



Department of Environmental Health Sciences

Ph.D. Student Handbook



2022-2023 Academic Year

Table of Contents

INTRODUCTION.....	3
MISSION STATEMENT	4
ADVISING AND ADMINISTRATIVE RESOURCES	5
FACULTY	6
COLLEGE AND DEPARTMENT CONTACTS.....	11
ENVIRONMENTAL HEALTH STUDENT ASSOCIATION	12
Ph.D. FUNDING.....	13
ADVISING SHEET	14
DEPARTMENTAL COURSE CATALOG.....	16
GRADUATE COURSE DESCRIPTIONS	19
ELECTIVE COURSE OPTIONS.....	32
ANNUAL COURSE OFFERINGS.....	34
HELPFUL LINKS	36
GOOD RESEARCH PRACTICE	38
DOCTOR OF PHILISOPHY (Ph.D.) IN PUBLIC HEALTH WITH A SPECIALIZATION IN EHS POLICY AND PROCEDURES	41
ACADEMIC GRIEVANCE PROCEDURE	50
INFORMAL GRIEVANCE PROCEDURE.....	50
FORMAL GRIEVANCE PROCEDURE	50
MAP OF FIU’S MODESTO MAIDIQUE CAMPUS.....	51

Chair's Welcome

Dear Prospective and New Students,

Our planet and populations are under tremendous change and pressure created by a multitude of factors from a rapidly shifting climate to the ongoing COVID-19 pandemic. Our environment is vital to our well-being. Many aspects of our environment from the water we drink, the food we eat, and the air we breathe are intimately linked to our personal and public health; consequently, the environment has emerged as a critical driver of prominent human diseases, like Alzheimer's disease and cancer. Your decision to pursue a degree in environmental health comes at a crucial time when professionals are needed to investigate, educate, and act on the impending health issues that will afflict our populations in the immediate future.

The Department of Environmental Health Sciences (EHS), through its academic programs and cutting-edge research, is positioned to lead the next generation of biomedical advances by leveraging emerging knowledge in human disease biology and environmental health impacts better inform local, national, and global health policy, forge potent strategies to combat disease and counter toxic exposures, and to enhance community understanding of environmental health risks to extend the healthspans of individuals.

Our Doctoral (Ph.D.) program in Public Health is accredited by the Council on Education for Public Health (CEPH) and features two concentrations in the areas of Environmental Toxicology and Brain, Behavior, and the Environment. Our research-intensive curriculum is focused on developing the most impactful professional skills. The laboratory experience and dissertation research are prominent in the Ph.D. programs with research opportunities at the FIU Main Campus and the FIU Center for Translational Sciences in Port St. Lucie. Students will have opportunities to work with cutting-edge, renowned research teams in cancer biology, drug discovery, gene-environment interactions, occupational medicine, neurodegenerative diseases, vascular disease, and environmental toxicology. Our didactic courses emphasize critical thinking, communication, and content-specific expertise to prepare students for the rigors of research in any setting. Our recent graduates have become independent researchers, scientists with private and public companies, government researchers, and experts for non-profit groups demonstrating the versatility of the doctoral training in EHS.

Students are the focus of our research enterprises, and our faculty prioritize student experiences and development as indicators of our research impact. Thus, our faculty are dedicated and available to assist you in achieving your goals and providing you with a personalized degree program. Our Environmental Health Sciences Student Association is here to help you access resources and develop lifelong colleagues for support and to introduce you to opportunities to hone your public health skills and serve our community. Through our programs, you will have an outstanding network of mentors, peers, and professionals to help guide your career development.

I would like to wish you the best in your academic and research pursuits.

Welcome to the Department of Environmental Health Sciences!

Sincerely,



Jeremy W. Chambers, Ph.D.
Associate Professor and
Interim Department Chair

Mission Statement

Our **mission** is two-fold: (i) to improve human health and resilience, across the life course, against environmental stressors, such as environmental chemicals, and pollution, through a better understanding of the molecular mechanisms by which they mediate and through developing therapeutic strategies (ii); to educate and train the next generation of scientists and environmental public health leaders. To achieve its mission, the EHS has the following **goals**:

1. To educate individuals for professional careers in Public Health through the MPH degree program, and for research careers through doctoral programs in the EHS concentration.
2. Conduct basic and translational research pertinent to the recognition, characterization, and resolution of adverse environmental effects on human health, specifically brain and behavior, and the etiology of various cancers and chronic diseases.

We aim to train qualified leaders and research professionals who are experts in understanding and investigating the environmental health risks in local South Florida and global community.

FIU Robert Stempel College of Public Health & Social Work

Department of Environmental Health Sciences

Global Environmental Health:
From bench to bedside to community...

EHS

Health effects of pollution

NIH
National Institutes of Health

CDC
Centers for Disease Control and Prevention

OSHA
Occupational Safety and Health

Florida International University, Miami | eah@fiu.edu | 305-348-7778

stempel.fiu.edu/academics/environmental-and-occupational-health

Advising and Administrative Resources

Academic Affairs in EHS

As the Interim Chair of the Department, Dr. Jeremy Chambers and Doctoral Program Director, Dr. Diana Azzam, are the primary points of contact in the Department for administrative issues related to the academic program that cannot be addressed directly by the Major Professor/dissertation committee members/faculty advisor. If an advisor is unavailable for any reason or there are any administrative issues, the next step is to reach out to either Drs. Chambers or Azzam.

Faculty



Jeremy W. Chambers, Ph.D.

Interim Chair and Associate Professor:

Office: AHC5 354

Tel: 305-348-4648

Email: jwchambe@fiu.edu

Website: https://stempel.fiu.edu/faculty/chambers-jeremy-w/?_sft_units=04-environmental-health-sciences

Research interests

Dr. Chambers received his Ph.D. in Biochemistry from Clemson University and completed postdoctoral research stints at the University of Pennsylvania and Scripps Research Institute. His research involves the regulation of mitochondrial function signal transduction and how failure to maintain these mechanisms culminates in changes in neurological function and health. The current research in his lab now focuses on (1) Identifying and Characterizing the signaling cascades present on the mitochondrial outer membrane (MOM) in the CNS, (2) Defining perturbations in MOM signaling that contribute to neurological disease, and (3) Developing novel therapies to correct errors in mitochondria-cell communication to treat neurodegenerative diseases. This research requires state-of-the-art methods in neuroscience, cell biology, biochemistry while incorporating systems biology approaches such as proteomics and network analysis. This approach allows Dr. Chambers' group to comprehensively interrogate neurological function and disorders.



Diana Azzam, PhD

Assistant Professor Director of Doctoral Programs

Office: AHC4-319 Tel: 305-348-9043 Email:

dazzam@fiu.edu

Research Interest

Dr. Diana Azzam's research investigates metastatic and therapy-resistant cancer stem cells as well as novel treatments aimed at targeting them in the most lethal types of breast and ovarian cancers. In collaboration with Nicklaus Children's Hospital, she is also testing the use of a patient-specific ex vivo platform for individualized treatments in children with relapsed or refractory solid tumors and leukemia's. Dr. Azzam is committed to identifying novel therapeutic approaches for the advancement of treatment and improving survival rates of cancer patients.



Kim Tieu, Ph.D

Professor

Office: AHC4 – 421

Tel: 305-348-0371

Email: Ktieu@fiu.edu

Website: https://stempel.fiu.edu/faculty/01-tieu-kim/?_sft_units=04-environmental-health-sciences

Research interests

The major goal of Dr. Tieu's laboratory is to study mechanisms of neuronal dysfunction and degeneration as seen in Parkinson's disease, with the ultimate goal of developing effective disease-modifying therapies for this devastating brain disorder.



Alok Deoraj, M.S., Ph.D.

