

HUMANE SCIENCES AND TOXICOLOGY POLICY

Humane Sciences and Toxicology Policy Certificate Program OVERVIEW

The certificate program will introduce, and explain the application of, the "3Rs" (reduction, replacement and refinement), which are the guiding principles of humane science as well as demonstrate how the use of humane science principles in biomedical research can lead to more robust scientific methodology and knowledge. The program's course of study covers the scientific principles needed to appreciate humane science and identify and evaluate its implications in biomedical research and public health policy. Persons completing the certificate program will be well equipped to translate new toxicological knowledge into scientifically credible product safety evaluations and hazard assessments and apply these concepts to environmental health decision making.

EDUCATIONAL OBJECTIVES

The educational objectives of this certificate program are:

1. To provide students with an understanding of the principles that govern the relationship between biomedical researchers and laboratory animals;
2. To demonstrate the application of transgenic, in-vitro, computational, non-mammalian and non-animal research in toxicology; and
3. To illustrate the ways in which humane science and alternatives are used in setting regulatory standards and making environmental health policy decisions.

CONTACT INFORMATION

Certificate Program Contact

Katie Phipps

kphipps4@jhu.edu

Faculty Sponsor

Paul Locke

Faculty Co-sponsor

Kathrin Herrmann (<https://www.jhsph.edu/faculty/directory/profile/3518/kathrin-herrmann/>)

ELIGIBILITY

The certificate program is open to persons who hold undergraduate degrees from accredited colleges or universities, particularly in the fields of public health or the biomedical sciences. It is also open to any student in a graduate degree program at Johns Hopkins University. Persons who are members of Institutional Animal Care and Use Committees (IACUC) and/or involved in animal welfare issues are encouraged to participate in this certificate program.

ADMISSIONS PROCESS

All applicants must review the General Certificate Guidelines page (<http://e-catalog.jhu.edu/public-health/certificates/#newitemtext>),

which provides important information about how to apply to a certificate program.

APPLYING TO THE CERTIFICATE PROGRAM AS A JHU GRADUATE STUDENT

Students already enrolled in a graduate program at JHU are not required to submit the School's electronic admissions application, but must contact Certificate Program Contact (kphipps4@jhu.edu) during first term of certificate coursework.

Start terms: It is possible to begin the certificate program only in these terms: Summer, 1, 2, & 3.

APPLYING TO THE CERTIFICATE PROGRAM AS A NON-DEGREE STUDENT

Students who are not currently enrolled in a graduate program at JHU are required to apply to certificate programs using SOPHAS Express (<https://sophasexpress.liaisoncas.com/applicant-ux/#/login>). All non-degree applicants should review the general Certificates Admissions (<http://e-catalog.jhu.edu/public-health/certificates/#newitemtext>) page for instructions on how to apply to a certificate program, as well as application deadlines.

Start terms: It is possible to begin the certificate program only in these terms: Summer, 1, 2, & 3.

TOEFL/IELTS: Not required.

Prerequisites or special requirements: None

REQUIREMENTS FOR SUCCESSFUL COMPLETION:

The certificate program requires a minimum of 20 term credits. All required and elective courses must be taken for a letter grade; a minimum grade of C is required in all certificate coursework and students must maintain a 2.75 or better overall GPA for all certificate coursework. The certificate program length is flexible; however, the program must be completed within three years.

Students with prior training in toxicology or biostatistics may contact one of the Faculty Sponsors to discuss the possibility of substituting other coursework for either 187.610 "Public Health Toxicology" OR 140.615 "Statistics for Laboratory Scientists." Such students must complete a minimum of 18 credits of certificate program coursework.

Students should review the section of the website that addresses completion (<http://e-catalog.jhu.edu/public-health/certificates/#courserequirements>) before completing certificate program requirements. The student's transcript will not indicate that the certificate was earned until the Notification of Completion has been submitted, verified by the certificate program, and processed by the Registrar.

COURSE OF STUDY

Students should check the JHSPH course directory (<https://www.jhsph.edu/courses/>) to confirm when the courses are offered, and students should check for prerequisites and whether instructor consent is required.

Code	Title	Credits
PH.550.860	Academic & Research Ethics at JHSPH (All students are required to complete this noncredit course in their first term of study)	
Required Courses (students must complete all of the courses listed below but may choose to take either 180.601 or 180.609, not both).		
PH.180.601	Environmental Health	5
or		
PH.180.609	Principles of Environmental Health I	4
PH.140.615	Statistics for Laboratory Scientists I	4
PH.187.610	Public Health Toxicology	4
PH.187.625	Animals in Research: Law, Policy, and Humane Sciences	3
PH.187.650	Alternative Methods in Animal Testing	3
PH.306.665	Research Ethics and integrity: U.S. and International Issues	