EMORY | ROLLINS SCHOOL OF PUBLIC HEALTH | Gangarosa Department of Environmental Health

NEW COURSE

EH 590R: VECTOR ECOLOGY AND CONTROL





SECTION 4, class #4518

PROFESSOR: Julie Clennon, PhD

COURSE DESCRIPTION:

The identification and quantification of environmental determinants of disease vector distributions and their effects on behavior and disease transmission will be examined. This class will emphasize the bionomics of disease vectors and their monitoring and management, but it will also cover basic biology and disease transmission. Vectors and intermediate hosts include: mosquitoes (*Aedes, Anopheles, Culex*), snails (*Bulinids, Biomphalaria, oncomelenia, Lymnaea*), black flies, fleas, lice, sandflies, ticks, triatome bugs, and tsetse flies.

FRIDAYS | 10:15 AM-12:05 PM

2 CREDITS | Synchronous Zoom Class

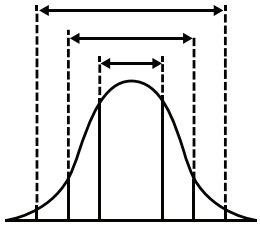
Public Health Communication for Climate Justice

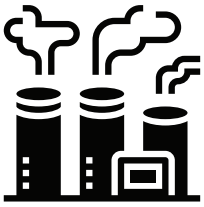
EH590R

- 5**:30-7:20 pm Wednesdays**
- **Virtual class**
- **Instructor: Holly Patrick, MS, MPH**
- **Features guest speakers**
- **2 credits**

The **climate justice movement** recognizes that the devastating effects of **climate change** disproportionately **impact vulnerable populations** and strives to **address these inequities**. In this course, students will learn how to **employ public health communication theories, skills, and strategies** to **promote climate justice**.

Questions? Email Holly Patrick at hpatrick2@cdc.gov



R-BASED QUANTITATIVE

DATA ANALYSIS FOR ENVIRONMENTAL HEALTH RESEARCH

Spring 2021 • EH 590R • OPUS #4499 • 2 units • Mondays 3:15 – 5:05 pm • Professor Yang Liu

This course provides training and practical experience in data access, processing, and modeling techniques commonly used in environmental health. Topics include household/ambient air quality, environmental epidemiology, climate change, metabolomics, and epigenomics. Basic knowledge in each subject area will be provided via reading materials and pre-recorded lectures. Instructors will lead a discussion on typical datasets used in their actual research projects, then work with the students on these datasets during a two-hour computer lab session.

After this course, students will be able to (1) perform data extraction and preprocessing, (2) conduct common data analysis, and (3) generate preliminary results. All coding will be taught in R.

Recommended prerequisite – BIOS 544: Introduction to R programming for Non-BIOS students or equivalent *or* EPI 534: Statistical Programming

Lecturers include Todd Everson, Donghai Liang, Yang Liu, Ajay Pillarisetti, Noah Scovronick, and Liuhua Shi

Questions? Contact Professor Yang Liu, yang.liu@emory.edu
Gangarosa Department of Environmental Health, Rollins School of Public Health, Emory University

EH 590R:
DESIGN, DELIVERY & ASSESSMENT OF WASH IN SCHOOLS PROGRAMS

✓ **Assess**
extent to which schools meet WASH standards and targets

✓ **Choose**
appropriate 'software' and 'hardware' components of a WASH in Schools program

✓ **Prepare & implement**
comprehensive and realistic plans to monitor and evaluate WASH in Schools programs

When

Wednesdays 8-8:50am

- **Half semester:** Meets weekly, starting March 17th

What

1 credit online course

- **All virtual:** Zoom discussions and activities during class time
- **10 asynchronous modules:** recent initiatives, key evidence, and lessons learned to help maximize program impact and sustainability
- **S/U grading**

Who

Global participants

- **Students and professionals:** Opportunity to engage with UNICEF and NGO program managers, policy makers
- **Instructor:** Matthew Freeman, with lectures from global leaders in WinS

Designed by the Center for Global Safe WASH at Emory University in collaboration with UNICEF
Email Matthew Freeman (matthew.freeman@emory.edu) to learn more

EMORY | ROLLINS SCHOOL OF PUBLIC HEALTH

CGSW Center for Global Safe WASH | Leading and Learning in WASH

unicef

Spring 2021 - EH 590R: Planetary Health (2-credit online class)
Friday Mornings 10:15 AM – 12:05 PM Eastern Time, via Zoom

Come join us if you can, and learn things!