Senior Instructor and Graduate (MPH) Program Director

Office: AHC 5 – 349

Tel: 305-348-7793

Email: adeoraj@fiu.edu

Website: https://stempel.fiu.edu/faculty/deoraj-alok/?_sft_units=04-environmental-health-sciences

Research interests

Dr. Deoraj current research interest is on understanding the complex environmental and chemical exposure influence on upstream regulation (e.g., via Kisspeptin, GABA and other neuropeptides) of Gonadotropin-releasing Hormone-II (GnRH-II) release and cellular signaling on its downstream role on the timing of the onset of the puberty/adolescence. Complex exposure and its effect on neuroendocrine regulation have shown to affect the timing of the onset of puberty/adolescence as risk factors for reproductive aging and cancers of endocrine origin, including, ovarian, endometrial and breast cancer.



Quentin Felty, Ph.D.

Associate Professor

Office: AHC 5 – 351

Tel: 305-348-7785

Email: feltyq@fiu.edu

Website: https://stempel.fiu.edu/faculty/felty-quentin/?_sft_units=04-environmental-health-sciences

Research interests

Dr. Felty's areas of research interest include the study of adverse effects of elevated estrogen and environmental pollutant exposure on the role of stem cells on vascular lesion formation, estrogen redox signaling pathways in breast carcinogenesis, and antioxidants as a preventative and combinational therapy with er blockers.



Tomas R. Guilarte, Ph.D.

Professor, Dean, Robert Stempel College Public Health Social Work Office:
AHC5 - 507

Tel: 305-348-5344

Email: tguilart@fiu.edu

Website: https://stempel.fiu.edu/faculty/02-guilarte-tomas-r/?_sft_units=04-environmental-health-sciences

Research interests

A leading scientist, educator and academic leader, Guilarte's research has focused on mechanism-based neurotoxicology and neuroscience using behavioral, cellular and molecular approaches, ranging from studies using primary culture of neural cells to the application of brain imaging technologies. He is recognized worldwide for revealing the effects of low-level lead exposure on the central nervous system during development, and subsequently developing therapies to reverse these neurodegenerative effects.



Muhammad M. Hossain, PhD

Assistant Professor

Office: AHC4-430

Tel: 305-348-2327

Email: muhossai@fiu.edu

Website: <https://stempel.fiu.edu/faculty/muhammad-m-hossain/>

Research interests

Dr. Hossain's current research investigates the molecular and cellular mechanisms of neurotoxicity underlying the disruption of adult neurogenesis and cognitive dysfunction and targeting new therapeutic approaches to improve hippocampal neurogenesis and ameliorate cognitive deficits in human



Jason R Richardson, MS, PhD, DABT, ATS

Professor, Associate Dean for Research Office:

AHC5 – 515

Tel: 305-348-6742

Email: jarichar@fiu.edu

Research interests

Dr. Richardson is currently PI on NIH grants that aim to develop drugs to mitigate acute neurotoxicant exposures (U01NS079249), gene-environment interactions in Parkinson's disease (R01ES021800), gene-environment interactions in Alzheimer's Disease (R01ES0206057) and a collaborative grant with Duke University on biomarker development in Alzheimer's (R01ES026067). The laboratory also has a robust program focused on neuroinflammatory pathways in neurodegeneration, which are supported by the Michael J Fox Foundation and private philanthropy.



Deodutta Roy, PhD

Professor

Office: AHC5 – 353

Tel: 305-348-1694

Email: droy@fiu.edu

Website: https://stempel.fiu.edu/faculty/roy-deodutta/?_sft_units=04-environmental-health-sciences

Research interests

Dr. Roy's research focuses on understanding the involvement of natural estrogen and estrogen-like environmental and industrial chemicals in the etiology of human urogenital cancers and reproductive diseases, the gene-environment interactions, genetic polymorphism in environmentally susceptible genes, signal transduction in toxicology and environmental health, and develop the exposure-effect assessment.



Stanislaw F. Wnuk, M.S., Ph.D., D.Sc.

Professor and Associate Dean of Research

Office: AHC 5 – 517

Tel: 305-348-7158

Email: wnuk@fiu.edu

Website: https://stempel.fiu.edu/faculty/wnuk-stanislaw-f/?_sft_units=04-environmental-health-sciences

Research interests

Research involves invention of mechanism-based inhibitors of enzymes vital to cancer cell and/or virus proliferation, and collaborative biochemical evaluation. Another area focuses on new fluorination, radical desulfonylation, and Pd-catalyzed cross-coupling methodologies. Dr. Wnuk's research group is also interested in the design and synthesis of ¹⁸F labeled nucleoside-based probes for Positron Emission Tomography Imaging.



Roberto G. Lucchini, MD

Professor

Office: AHC5-350

Tel: 305-348-7778

Email: Roberto.lucchini@fiu.edu

Research Interests

Dr. Lucchini's research is focused on the health effects of neurotoxic chemicals and the biological mechanisms by which metals, pesticides, persistent organic pollutants, particulate matter and other toxic chemicals can cause injury in the human nervous system, from neurodevelopment to neurodegeneration. He and his team have conducted studies in general populations as well as in occupational groups. With support from the Italian National funds, the European Union and NIEHS, they have assessed the effects of neurotoxic chemicals across the life span in populations that range in age from early childhood, through adult life to old age.

College and Department Contacts

Office Coordinator

Ivonne Sarria
Office Coordinator
Office: AHC 5 - 355
Email: isarria@fiu.edu
Tel: 305-348-7778; Fax: 305-348-1996

Office of Student and Alumni Affairs



Zoraya Arguello
Coordinator of Student and Alumni Affairs
Office: AHC 5 - 145
Email: arguello@fiu.edu
Tel: 305-348-7777

Dean's Office, Robert Stempel College of Public Health and Social Work

Main Office
Office: AHC 5 – 505A
Tel: 305-348-4903

Environmental Health Student Association

The Environmental Health Student Association (EHSA) is a forum by which students, faculty, and leaders in the field of environmental health sciences can socialize, network, and collaborate throughout the academic year. We serve as a platform to support the mentoring and development of both current and future students attending the Environmental Health Sciences department at the Robert Stempel School of Public Health and Social Work here at Florida International University. The EHSA was founded on the principles of the advancement and promotion of causes pertaining to environmental health sciences and related professions. Therefore, specific guidelines are to be adhered by all EHSA members which entail the following: regular attendance in the departmental seminar series, participation in volunteer outreach events, and a passion for collaboration with other public health relevant on and off campus entities. The fact that many diseases stem from environmental origins provides the necessity to expand public awareness towards the effects of environmental exposure to specific health hazards. In this regard, one of the core responsibilities of all EHSA members is to provide education to the general public about pressing environmental health issues and the relevance of our profession in helping to better our world. I am proud of our achievements over the past year, as our members have actively participated in multiple community events centered on public health awareness and education. Such engagements have helped to foster stronger bonds amongst our members, EHS faculty, and fellow environmental health sciences professionals. Our continued success depends on a new generation of students, like you, who can help to carry our momentum into the near future and beyond. The ultimate goal in summary of our organization is to serve as a bastion for EHS research, collaborative efforts, and professional enhancement for current students and alumni. On behalf of the EHSA, I welcome you to the EHS department and remind you that the EHSA is always here to provide you an outlet to engage with your fellow peers bringing your innovative ideas to fruition in the pursuit of your own professional or personal goals!

Truly Yours,

Christian Perez, MPH

President, EHSA

Website: <https://fiu.campuslabs.com/engage/actioncenter/organization/environmental-health-graduate-student-association>

Funding Your Graduate Degree

Stempel College Awards

<https://stempel.fiu.edu/student-life/funding-your-education/>

CV Starr—College

The C.V. Starr Scholarship program provides assistance to students from Latin American and Caribbean countries wishing to pursue a doctoral degree in one of the three disciplines in the Robert Stempel College of Public Health and Social Work: Public Health, Dietetics and Nutrition, or Social Work.

