Molecular and Environmental Toxicology Center (M&ENVTOX)

M&ENVTOX/ENVIR ST/PL PATH 368 — ENVIRONMENTAL LAW, TOXIC SUBSTANCES, AND CONSERVATION
2 credits.

Development of and need for "environmental law"; an introduction to the legal system; public and private rights in the environment; regulation of pesticides and toxic substances; environmental legislation and rulemaking; environmental impact statements; professionals as expert witnesses. No prior knowledge of law assumed. For scientists and others dealing with environmental issues in academia, industry and government. Enroll Info: So st

Requisites: None
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

M&ENVTOX/ENTOM/F&W ECOL/PL PATH/SOIL SCI 606 — COLLOQUIUM IN ENVIRONMENTAL TOXICOLOGY
1 credit.

Current topics in molecular and environmental toxicology and problems related to biologically active substances in the environment. Topics vary each semester. Lectures are by resident and visiting professors and other researchers. Enroll Info: None

Requisites: BIOLOGY/ZOOLOGY/BIOLOGY 101 or BIOLOGY/BOTANY/BIOLOGY 130 or BIOLOGY/BOTANY/ZOOLOGY/BIOLOGY/BOTANY 151, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

M&ENVTOX/NUTR SCI 623 — ADVANCED NUTRITION: MINERALS
1 credit.

Topics discussed in regard to minerals are: metabolic roles; absorption, excretion, transport and cellular metabolism; nutritional and toxicological standards for humans and animal models; bioavailability; genetic interactions; and research methodologies. Enroll Info: None

Requisites: BIOCHEM/NUTR SCI/BIOCHEM 510, PHYSIOL 335 and graduate standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2016

M&ENVTOX/MEDICINE/ONCOLOGY/PATH/PHM SCI/PHMCOL-M/POP HLTH 625 — TOXICOLOGY I
3 credits.

Basic principles of toxicology and biochemical mechanisms of toxicity in mammalian species and man. Correlation between morphological and functional changes caused by toxicants in different organs of the body. Enroll Info: None
Requisites: BIOCHEM 501, PHYSIOL 335, PATH 404 and PHM SCI 401
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

M&ENVTOX/MEDICINE/PATH/PHM SCI/PHMCOL-M/POP HLTH 626 — TOXICOLOGY II
3 credits.

Survey of the basic methods and fundamental biochemical mechanisms of toxicity. Toxicity in mammalian organ systems, techniques for evaluating toxicity, as well as mechanisms of species specificity, and environmental interactions (with toxicant examples) are presented. Enroll Info: None
Requisites: M&ENVTOX/MEDICINE/ONCOLOGY/PATH/PHM SCI/POP HLTH/M&ENVTOX/MEDICINE/ONCOLOGY/PATH/PHM SCI/PHMCOL-M 625
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2018

M&ENVTOX/CIV ENGR/SOIL SCI 631 — TOXICANTS IN THE ENVIRONMENT: SOURCES, DISTRIBUTION, FATE, & EFFECTS
3 credits.

Nature, sources, distribution, and fate of contaminants in air, water, soil, and food and potential for harmful exposure. Enroll Info: None
Requisites: (CHEM 104, 109, or 116) and (MATH 211, 217, 221, or 275) and PHYSICS (104, 202, 208, or 248)
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2018

M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 632 — ECOTOXICOLOGY: THE CHEMICAL PLAYERS
1 credit.

Introduction to natural and man-made toxins/toxicants, their distribution, transport, and fate in the environment. Includes lectures, current research presentations, and discussions. Enroll Info: 2 sem intro biol & 1 sem organic chem, or cons inst
Requisites: None
Repeatable for Credit: No
Last Taught: Fall 2017
M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 633 — ECOTOXICOLOGY: IMPACTS ON INDIVIDUALS
1 credit.

Addresses absorption, biotransformation, elimination of toxins in a wide variety of taxa (plants, invertebrates, vertebrates), and includes lectures, current research presentations, and discussions. Enroll Info: M&ENVTOX 632, or 2 sem intro BIOLOGY & M&ENVTOX 631, or cons inst
Requisites: None
Repeatable for Credit: No
Last Taught: Fall 2017

M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 634 — ECOTOXICOLOGY: IMPACTS ON POPULATIONS, COMMUNITIES AND ECOSYSTEMS
1 credit.

Focuses on the impact of toxicants on populations, communities, ecosystems, and includes risk evaluation. Includes lectures, current research presentations, and discussions. Enroll Info: M&ENVTOX 633, or M&ENVTOX 625, 626 & 631, or cons inst
Requisites: None
Repeatable for Credit: No
Last Taught: Fall 2017

M&ENVTOX 699 — SPECIAL PROBLEMS
1-3 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions

M&ENVTOX/POP HLTH 789 — PRINCIPLES OF ENVIRONMENTAL HEALTH: A SYSTEMS THINKING APPROACH
3 credits.

This course provides an overview of the field of environmental health, using a systems thinking approach. Systems thinking recognizes that environmental health problem solving is complex and that solutions in one area may have positive or negative impacts on other areas. As an overview it provides an introduction to the history of environmental health within the field of public health from the local to the federal and global level. It will introduce multiple disciplines, methods and approaches to numerous environmental health topics. It includes introduction to methods and tools necessary for assessing human health risks from a variety of environmental hazards and exposures found in air, land, and water with a focus on physical and chemical risks. Additional details regarding specific hazard, exposure and health outcome data and their relationship to environmental health risk assessment, environmental health decision-making and management form a public health practice perspective will be discussed. Students will become familiar with the practice of environmental health lectures and case studies. A primary goal of this course is to address core environmental health competencies for Masters of Public Health students. In addition, this course is designed to help students think critically about complex problems and practice effective communication both in written as well as oral forms of communication. As such, it will provide an overview of fundamental information and tools that public health practitioners will need to know how to use. It will also lay the foundation for more high-level courses in the field of environmental health for those wishing to pursue aspects of this field in more detail. It is aimed at students with a diverse knowledge set and background coming into the course, a general sense of basic biology and chemistry will be helpful, but not necessary. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2018

M&ENVTOX 800 — SEMINAR
1 credit.

Current research in environmental toxicology and pathology and other topics of interest and importance to environmental toxicologists. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2018
M&ENVTOX 801 — SCIENTIFIC COMMUNICATION IN MOLECULAR & ENVIRONMENTAL TOXICOLOGY
2 credits.

Provides an overview of scientific communication; specifically, students will be exposed to the various methods of communicating their science including articles, proposals, presentations / lectures, and posters. Strategies will demonstrate best practices for each method and enable students to critically define what sets apart good examples from poor. Classroom discussions allow for comprehension of these means. Assignments are designed to familiarize the students with these methods. Students will have classroom instruction and the opportunity to learn from peer mentors as well as laboratory directors on different preferences and approaches to science communication. Enroll Info: None

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

M&ENVTOX 990 — RESEARCH
1-9 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions