific Skills

Computer-Based Skills – The student will use the Internet and Canvas to access course materials and to post responses to discussion board questions. The student will also use the Internet to search the current peer-reviewed literature regarding global environmental health issues. The focus will be evidence-based science.

Communication Skills – The student will utilize discussion board skills to communicate with the instructor and other students. Written assignments will require written skills in the presentation and analysis of global environmental health case discussions. Additionally, the student will utilize verbal presentation skills and develop an understanding of risk communication in environmental situations from various vantage points.

Interpersonal Skills – The student will work in a multi-disciplinary group and will understand the importance that each discipline brings to solving issues related to global environmental health. In addition, the student will understand the role played by cultural diversity in working with a wide variety of people.

Problem Solving (Critical Thinking) – The student will apply conceptual thinking to the understanding of general concepts of global environmental health and the application of scientific principles to resolve problems presented in class and those that the student will encounter upon graduation. The focus will be evidence-based science.

Ethical Issues in Decision Making and Behavior – The student will be exposed to and understand various ethical health dilemmas which arise in global environmental health settings including matters of risk communication and divided loyalties (conflicts between employer and global environmental health issues)

Personal Accountability for Achievement– The student will complete readings and assignments according to the schedule designated by the instructor. Plagiarism will not be tolerated and may result in failure in the course.

Competence in Health Principles – The student will develop an appreciation for principles that apply to population-based and community health as they relate to environmental exposure issues.

Course Assessment/Methods of Evaluation: Course Grading

Class exercises: 20%

Participation in online learning management system discussion boards: 60%

Final Examination essay: 10%

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In addition to the final exam, there will be a practical problem-solving case scenario essay question with the student graded based on a logical approach to the problem presented. The essay exam question will be distributed one week in advance, contributing 10% of the final course grade. The essay is to be posted using the drop box as per class schedule. This essay should not exceed five pages. It does not need an extensive bibliography. Its purpose is to assess the student's ability to utilize the information provided through lectures and textbook reading, to solve problems. Instructions will be provided with the question.

Special Project

Each student will be presented with a topic for them to research. A short five-page report with references will be required. Some examples might be: "Choose a form of energy production and discuss the impact on the environment." Another topic might be: "What should be the world's response to the global climate change issue?"

Course Materials

Printing course materials, including articles and class notes/presentations are the responsibility of the student. In Environmental Sciences, careful thought is expected before printing materials to be eco-friendly!

Discussion Boards

In general, there will be one discussion board for each topic per week asking for a posting on a specific topic along with references to be posted by midnight Sunday and responses to the postings of at least one other student with final postings due at midnight Monday evening. Discussion boards will be graded according to the rubric shown. Each discussion board will be awarded up to a total of 20 points. The grade for each discussion board (weekly) will be the percent out of 20 points you earned. The discussion board score will be accumulated and will account for 60% of your grade.

Discussion Grading Rubric

Points	1	2	3	4
Promptness and Initiative	Does not respond to most postings; rarely participates freely	Responds to most postings several days after initial discussion; limited initiative	Responds to most postings within 24 hours; requires occasional prompting to post	Consistently responds to postings in less than 24 hours; demonstrates good selfinitiative
Delivery of Post	Utilizes poor spelling and grammar in most posts; posts appear "hasty"	Errors in spelling and grammar evidenced in several posts	Few grammatical or spelling errors are noted in posts	Consistently uses grammatically correct posts with rare misspellings
Delivery of Post Relevance of Post	Posts topics which do not relate to the discussion content; makes short or irrelevant remarks	Occasionally posts off topic; most posts are short in length and offer no further insight into the topic	Frequently posts topics that are related to discussion content; prompts further discussion	Consistently posts topics related to discussion topic; cites additional references related to topic

Expression Within the Post	Does not express opinions or ideas clearly; no connection to topic	Unclear connection to topic evidenced in minimal expression of opinions or ideas	Opinions and ideas are stated clearly with some lack of connection to topic	Expresses opinions and ideas in a clear and concise manner with obvious connection to topic
Contribution to the Learning Community	Does not make effort to participate in learning community as it develops; seems indifferent	Occasionally makes meaningful reflection on group's efforts; marginal effort to become involved with group	Frequently directs the discussion to present relevant viewpoints for consideration by group; interacts freely	Aware of needs of community; attempts to motivate the group discussion; presents creative approaches to topics

Linked Program Learning Outcomes:

The student learning outcomes listed above address the following MPH Program PLOs:

- PLO3 - The student will demonstrate proficiency in using multiple informational resources to gather, analyze, apply and report solutions to public health problems with a special emphasis on rural community health.
- PLO6 - The student will demonstrate independent and critical thinking skills.

Textbook:

The textbook for this course is listed below. There may be readings and reference to other materials available on the internet or thorough the library. Students are expected to seek peer-reviewed material from the Internet or library for specific assignments. Used copies of these books may be available on the Internet.

“Our Global Environment: A Health Perspective”, by Anne Nadakavukaren, 8th Edition, Waveland Press, Inc., Long Grove, IL. 2020. ISBN: 1-4786-3771-4 (paperback). “Casarett & Doull’s -Essentials of Toxicology”, by Curtis D. Klaassen and John B. Watkins III. 3rd Edition. McGraw Hill Companies, New York. 2015. ISBN:978-0-07-184708-7 (Optional for those with little or no toxicology)

Course Content:

- I. Brief overview of how chemicals impact human health
 - A. How do you get exposed?
 - B. Is it the chemical or a biotransformation product that impacts health?
 - C. Where does a chemical go in the body?
 - D. How is a chemical or its biotransformation product eliminated from the body?

II. Major classes of chemicals that impact the environment.

- A. Heavy metals
- B. Fat soluble organic chemicals like DDT, Dioxins
- C. Pesticides and herbicides
- D. Greenhouse gases

III. Sources of environmental exposure

- A. Outdoor air pollution
- B. Indoor air pollution
- C. Water resources
- D. Water pollution
- E. Foods and consumer products
- F. Municipal and hazardous waste

IV. Global environmental health

- A. Factors impacting global health - population, ecosystems and human activity
- B. Global health and the changing workplace
- C. Impacts of energy production on global environmental health
- D. Global climate change
- E. Impact of global climate change on health and disease
- F. Your personal footprint

V. Alternatives to classic toxicology

- A. Use of GIS in environmental health
- B. The basic toxicology approach used in the US
- C. Alternatives to classic toxicology, the European Union REACH program
- D. Political will, is it there?

VI. Susceptible populations and case studies

- A. Children
- B. Border environmental health issues
- C. Pregnancy issues
- D. Underserved populations
- E. Case studies in human exposure

VII. The future – where do we go from here?

- A. Forum on change (student projects)

Other Class Policies

Attendance / Participation:

Regular or punctual attendance is expected. You should arrive on time and participate in all class activities. If a student misses a class or lab, the student is responsible for obtaining any information distributed during those times. Make-ups are possible only under certain instances (labs cannot be made up). Arrangements for any make-ups and/or missed labs should be discussed directly with the instructor for that day's class.

Academic Honesty:

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Cheating

Dishonesty of any kind involving examinations, assignments, alteration of records, wrongful possession of examinations, and unpermitted submission of duplicate papers for multiple classes or unauthorized use of keys to examinations is considered cheating. Cheating includes but is not limited to:

- Using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class.
- Falsifying or inventing any information, including citations, on an assigned exercise.
- Helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism

Plagiarism is presenting the words or ideas of another person as if they were your own. Materials, even ideas, borrowed from others necessitate full and complete acknowledgment of the original authors. Offering the work of another as one's own is plagiarism and is unacceptable in the academic community. A lack of adequate recognition constitutes plagiarism, whether it utilizes a few sentences, whole paragraphs, articles, books, audiovisual materials, or even the writing of a fellow student. In addition, the presentation of material gathered, assembled, or formatted by others as one's own is also plagiarism. Because the university takes such misconduct very seriously, the student is urged to carefully read university policies on Misconduct in Research and Other Scholarly Activity 05.00. The university uses Unichek as a plagiarism checker. This resource is available to students to check their work as well as the instructor to verify that assignments are original. Examples of plagiarism are:

- Submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another.
- Submitting a work that has been purchased or otherwise obtained from an Internet source or another source.
- Incorporating the words or ideas of an author into one's paper without giving the author due credit.

Adding/Dropping

The official deadline for adding and dropping courses is as published in the academic calendar and Graduate Bulletin (typically the day before Census Day). However, students are strongly encouraged to meet with their graduate advisor or the Program Coordinator prior to adding/dropping courses. Movement into and out of classes after the fourth-class day requires approval of the Program Director. Students can drop until mid-semester without a WP or WF. Drops after mid-semester require approval of the Dean. Each student is responsible for their own enrollment status with the university.

Disability Accommodations

UTHSCT abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which mandates reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Student Services Office (located on the UT Tyler Campus). You may call 903-566-7079 for more information.

Student Services

UT Tyler provides several support resources to assure your success as a graduate student. In addition to what is available on campus, students can access several services available from The University of Texas at Tyler and from other partners statewide in The University of Texas System. See links to all Student Services.

Student Absence Due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit or action. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by the University Police or Fire Department.

Technology Support

Information about The University of Texas at Tyler Health Science Center, the Help Desk, minimum technology requirements, campus Wi-Fi networks is available on the student services page.