\$24,000 per year

Stempel Scholarship—College

The award provides financial support to a Master in Public Health student annually.

FIU University Graduate School Fellowships

All of the UGS fellowships can be found at the following UGS link:

<http://gradschool.fiu.edu/students/funding/fellowships/>

Presidential Fellowship—Institutional—Deadline in early Spring (early February)

\$30,000/year

Latin American & Caribbean Graduate Fellowship—deadline in early Spring (March)

Award includes a \$1,000 annual stipend and a tuition rate reduction to in-state for the academic year. The student must be a resident of Latin America or the Caribbean (including Puerto Rico and the U.S. Virgin Islands) and must be fully admitted to a graduate degree and enrolled in a minimum of 9 credits in Fall and Spring.

McKnight Doctoral Fellowship—Statewide—deadline in early Spring (January)

\$22,000/year

FIU McNair Graduate Fellowship—National—deadline in early Spring (March)

Must have been an undergrad McNair; applicable to all McNairs nationwide, both Master's and Doctoral; must be newly admitted and nominated by home department/unit.

\$23,000 /year-Doctoral Students

\$15,000/year-Masters Students

FIU Scholarships

<https://fiu.academicworks.com/>

PhD Advising Sheet



Robert Stempel College of Public Health and Social Work
FLORIDA INTERNATIONAL UNIVERSITY

Doctor of Philosophy in Public Health with a specialization in the **Environmental Health Sciences**

College Website: <http://stempel.fiu.edu/> • Careers in Public Health: www.asph.org • For Course Registration: <http://myfiu.edu>

NAME:	PID:	DATE ADMITTED:
--------------	-------------	-----------------------

I. Public Health Core Courses – 12 credits of required coursework. *Students must earn a grade of B or better.*

PREFIX	COURSE DESCRIPTION	HOURS	TERM	GRADE
PHC 6091	Biostatistics II (or other approved Quantitative Methods course)	3		
PHC 6601	Emerging Issues in Public Health	3		
PHC 7705	Methods in Evidence Based Public Health	3		
PHC 7981	Research Concepts and Proposal Development	3		

II. Environmental Health Sciences Core Courses - 9 credits of required coursework.

PREFIX	COURSE DESCRIPTION	HOURS	TERM	GRADE
PHC 6921	Environmental Health Sciences Seminar	1		
PHC 7732C	Research Ethics & Scientific Integrity	1		
PHC 6328	Molecular & Cellular Toxicology	4		
PHC 6329	Biomarkers	3		

III. Brain Behavior Environment Concentration (BBE): 12 credits of required coursework for the BBE track.

PREFIX	COURSE DESCRIPTION	HOURS	TERM	GRADE
PHC 7381C	Neuroscience (This course to be taken 1 st)	4		
PHC 7731C	Advanced Neurotoxicology Research Methods	2		
PHC 7384	Advanced Neurotoxicology	4		
PHC 7385C	Emerging Issues in Neurotoxicology	2		

Or,

Environmental Toxicology Concentration: 12 credits of required coursework for the Env. Tox. track.

PREFIX	COURSE DESCRIPTION	HOURS	TERM	GRADE
PHC 7300	Biological Basis of Environmental Diseases	4		
PHC 7327	Emerging Issues in the Environmental Health Sciences	2		
PHC 7374	Organ-specific Toxicology	4		
PHC 7713	Advanced Environmental Toxicology Research Methods	2		

IV. Environmental Health Science Content Courses – a minimum of 9 credits of coursework is required.

PREFIX	COURSE DESCRIPTION	HOURS	TERM	GRADE
PHC 6310	Environmental Toxicology	3		
PHC 6311	Environmental Health Risk Assessment	3		
PHC 6312C	Health Impacts of Air, Water, and Land Pollution	3		

PHC 6355	Environmental Health & Safety	3		
PHC 6374	Environmental Disasters & Human Health	3		
PHC 6422	Regulatory Aspects of the Environmental Health Sciences	3		
PHC 6442	Global Environmental Public Health	3		
PHC 6538	Gene & Environment Interactions	3		
PHC 6380	Introduction to Neurotoxicology	3		
PHC 6730C	Neurotoxicology Research Methods	3		
PHC 6382	Neuropharmacology	3		
PHC 6383C	Neurobehavioral Techniques	3		
PHC 6907	Independent Study in Environmental Health	3		
PHC 6914L	Current Topics in Environmental Health Research (Lab)	3		
PHC 6917	Pre-doctoral research	3		
PHC 6920	Special Topics in Environmental Health	3		
PHC 7300	Biological Basis of Environmental Diseases	4		
PHC 7327	Emerging Issues in the Environmental Health Sciences	2		
PHC 7374	Organ-specific Toxicology	4		
PHC 7713	Advanced Environmental Toxicology Research Methods	2		
PHC 7381C	Neuroscience	4		
PHC 7731C	Advanced Neurotoxicology Research Methods	2		
PHC 77384	Advanced Neurotoxicology	4		
PHC 7385C	Emerging Issues in Neurotoxicology	2		

Courses should be identified in consultation with Major Professor, and/or Committee.

V. Secondary Courses - a minimum of 9 credits of approved secondary field courses are required. Secondary field courses must be selected from the approved graduate school courses in consultation with major professor.

VI. Dissertation – a minimum of 15 credits are required, as recommended by major professor.

PREFIX	COURSE DESCRIPTION	HOURS	TERM	GRADE
PHC 7980	Dissertation	15		

Graduation Requirements:

1. Satisfy all requirements for Ph.D. of Public Health in Environmental Health Sciences.
2. Complete a minimum of 75 credit hours of graduate level coursework in approved program.
3. Earn a minimum overall GPA of 3.0 in all coursework completed.
4. Complete Forms D1 - D7 (Dissertation Approval Forms) as per University Graduate School guidelines and deadlines. Forms can be accessed at gradschool.fiu.edu/student-forms.shtml
5. Meet with Major Professor to receive Graduation Check prior to final semester.
6. Apply for graduation at the Registrar's Office during registration of final semester. (See University Catalog for most current deadlines).

Required Courses

The major requires a minimum of 75 credit hours beyond the baccalaureate which includes a minimum of 24 credit hours of dissertation credits. There are three components to the Ph.D. curriculum. The first is a core curriculum shared across all majors (12 credit hours). The second component is specific to the major (9 credit hours). The third component is specific to the concentration (12 credit hours), followed by content and secondary field courses (to total a minimum of 18 required credit hours). The fourth component consists of the dissertation, including a minimum of 24 dissertation credit hours. The remaining credit hours to add up to the minimum university requirement of 75 credits will be determined in consultation with the student's advisor. *Updated 04/09/2018*

Environmental Health Sciences

Jeremy W. Chambers, *Interim Chair and Associate Professor*

Kim Tieu, *Professor*

Diana Azzam, *Assistant Professor and Director of Doctoral Programs*

Alok Deoraj, *Associate Teaching Professor and Graduate Program Director (MPH)*

Quentin Felty, *Associate Professor*

Tomás R. Guilarte, *Professor and Dean, Robert Stempel College of Public Health and Social Work*

Jason Richardson, *Professor and Associate Dean of Research*

Deodutta Roy, *Professor*

Stanislaw Wnuk, *Professor and Associate Dean of Graduate Education*

Muhammad Hossain, *Assistant Professor*

Roberto Lucchini, *Professor*

Xugang Xia, *Professor and Associate Vice President of Translational Neuroscience at the FIU-Center for Translational Science (FIU-CTS)*

Hongxia Zhou, *Professor (FIU-CTS)*

Stephen Black, *Professor and Associate Vice President for Translational Research (FIU-CTS)*

Ting Wang, *Professor (FIU-CTS)*

Haiwei Gu, *Associate Professor (FIU-CTS)*

Qi Lin Cao, *Professor (FIU-CTS)*

Heidi Mansour, *Professor (FIU-CTS)*

Ying Liu, *Associate Professor (FIU-CTS)*

The Department offers a Graduate Certificate in Environmental Health Sciences (EHS), a Master's degree in Public Health (MPH) with a major in EHS and MPH in EHS with a concentration in Brain, Behavior, and the Environment (BBE). The department also offers a Ph.D. in Public Health with a major in the EHS with concentrations in Environmental Toxicology or Brain, Behavior, and the Environment (BBE).

