Training Curriculum

	Course name	Course#	Credits	Course description	Schedule
Fall Semester – Year 1	*Metabolism-Dependent and -Independent Mechanisms of Toxicity*	VTPP 673 CRN 20000	3	Metabolism of drugs, toxicants and carcinogens; factors that alter expression of drug-metabolizing enzyme genes; gene polymorphisms; mechanisms of action of xenobiotics and pathways of toxicity and carcinogenesis.	W 3:30-6:30 PM VRB 423
	Chemical Hazard Assessment	PHEO 605 CRN 22133	3	General principles of exposure assessment; chemical and biological methods for testing hazardous chemicals and complex mixtures; chemical analysis; microbial bioassays.	MW 2:00-3:15 PM SPHC 110
	Principles of Human Health Risk Assessment of Chemicals	VIBS 641 CRN 31966	3	Use of different types of data and analysis approaches to conduct both qualitative and quantitative assessments of human health hazard; general overview of how risk assessment informs risk management decisions.	MW 11:00 AM-12:25PM VIDI 115
	Experimental Design in Biology	BIOL 683 CRN 45087	3	Design of scientific research projects in the field of biology; a wide range of biological experiments designed with the appropriate statistical technique for analysis; design biological studies that are statistically tractable and perform basic statistical analyses using the statistical programming language R.	TR 11:10 AM-12:25 PM BTLR 309
Spring Semester – Year 1	*Advanced Toxicology*	VIBS 670 CRN 14519	3	Toxic effects of drugs and chemicals on major mammalian organ systems, case studies of toxic effects of environmental exposures.	M 12:00-2:30 PM VIDI 121
	Pharmacology	VTPP 625 CRN 35658	3	Introduction to pharmacokinetics and pharmacodynamics; survey of major classes of pharmaceutical agents; uses, mechanisms of action and adverse reactions of drugs.	TR 9:35-10:50 AM VENI 101C
	Practice of Evaluating Human Health Risks of Chemicals	VIBS 645 CRN 35857	2	Decision contexts in risk assessment; data requirements in each of these decision contexts; integration of knowledge across epidemiology, toxicology, exposure assessment and other disciplines into the process of making decisions about safety or hazard of chemicals.	M 8:20-10:00 AM VIDI 121
	Scientific Ethics	VMID 686 CRN 19640	1	Ethical issues of research and methods for resolution of such issues; conflicts in dissemination of research findings, pursuit of resources, interactions with the press and the broader public, and research translation.	W 1:35-3:35 PM VENI 101A
Fall Semester – Year 2	*Histology*	VIBS 602 CRN 12822	4	Comprehensive appreciation for the cell and organ physiology and pathophysiology through the study of microstructures. Students will master the ability to examine and identify microscopic features of the various cells, tissues and organs of mammals, and directly correlate these with physiological function and disease states. A significant focus of the course is to learn how cells, fibers and extracellular matrix interact mechanistically to support important physiological functions within the organ systems within the body.	TR 9:00-10:30 AM VENI 107B 10:30 AM-12:00 PM VICI 321
	Journal Club	PHEO 681 CRN 42586	1	Review and discussion of contemporary toxicology literature	F 9:10-10:00 AM SPHC 108
	Toxicology Seminar	VTPP 681 CRN 12202	1	Review and discussion of current scientific work in toxicology, physiology and related subjects.	M 3:30-4:30 PM VENI 107B

Sample Elective Courses:

CVEN 601	Environ. Engineering Processes III (Fall)
HPCH 603	Social & Behavioral Det. of Health (Fall)
PHEB 602	Biostatistics I (Fall)
PHEB 603	Biostatistics II (Spr)
PHEO 630	Environ. & Occupational Diseases (Fall)
PHEO 645	Hlth & Safety Hazard Waste Sites (Spr)
VIBS 607	Applied Epidemiology (Spr)
VIBS 611	Tumor Cell Biology & Carcinogenesis (Spr)
VIBS 619	Food Toxicology (Fall)
VIBS 660	Reporting Science & Technology (Fall)
VIBS 663	Biomedical Reporting (Fall)
VIBS 664	Risk & Crisis Reporting (Spr)
VIBS 690	**Theory of Research (Spr)**
VPAT 640	Advanced Mechanisms of Disease (Fall)
VTMI 649	Immunology (Fall)