COURSE DESCRIPTION

Human beings are profoundly altering the natural systems of the planet, resulting in a variety of unintended population health consequences. This course explores several of the mechanisms by which humans are influencing the physical, chemical, and ecological conditions on the planet, and some of the potential consequences of those ongoing changes in systems for human societies. Although all topics presented in this course are intersectional, the impacts can be broadly grouped into planetary health impacts of ecosystem changes ("biosphere"), and planetary health impacts of geological and atmospheric changes ("geosphere"). Successful completion of this course will refine skills in systems thinking and regard for planetary challenges. Prerequisites: EH520, EH582 or permission of instructor Matthew Gribble

This year, since online, we have guest lecturers reflecting a >9-hour range of time zones! Current lineup:

- Sitka Tribe of Alaska (e.g., preventing poisoning from climate-linked algal toxins in tribal communities)
- Oregon State University (e.g., Vitamin B in the oceans and marine microbiome – algae connections)
- Florida State University (e.g., climate change-driven migration / "climate refugees")
- Stanford University (e.g., arsenic geochemistry on a changing planet)
- Missouri Science & Technology University (e.g., land subsidence impacts on groundwater quality)
- University of Nebraska Medical Center (e.g., drought and other natural disaster impacts and planning)
- Rockefeller University (e.g., vector-borne disease and molecular biology of how mosquitoes find humans)
- Georgia Institute of Technology (e.g., transportation decisions in the United States)
- Cyprus University of Technology (e.g., temperature and metabolic disruption)
- University of Bergen (e.g., marine systems ecotoxicology; radical interdisciplinarity)
- Norwegian Polar Institute (e.g., persistent organic pollutants in Arctic ecosystems)
- European Centre for the Environment and Human Health (e.g., blue space and health)

**Guest speaker list, and topics presented by speakers, may be subject to change. We will cover diverse topics!*

Questions? Email the course instructor Matthew Gribble at matt.gribble@emory.edu

EH 590R - Politics of Public Health

2 credits, Tuesday 1:00 – 2:50 p.m.
Section 2, Class Nbr 4500

Instructor: Richard F. Doner, Goodrich C. White Professor of Political Science

Offered in conjunction with Political Science 490R - a joint venture between
Rollins School of Public Health and Political Science Department at Emory College

Puzzle: Why the "best" interventions don't always get proposed, adopted, and/or implemented.
Goal: Develop frameworks to anticipate / navigate political and institutional (vs. technical) challenges of public health interventions.

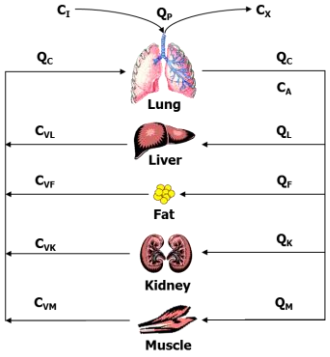
The course will examine the impact of interests and institutions, (e.g. the military, business, bureaucratic agencies, ethnic and religious groups, democracy vs authoritarian regimes), on key public health issues through key stages in the policy process. This year, this course will give special attention to the implications of COVID-19 on these topics.

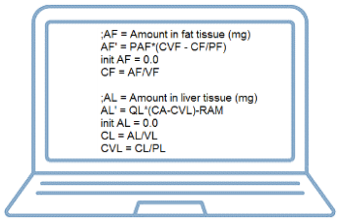
Requirements include class participation and three 3-4 page memos relating class material to topic of student's choice. Classes will be discussion-based, along with occasional short lectures, including by experienced practitioners from organizations such as the CDC and the Task Force for Global Health.

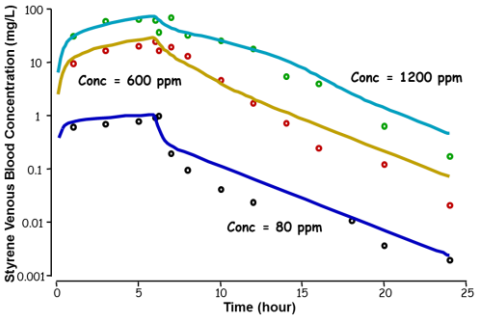
Questions? Contact Rick Doner at rdoner@emory.edu.

Introduction to Physiologically-Based Toxicokinetic (PBTK)/Pharmacokinetic (PBPK) Modeling

Course # and Credits:	EH 590R, 2 credits
Class Time:	Spring 2021, Thursday 5:30 - 7:20 PM
Class Format:	Synchronous online
Instructors:	Qiang Zhang, MD, PhD, Associate Professor Gangarosa Department of Environmental Health Rollins School of Public Health qiang.zhang@emory.edu Guest lecturers: Moiz Mumtaz, Edward Morgan and Dana Barr







The health effects of environmental or pharmaceutical chemicals depend on the concentrations of the chemicals and their metabolites in the target tissues. Understanding and predicting chemical internal concentrations (tissue dosimetry) requires a physiologically-based toxicokinetic (PBTK) or pharmacokinetic (PBPK) modeling approach. Based on human physiology and anatomy, PBTK/PBPK models mechanistically simulate the absorption, distribution, metabolism, and elimination (ADME) processes that affect the fates of exogenous chemicals in the human body, producing, as model output, changes in chemical tissue concentrations over time. PBTK/PBPK modeling has be increasingly applied in chemical health risk assessment and drug development. Students will learn numerical simulation tools to model what the body does to the chemicals in this course. It targets:

- Environmental health science students interested in chemical tissue dosimetry, internal exposure, interpretation of biomarkers of exposures, in vitro to in vivo extrapolation (IVIVE) of chemical dosimetry
- Pharmacology/toxicology students interested in quantitative simulation of tissue-specific drug dosimetry beyond traditional, compartmental PK.
- Students and researchers in biosciences, nutritional science, anesthesiology, biomedical engineering, and chemical engineering interested in computational approaches to predicting tissue concentrations of environmental, industrial, dietary, and pharmaceutical chemicals.