MPH in the Environmental Health Sciences Major

The graduate training programs in the Environmental Health Sciences are both interdisciplinary and interdepartmental. The Department of Environmental Health Sciences performs high quality mechanism- and evidence-based translational research, which impacts our teaching and training for future Environmental Health leaders. Our multidisciplinary EHS Faculty conduct world class research to investigate and prevent human diseases caused by environmental exposure, that goes beyond the traditional focus on hazardous agents.

Admission Requirements

Applicants to the MPH program with a major in Environmental Health Sciences (EHS) must meet the following requirements:

1. A Bachelor's (or Master's) degree in biology, chemistry, physics, nursing, medicine, engineering, or other appropriate field with at least one (1) undergraduate biology, and one (1) undergraduate chemistry course from an accredited college or

university or, in the case of foreign students, an institution recognized in its own country as preparing students for further study at the graduate level.

2. A minimum 3.0 GPA (on the last 60 undergraduate hours). In addition, applicants are required to submit 1) a current resume; and 2) a written statement of purpose (career goals).
3. International graduate student applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). A total score of 80 on the iBT TOEFL or 6.5 overall on the IELTS is required.
4. Submission of official GRE scores is optional. If a student decides to submit GRE scores, the scores must be less than 5 years old.

Curriculum and Course Requirements

For the MPH with a major in Environmental Health Sciences, ALL students must complete the MPH core (15 credits) and departmental core courses (12 credits), EHS selected elective courses (12 credits), a Practicum (3 credits) and Integrative Seminar (3 credits) course.

MPH Core Curriculum: (15 credits)

PHC 6000	Epidemiology I: Introduction to Public Health Epidemiology	3
PHC 6052	Biostatistics I	3
PHC 6102	Introduction to Public Health Policy and Management	3
PHC 6315	Introduction to Environmental Health Sciences	3
PHC 6410	Health Behavior and Public Health	3

Major in Environmental Health Sciences Core

Courses: (12 credits)

PHC 6310	Environmental Toxicology	3
PHC 6311	Environmental Health Risk Assessment	3
PHC 6355	Environmental Health and Safety	3
PHC 6374	Environmental Disasters & Human Health	3

Elective Courses: (12 credits)

PHC 6312C	Health Impacts of Air, Water, and Land Pollution	3
PHC 6422	Regulatory Aspects of Environmental Health Sciences	3
PHC 6442	Global Environmental Public Health	3
PHC 6538	Gene & Environment Interaction	3
PHC 6907	Independent Study in Public Health	1-3
PHC 6920	Special Topics in Environmental Health Sciences	3
PHC 6380	Introduction to Neurotoxicology	3
PHC 6730C	Neurotoxicology Research Methods	3
PHC 6382C	Neuropharmacology	3
PHC 6383C	Neurobehavioral Techniques	3

Practicum and Culminating Experience: (6 credits)

PHC 6945	Practicum in Public Health	3
PHC 6930C	Integrative Seminar in Public Health	3

PHC 6945 (Practicum) and PHC 6930C (culminating experience) are both required for all MPH students. The Practicum may be taken after completing a minimum of 30 hours, including all core courses. The Practicum may be waived if the student has at least 3 years of relevant practice experience working in a public health practice setting. The waiver request is prepared and submitted by

the student, through their Faculty Advisor and Department Chair, for final approval/disapproval by the Academic Public Health Director. If the Practicum requirement is waived, the student will need to substitute 3 additional approved hours so that the total curriculum hour requirement of 45 is met. MPH students are expected to complete PHC 6930C Integrative Seminar in Public Health during their last semester in the program.

MPH in the Environmental Health Sciences with a Concentration in Brain, Behavior and the Environment

The total credit requirement for the MPH is 45 credits. The BBE concentration is part of the MPH Environmental Health Sciences major, which includes five courses (15) credits in the MPH Core Curriculum, four courses (12 credits) in the EHS major, and two courses (6 credits) in the Practicum and Culminating Experience. The other 12 credits will be from the BBE concentration required coursework.

MPH Core Curriculum: (15 credits)

PHC 6000	Epidemiology I: Introduction to Public Health Epidemiology	3
PHC 6052	Biostatistics I	3
PHC 6102	Introduction to Public Health Policy and Management	3
PHC 6315	Introduction to Environmental Health Sciences	3
PHC 6410	Health Behavior and Public Health	3

Major in Environmental Health Sciences Core Courses: (12 credits)

PHC 6310	Environmental Toxicology	3
PHC 6311	Environmental Health Risk Assessment	3
PHC 6355	Environmental Health and Safety	3
PHC 6374	Environmental Disasters & Human Health	3

Concentration in Brain, Behavior and the Environment Required Courses: (12 credits)

PHC 6380	Introduction to Neurotoxicology	3
PHC 6730C	Neurotoxicology Research Methods	3
PHC 6382C	Neuropharmacology	3
PHC 6283C	Neurobehavioral Techniques	3

Practicum and Culminating Experience: (6 credits)

PHC 6945	Practicum in Public Health	3
PHC 6930C	Integrative Seminar in Public Health	3

Doctor of Philosophy in Public Health Major in Environmental Health Sciences with a Concentration in Environmental Toxicology or Brain, Behavior and the Environment

The Doctor of Philosophy (Ph.D.) in Public Health is available with a major in Environmental Health Sciences, with concentrations either in: Environmental Toxicology, or Brain, Behavior, and the Environment. Students will be expected to demonstrate significant research capacity by completing 60 credits beyond the Master's degree and through the writing of an original dissertation.

Doctoral Admissions

Applicants must meet the University's general graduate admission requirements:

1. A four-year bachelor's degree or equivalent from a nationally accredited institution or, in the case of foreign students, from a well-established institution of higher learning that is authorized to grant degrees by appropriate authorities in that country.
2. A minimum of a 3.0 GPA, "B" average, in the last 60 upper-division undergraduate coursework, or a graduate degree from a nationally accredited institution.
3. Official GRE scores (scores must be no more than five years old).
4. International graduate student applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). A total score of 80 on the iBT TOEFL or a 6.5 overall on the IELTS is required.

The College also requires:

1. A current resumé.
2. Three letters of recommendation.
3. A writing sample (Master's thesis or research project, published manuscript, or some other document which demonstrates writing ability).
4. A personal statement of research interest.

Potential applicants are strongly encouraged to contact individual faculty to discuss common research interests since admission decisions require identification of a faculty mentor, and evaluation of fit to the program.

Doctoral Requirements

A student may enroll for dissertation credits after completing all coursework, passing the candidacy examination, and being advanced to candidacy. Dissertation credits cannot be taken before advancement to candidacy.

The candidacy examination will be prepared and graded by a committee consisting of a minimum of three faculty members. Admission to candidacy requires that a majority of the committee members agree that the student passed the examination. A candidacy examination may not be passed conditionally. A "Pass" on the examination cannot be made contingent upon other factors such as the completion of additional coursework or the preparation of extra research projects. Students will be allowed only two attempts to pass the candidacy examination.

After a doctoral student is admitted to candidacy, continuous registration for at least 3 dissertation credit hours each semester (including the summer term) is required until the dissertation requirement is fulfilled.

Required Courses

The major requires a minimum of 75 credit hours beyond the baccalaureate which includes a minimum of credit hours of dissertation credits. There are three components to the Ph.D. curriculum. The first is a core curriculum shared across all majors (12 credit hours). The second component is specific to the major (9 credit hours). The third component is specific to the concentration (12 credit hours), followed by content and secondary field courses (to total a minimum of 18 required credit hours). The fourth

component consists of the dissertation, including a minimum of 15 dissertation credit hours. The remaining credit hours to add up to the minimum university requirement of 75 credits will be determined in consultation with the student's advisor.

Shared Core Courses: (12 credits)

PHC 6601	Emerging Issues in Public Health	3
PHC 6091	Biostatistics 2	3
	(or other approved Quantitative Methods course)	
PHC 7981	Research Concepts and Proposal Development	3
PHC 7705	Methods in Evidence Based Public Health	3

Courses for Environmental Health Sciences Major requires 9 hours of EHS Major Core Courses; 12 hours of concentration courses, and 9 hours of content and secondary field courses. Overall, this must include a minimum of 9 hours at the 7000 level.

Environmental Health Sciences Major Core Courses: (9 credits)

PHC 6328	Molecular & Cellular Toxicology	4
PHC 6329	Biomarkers	3
PHC 7732C	Research Ethics & Scientific Integrity	1
PHC 6921	Environmental Health Sciences Seminar	1

Environmental Toxicology Concentration: (12 credits)

PHC 7300	Biological Basis of Environmental Diseases	4
PHC 7327	Emerging issues in the Environmental Health Sciences	2
PHC 7374	Organ-specific Toxicology	4
PHC 7713	Advanced Environmental Toxicology Research Methods	2

Brain Behavior and the Environment Concentration: (12 credits)

PHC 7381C	Neuroscience	4
PHC 7731C	Advanced Neurotoxicology Research Methods	2
PHC 7384	Advanced Neurotoxicology	4
PHC 7385C	Emerging Issues in Neurotoxicology	2

Content Courses: (a minimum of 9 credits are required)

At least 9 credit hours of approved content courses. Content course may be selected from the approved EHS courses identified below, unless otherwise indicated.

PHC 6310	Environmental Toxicology	3
PHC 6311	Environmental Health Risk Assessment	3
PHC 6312C	Health Impacts of Air, Water, and Land Pollution	3
PHC 6355	Environmental Health and Safety	3
PHC 6374	Environmental Disasters & Human Health	3
PHC 6442	Global Environmental Public Health	3
PHC 6422	Regulatory Aspects of Environmental Health Sciences	3
PHC 6538	Gene & Environment Interaction	3
PHC 6907	Independent Study in Public Health	3
PHC 6914L	Current Topics in Environmental Health Sciences Research Lab	1-9
PHC 7917	Pre Doctoral Research	1-6
PHC 6920	Special Topics in Environmental Health Sciences	3

PHC 6380	Introduction to Neurotoxicology	3
PHC 6730C	Neurotoxicology Research Methods	3
PHC 6382C	Neuropharmacology	3
PHC 6383C	Neurobehavioral Techniques	3
PHC 7300	Biological Basis of Environmental Diseases	4
PHC 7327	Emerging Issues in the Environmental Health Sciences	2
PHC 7374	Organ-Specific Toxicology	4
PHC 7713	Advanced Environmental Toxicology Research Methods	2
PHC 7381C	Neuroscience	4
PHC 7731C	Advanced Neurotoxicology Research Methods	2
PHC 7384	Advanced Neurotoxicology	4
PHC 7385C	Emerging Issues in Neurotoxicology	2

Secondary Field Courses: (a minimum of 9 credits are required)

At least 9 credit hours of approved secondary field courses. Secondary field courses may be selected from approved graduate school courses in consultation with the student's academic advisor.

Dissertation Requirements: (a minimum of 15 credits are required)

PHC 7980	Dissertation	15
----------	--------------	----

For additional and updated information about degrees offered, entrance requirements, and services, please visit our website:

<http://stempel.fiu.edu/students/advisina/index.html>.

And

To learn about faculty and EHS research areas, please visit our EHS website:

https://stempel.fiu.edu/faculty/?_sft_units=04-environmental-health-sciences

Graduate Course Descriptions

(Number of credits are indicated in parentheses)

Course Descriptions

Definition of Prefixes

FES-Fire and Emergency Services; FSS-Food Service Systems; GEY-Gerontology; HSC-Health Sciences; HUN-Human Nutrition; HSA-Health Services Administration; IHS-Interdisciplinary Health Sciences; PHC-Public Health; SOW-Social Work

PHC 5009 AIDS: Contemporary Issues (3).

This course introduces the contemporary social and public health issues associated with the AIDS epidemic and the policies and programs designed to prevent HIV transmission.

PHC 5108 Foundations of Public Health Practice for Social Workers (1).

This course will serve as an introduction to applied public health (PH) for MSW level social workers, provide an overview of public health disciplines and provide exposure to its field applications.

PHC 5158C A History of United States Health Policy (3).

Places contemporary health policy controversies into historical perspective by highlighting some of the major health-related issues that have drawn federal intervention during the past two centuries. Prerequisite: PHC 6102.

PHC 5409 Public Health Behavior Change Theory and Practice (3).

A course for health promotion practitioners who lack formal training in behavior change foundations and strategies. The course emphasizes applications to practical development of health promotion interventions. (S)

PHC 5415 Public Health in Minority/Urban Population (3).

Covers the scope of Public Health Issues related to minority and urban populations with an emphasis on health care status, utilization of the health care system and expenditures. (F)

PHC 5581 Public Health Aspects of Complementary and Alternative Medicine (3).

Introduction of theory, practice and

scientific evidence for complementary and alternative medicine. Emphasis on regulatory issues and quality assurance; politics of use and social, cultural and historical factors.

PHC 5675 The Cuban Maternal and Child Health Paradox: A View from Santiago de Cuba (3).

This course consists of visits and encounters with workers in the front line of MCH in Cuba who contribute to the Cuban "paradox" (low maternal and infant mortality in a low-resource setting).

PHC 6000 Epidemiology I: Introduction to Public Health Epidemiology (3).

This course is an introduction to the study of the distribution, determinants, and measurement of health and disease in populations, including design methods and their application. (F,S)

PHC 6001 Environmental and Occupational Epidemiology (3).

This course covers outbreaks; cluster analysis; cross-sectional, case-control, cohort, ecological and time series designs; surveillance programs; environmental cancer; reproductive hazards, biological monitoring and biomarkers. Prerequisites: PHC 6315 and PHC 6000.

PHC 6002 Infectious Disease Epidemiology (3).

This course covers principles specific to infectious disease epidemiology, explores the application of epidemiologic methods to infectious disease problems, and examines surveillance, and outbreak investigation. Prerequisites: PHC 6000 and PHC 6065.

PHC 6003 Chronic Disease Epidemiology (3).

A review of selected epidemiologic research methodology as it applies to infectious and chronic diseases and its application towards understanding selected major infectious and chronic diseases from a population based perspective. Prerequisite: PHC 6000.

PHC 6004 Injury Epidemiology and Prevention (3).

Analyzes the impact and

extent of injuries as a public health problem. Issues of prevention, sources of data, environment, social and occupational aspects are included in an epidemiological approach. Prerequisite: PHC 6000. (SS)

PHC 6007 Cancer Epidemiology (3). This course will provide an understanding of the epidemiological patterns, etiology and risk factors of cancer from a community and population perspective. Prerequisite: PHC 6000.

PHC 6008 Cardiovascular Disease Epidemiology (3). This course will increase understanding of epidemiological patterns, etiology and risk factors of selected major cardiovascular disease from a population based perspective. Prerequisites: PHC 6000, PHC 6065.

PHC 6009 AIDS Epidemiology and Control (3). Reviews the epidemiology, virology, immunology, and clinical aspects of HIV, and also examines its impact upon risk groups and the responses of society to the epidemic. Prerequisites: PHC 6000 and PHC 6065 or permission of the instructor. (S)

PHC 6012 Current Research in Epidemiology (3). This course will examine current areas of research in epidemiology and bring students into contact with researchers in various fields. Prerequisites: PHC 6000, PHC 6065. (S)

PHC 6013 Epidemiology II: Observational Design (3). The fundamental concepts, principles, and methods of observational epidemiologic research at an intermediate level. (S)

PHC 6014 Behavioral Epidemiology (3). This course will examine human behaviors as determinants of health and disease, methods of exploring these relationships, and ways of altering risk behaviors. Prerequisite: PHC 6000.

PHC 6016 Social Epidemiology (3). Explores the epidemiological aspects of health and medical care of the poor and disadvantaged population groups. Emphasis on the relationship of organization and delivery of health care, including health

promotion, prevention, and related topics. Prerequisite: PHC 6000 and PHC 6065 or permission of the instructor. (F)

PHC 6020 Clinical Epidemiology (3). A course on methods in clinical epidemiologic studies, including study design, sample size, clinical measurements, clinimetric indices, casual inference, analytic issues and clinical decision making. Prerequisites: PHC 6065, PHC 6000 or permission of the instructor.

PHC 6033 Mechanism of Complex Disease in Public Health (3). This course will review genetic and non-genetic epidemiologic associations with complex diseases together with the underlying biological basis for them to develop strategies for prevention. Prerequisites: PHC 6000 and undergraduate course in (human) biology.

PHC 6034 Intermediate Epidemiology (3). This course is designed for Public Health students requiring a more thorough knowledge of the concepts and methods used in epidemiological research. Prerequisite: PHC 6000.

PHC 6052 Biostatistics I (3). An introduction to basic biostatistical techniques for MPH students majoring in Biostatistics, but also open to those seeking a thorough understanding of and ability to use the essential biostatistical procedures. Prerequisites: Familiarity with basic algebra and basic calculus is important.

PHC 6055 Data Management and Applied Epidemiologic Analysis (3). Covers practical issues related to the management, security, and analysis of epidemiologic data by creating, managing, and analyzing an epidemiologic database using statistical software packages.

PHC 6056 Longitudinal Health Data Analysis (3). Applied longitudinal health data analysis; methods to compare different health treatments and behavioral interventions. Focus will be on models for single and multiple correlated public health outcomes. Prerequisites: PHC 6052, PHC 6091 or permission of the instructor.

PHC 6059 Cohort Studies and Lifetime Events in Public Health (3). Concepts of lifetime events and survival data in Public Health; modern methods used to analyze time-to-event data; non-parametric and parametric models. Prerequisites: PHC 6065; PHC 6013. Corequisite: PHC 6091.

PHC 6060 Principles and Approaches to Biostatistical Consulting (3). The course specifically addresses the process of providing biostatistical consulting support for public health, medical and clinical research. Prerequisites: PHC 6052, PHC 6091, PHC 6093.

PHC 6062 Systematic Reviews and Meta-Analysis (3). This course is designed to train students in the conduct of a systematic literature review and developing the skills critical for evidence-based clinical and public health practice.

PHC 6063C Health Policy Database Applications I (3). In this course students identify and manage secondary data to obtain quantitative evidence to support public health/health system decision making. Prerequisites: PHC 6000, PHC 6065

PHC 6064 Models for Binary Public Health Outcomes (3). This course will offer students a focused introduction to statistical models for the analysis of binary medical and public health data. The course will provide an introduction to the application of statistical models for PH outcomes in epidemiology, dietetics and nursing. Prerequisite: PHC 6052 or permission of the instructor.

PHC 6065 Public Health Statistics (3). Covers the basic concepts and tools for non-biostatisticians, including descriptive statistics, confidence intervals, hypothesis testing, the basic statistical tests and data presentation. (F,S)

PHC 6067 Probabilistic Graphical Models (3). Concepts and implementation of Probabilistic Graphical Models, comparative study the models, and their suitability for various datasets. Prerequisites: PHC 6052, PHC 6091, or permission of the instructor.

PHC 6080 SAS Computing for the Health Sciences (3). Course covers essential computer-based techniques for the SAS system for data management and statistical analysis relevant to public health. Topics include: programming techniques, macro programming, and SQL with SAS. Prerequisites: PHC 6052, PHC 6091 or permission of the instructor.

PHC 6086 Cluster Analysis for Public Health (3). This course introduces data matrix, types of data, measures of similarity, hierarchical and non-hierarchical clustering methods, density based methods, clustering trees, and number of clusters. Prerequisites: PHC 6065 or an equivalent, basic calculus and linear algebra.

PHC 6087C Health Policy Database Applications II (3). Students will analyze secondary data and communicate results to inform evidence-based public health/health system decision making. Prerequisite: PHC 6102, PHC 6063C

PHC 6090 Advanced Public Health Statistics (3). Public Health Statistics continuation. Covers the concepts and interpretation of randomized blocks and factorial ANOVA, multiple, logistic and proportional hazards regression techniques and survival analysis. Prerequisite: PHC 6065.

PHC 6091 Biostatistics 2 (3). Continuation of Biostatistics I. Covers advanced methods for ANOVA, different regression and correlation techniques and survival analyses. Prerequisite: PHC 6052.

PHC 6093 Biostatistical Data Management Concepts and Procedures (3). Covers procedures and tools for data management, including data collection, transfer, handling, quality and security issues for research projects for public health, medicine and related fields.

PHC 6102 Introduction to Public Health Policy and Management (3). This core public health course introduces students to comparative health systems and policies in the United States and globally with key

concepts and methods in policy assessment and evaluation.

PHC 6103 Introduction to Applied Public Health (3). This course will serve as an introduction to applied public health and provide an overview of core public health disciplines with hands-on exposure to its application in the field.

PHC 6104C Public Health Management and Leadership (3). This course integrates theory with practice by examining management, leadership and organizational behavior in public health organizations.

PHC 6110 Health Risk Appraisal (3). Health promotion technique designed for identifying personal health risks and the use of these methodologies for inducing behavioral change. Evaluation of the effectiveness of various health appraisal instruments. Prerequisite: Biostatistics and Epidemiology.

PHC 6113 Community Health Promotion Planning and Research (3). This course allows students to develop and apply the research principles necessary for needs assessments, planning, implementation, and evaluation of health promotion programs for diverse populations. Prerequisite: PHC 6410

PHC 6118 Population Health Management and Improvement I (3). This course is an introduction to population health management, an emerging model in healthcare delivery that involves moving from individual-based episodic healthcare to a population health model. Prerequisite: PHC 6102.

PHC 6146 Health Promotion Program Planning and Intervention Design (3). The principles of and practices of health promotion program planning and design, development, testing of behavioral interventions are described and explained in this course. Prerequisites: PHC 6410, PHC 6706, PHC 6065.

PHC 6147C Continuous Quality Improvement in Healthcare Organizations (3). This course covers continuous quality improvement (CQI) strategies in healthcare

and health systems, including foundational concepts in patient safety and quality, leadership, teams, and systems. Prerequisite: PHC 6102.

PHC 6148 Strategic Planning for Healthcare Organizations (3). This course introduces students to strategic planning for healthcare organizations encouraging modern business approaches, including the planning process and using data to identify growth opportunities. Prerequisite: PHC 6102.

PHC 6150 Public Health Policy Analysis and Formulation (3). Strategies for formulating public health policy; political processes; resource allocation, organization, and participation. Examination of current policy issues and efforts to effect change. (SS)

PHC 6154C Evidence Synthesis Applied to Clinical Settings and Health Policy-Making (3). This decision-making processes in health-policy and clinical settings and describes methods for communicating evidence synthesis to its end-users. Prerequisites: PHC 6000, PHC 6065 course covers evidence synthesis applied to.

PHC 6155C Health Policy Analysis (3). Students will analyze public health and health care policies from multiple perspectives, communicate health policy issues via written reports, and develop the capacity to collaborate with peers. Prerequisite: PHC 6065.

PHC 6160 Public Health Budgeting and Financial Management (3). The course covers the analysis of healthcare financial statements, cost allocation, and budgeting. It introduces the basic concepts of accounting and reimbursement methods of healthcare organizations.

PHC 6183 Disaster Risk and Emergency Management in Public Health I (3). This course meets the demand for new management strategies and skills that will permit an orderly, structured, effective, and flexible approach to health emergency preparedness and response.

PHC 6185 Disaster Risk and Emergency Management in Public Health II (3). This course meets the demand for new management strategies and skills that will permit an orderly, structured, effective, and flexible approach to health preparedness and response. Prerequisite: PHC 6183.

PHC 6190 Biostatistical Methods for Survey Research (3). Discusses the biostatistical issues for sample surveys in the health sciences. Includes the use of national/state health databases. Prerequisites: PHC 6052, PHC 6091, or permission of the instructor.

PHC 6251 Disaster and Emergency Epidemiology (3). Disaster and Emergency Epidemiology studies the public health response to natural disasters, environmental emergencies and perpetuated acts of terrorism.

PHC 6256C Population Health Management and Improvement II (3). This is second in a two-course sequence. This course moves students from the conceptualization of population health management issues and initiatives to real-world implementation and evaluation. Prerequisites: PHC 6102 and PHC 6118.

PHC 6307 Exposure Assessment in Environmental and Occupational Epidemiology (3). Surveys available mechanisms utilized by public health and environmental agencies to monitor levels of pollution, environmental quality, and change in environmental conditions which impact human health. Prerequisites: PHC 6000, PHC 6065, PHC 6315. (SS)

PHC 6310 Environmental Toxicology (3). Theory and practice of occupational and environmental toxicology; health effects of toxins in humans; principles of toxicology; toxicokinetics; and health effects of toxins on organ systems. Prerequisite: PHC 6315.

PHC 6311 Environmental Health Risk Assessment (3). This course explores environmental health care management problems associated with risk to the population from exposure to particular agents and conditions. Emphasizes practical

problems in risk estimation through the case method approach. Prerequisite: PHC 6315. (S)

PHC 6312C Health Impacts of Air, Water and Land Pollution (3). The course covers the impact of air, water and land pollution on human health/well-being and on the whole environment plus pollution and control measures of each kind of pollution. Prerequisite: PHC 6315.

PHC 6315 Introduction to Environmental Health Sciences (3). An overview of public health philosophy and government organization in the provision of official agency, environmental, and preventive medicine services, with particular emphasis on the regulatory and surveillance responsibilities authorized in the public sector. (F,S)

PHC 6316 Environmental Health Management (3). The course provides the student with skills in management of the programs dealing with food, water, waste, radiation, workplace, air, energy, human establishments, and humanitarian challenges. Prerequisites: PHC 6315 or permission of the instructor.

PHC 6326 Emerging Environmental Health Issues (Local/County, State, U.S., and Global) (3). This course is designed to provide students in environmental health with a step-by-step guide to the practical application of knowledge already acquired in environmental and occupational health sciences.

PHC 6328 Molecular and Cellular Toxicology (4). The course is designed to provide a mechanistic understanding of how environment agents result in toxicity at the cellular and molecular level through interactions with receptors, enzymes, and DNA.

PHC 6329 Biomarkers (3). This course will provide an understanding of the principles, identification, validation and application of molecular biomarkers, and their use health/disease risk assessment in human populations.

PHC 6355 Environmental Health and Safety (3). The course covers recognition of environmental hazards and injuries and the principles of environmental safety including regulations, standards and models of accident causation at work places. Prerequisite: PHC 6315.

PHC 6356 Fundamentals of Industrial Hygiene (3). The course covers recognition, evaluation, and control of chemical biological and physical agents in the workplace; application to exposure, control measures, and standard setting procedures. Prerequisite: PHC 6315.

PHC 6374 Environmental Disasters and Human Health (3). This course will provide an overview of environmental disasters and the measures designed to reduce the impact of disasters on Environmental Health. It aims to strengthen the ability of people to withstand the disruption of their accustomed infrastructure and systems for environmental health.

PHC 6380 Introduction to Neurotoxicology (3). This master-level course will provide students a knowledge of how environmental neurotoxicants may impact the development and progression of brain diseases such as Alzheimer's and Parkinson's.

PHC 6382C Neuropharmacology (3). This course introduces fundamental concepts in neuropharmacology, such as pain relief and mood modulation, and describe how environmental factors affect drug actions in the nervous system.

PHC 6383C Neurobehavioral Techniques (3). A master's level course designed to introduce students to neurobehavioral methods used in the research lab and clinic to assess the effects of environmental exposures. Prerequisite: PHC 6380, PHC 6382C

PHC 6410 Health Behavior and Public Health (3). The overall goal of this course is to introduce the student to the learning and behavioral science theories that provide the framework for the practice of health promotion and public health. Prerequisites:

Public Health major or permission of the instructor. (F,S)

PHC 6412 Health Promotion in Culturally Diverse Communities (3). This course will examine both analytical and practical approaches to cultural competency, cultural humility, and addressing the public health needs of culturally diverse communities.

PHC 6422 Regulatory Aspects of Environmental Health Sciences (3). The application of law as it relates to the environment and human health. Legal process and rule-making; cost-benefit analysis; judicial review; evidentiary problems; and other elements of environmental law are emphasized. Prerequisites: PHC 6000, PHC 6065 and PHC 6315. (S)

PHC 6430C Public Health Economics (3). This course focuses on the application of basic microeconomics tools to the analysis of consumers', producers', and insurers' behavior in the market for health care. Prerequisite: PHC 6065 or permission of the instructor.

PHC 6436 Advanced Issues in Economic Evaluation of Health Care Programs (3). This course presents applications of economic evaluation issues including cost analysis, health outcomes, and health state utilities. Prerequisites: PHC 6065, PHC 6430.

PHC 6441 Epidemiology of Health Disparity (3). This course is designed to provide an overview and understanding of Health Disparity, its indicators, measuring methods and models as well as theoretical underpinning for explanation of Health Disparity. Prerequisites: PHC 6000 and PHC 6065.

PHC 6442 Global Environmental Public Health (3). This graduate level course addresses global public health issues by integrating the complex molecular, biological, environmental, technological and social system interactions causing diseases. Prerequisites: PHC 6315 or PHC 6312 or by instructor's permission and IDS 3189 or IDS 3183.

PHC 6443 Ethical Issues in Public Health (3). This course provides an overview of ethical principles, perspectives, and decision-making in public health. (F,S)

PHC 6465C Public Health and Medicine in History (3). This course introduces students to central themes and questions pertaining to the history of medicine, public health, and health care in the United States.

PHC 6500 Foundations of Public Health Practice (3). Philosophy, nature, and scope of public health; organization and administration; principles of disease prevention and health promotion; current issues and trends; socioeconomic and political forces. Prerequisites: Public Health major or permission of the instructor. (F,S,SS)

PHC 6504 Introduction to Public Health Education and Wellness (3). Primarily intended to introduce graduate students to concepts and principles underlying the use of Public Health and Behavioral Strategies to positively influence behavioral patterns. Prerequisites: Public Health major or permission of the instructor. (S)

PHC 6510 Advanced Infectious and Tropical Disease Epidemiology (3). Course covers advanced principles specific to tropical infectious disease biology, immunology, pathogenesis, epidemiology, and investigation strategies relevant to S Florida, Caribbean, Latin America. Prerequisite: PHC 6000 and PHC 6002

PHC 6520 Public Health Aspects of Foodborne Diseases (3). Examines the scope of the foodborne disease problem; factors that contribute to outbreak of foodborne disease; strategies for the prevention and control of these diseases are explored. Prerequisites: PHC 6000, PHC 6065, and PHC 6315. (SS)

PHC 6530 Principles of Maternal and Child Health (3). Covers the scope of the field of maternal and child health with emphasis on the needs of infants, children, youth, women and families in the reproductive cycle and programs designed to meet these needs. Prerequisites: Public

Health major or permission of the instructor. (S)

PHC 6531 Environmental Justice: Contextualizing Maternal and Child, Women, Youth, and Family (WYF) Wellbeing (3). Explores disparities in exposures to environmental agents and conditions and related adverse events and outcomes relevant to maternal, child, reproductive, and family health and approaches to respond.

PHC 6536 Health Demography (3). The study of basic population structure, composition, trends and relationship to health status. Implications of demographic trends, policies for public health; population growth, immigration, infant mortality. Prerequisites: PHC 6065 or permission of the instructor. (SS)

PHC 6537 Case Studies in Maternal and Child Health Programs, Policies and Research (3). Seminar course focused on intended and unintended impact of programs and policies on the health of women and children from a life course perspective, identifying research gaps and needs. Prerequisite: PHC 6530 or permission of the instructor. Corequisite: If student has not taken PHC 6530, should be taken concurrently.

PHC 6538 Gene & Environment Interaction (3). Genetic issues and topics that impact on Public Health will be covered such as HW gene frequencies and HUGO. A public health perspective with a field of study.

PHC 6580 Contemporary Issues in Health Promotion (3). Current problems and findings in health promotion content areas such as smoking, alcohol, and drug misuse, family health, safety, physical fitness, communicable and chronic diseases will be discussed. Prerequisites: PHC 6000 and PHC 6065. (SS)

PHC 6589 Health Promotion in Institutional Settings (3). This course will investigate the role, methods and techniques used to promote health in diverse settings such as clinic and community agencies, schools, universities and workplaces. (SS)

PHC 6591 Reproductive Health Epidemiology (3). This course focuses on current research, methodological issues, and discusses case studies in the epidemiology of reproductive and perinatal health from domestic and international setting. Prerequisites: PHC 6000 and PHC 6065.

PHC 6595 Genetic Epidemiology (3). This course provides a background to genetic epidemiologic methods, and focuses on design, execution, analysis and interpretation of genetic association studies. Basic genetics will also be covered. Prerequisites: PHC 6000 or approval by instructor.

PHC 6600 Health Promotion Communication Theory and Design (3). Theory, design, and implementation of health education communication utilized in reaching the public. Emphasis on the critical analysis of the communication processes; group techniques and media methods; and the consultation process. Prerequisites: Health Promotion Concentration or by permission of the instructor. (F)

PHC 6601 Emerging Issues in Public Health (3). Investigation of emerging public health issues, such as public health informatics, genomics, global health, policy and law, and public health ethics, within the framework of ecological model.

PHC 6602 Theoretical Foundations of Health Promotion (3). The course will emphasize the use of psychosocial theories in understanding and addressing public health problems. Prerequisites: PHC 6410, PHC 6065.

PHC 6604 Current Issues in Health Policy (3). This course is an intervention of current public health policy issues, such as chronic disease, health disparities, and healthcare reform within a policy analysis framework.

PHC 6700 Methods and Analysis in Epidemiological Research (3). This course provides understanding of principles, methods and analytical techniques applied in epidemiologic research using multimedia and interpersonal approaches of instructions

to motivate and explain with real life examples. Prerequisite: PHC 6000.

PHC 6703 Epidemiology Methods: Experimental Design (3). Introduction to clinical and community trial design and conduct, randomization, blinding, recruitment, data collection, assessment of adverse effects, compliance with therapy, and analyses. Prerequisites: PHC 6013, PHC 6xxx – Public Health Statistics II.

PHC 6706 Research Methods in Public Health (3). Study of scientific research, inductive and deductive thinking, research methods and design as applied to the field of Public Health. Prerequisite: Undergraduate statistics course.

PHC 6709 Quantitative Research Analysis in Health Urban Affairs I (3). Application of quantitative techniques used for research analysis in health and urban affairs research and practice settings. Prerequisites: STA 3145 or STA 6166 or equivalent.

PHC 6710 Qualitative Research Methods in Public Health (3). Critical issues, theoretical and practical applications for conducting qualitative research explored as they relate to health, social service and public administration environments. Prerequisite: Graduate Research Methods.

PHC 6715 Survey Research in Public Health (3). Health survey design, implementation and analysis, and interpretation of data. Emphasis on practical aspects of conducting health surveys. Study of existing health surveys. Prerequisites: PHC 6000 and PHC 6065. (F,S)

PHC 6730C Neurotoxicology Research Methods (3). A master's level course designed to introduce students with fundamental approaches in neurotoxicology and interpreting research results in environmental health sciences. Prerequisite: PHC 6380.

PHC 6750 Program Development and Evaluation in Health Promotion (3). Focuses on the development, implementation, and evaluation of health promotion programs to improve health

outcomes. Prerequisites: PHC 6000 and PHC 6065. (SS)

PHC 6751 Community Organization for Health Promotion (3). Emphasis is on the diagnosis of community health problems and various organizational strategies utilized for effective solution. Review and analysis of community organization process; resources; and the role of health promotion specialist. Prerequisites: Health Promotion Concentration or permission of the instructor. (F)

PHC 6754C Analytic Methods in Maternal and Child Health (3). Enhances skills in independent data analysis using free software (Epi Info, OpenEpi) and publicly available data in local and state health agency professionals and students preparing for MCH practice.

PHC 6762 International Public Health (3). This course describes international differences in the distribution and determinants of disease and health, and examines interventions aimed at improving health status. (F)

PHC 6763 Global Perspectives of Environmental Health in Caribbean and Latin America (3). The course describes the relationship between human health and the environment in developing countries of the Caribbean and Latin America. Prerequisite: PHC 6315.

PHC 6900 Environmental Public Health Genomics and Molecular Toxicology Journal Club (1). Students will learn to read, evaluate, present and discuss papers. Papers will be presented on a diverse set of topics related to genetics of environmental human diseases and molecular toxicology.

PHC 6901 Readings in Public Health (1-3). Individual advanced study in a comprehensive overview of Public Health or in-depth advanced study of a specialty. Prerequisites: Permission of instructor and Advanced standing in the graduate program.

PHC 6907 Independent Study: Public Health (1-3). Allows student investigations of

special topics and issues utilizing literature searches, analysis, or active performance in public health settings under the direction of faculty supervision. Prerequisite: Permission of the faculty advisor.

PHC 6914L Current Topics in Environmental Health Sciences Research Lab (1-9). To conduct laboratory based analytical research and collect data.

PHC 6917 Environmental Health Sciences Pre Doctoral Research (1-6). This course is designed to provide the Pre-Doctoral student with experience in the conduct of a research project with guidance from appropriate environmental health faculty.

PHC 6920 Special Topics in Environmental Health Sciences (3). This course is designed to impart in depth knowledge of emerging issues in the area of environmental and occupational health.

PHC 6921 Environmental Health Sciences Seminar (1). This is an oral communication course intended to provide graduate students the opportunity to practice speaking in front of an audience and to present their research data or topic of interest.

PHC 6930C Integrative Seminar in Public Health (3). Integrative Seminar serves as the culminating experience for MPH degree and the final assessment of the public health competencies required of MPH graduates. Prerequisites: PHC 6945 or instructor consent, if exempt from PHC 6945.

PHC 6931 Special Topics in Biostatistics (1-3). This is a series of 1-3 credit hour offerings, on topics of considerable interest to advanced masters and doctoral students in public health, not limited to statistical methods. Prerequisites: PHC 6052, PHC 6091, or permission of the instructor.

PHC 6934 Scientific Writing and Oral Presentations in Epidemiology and Biostatistics (3). Covers the planning and execution of written and oral presentations in epidemiology/biostatistics by critically evaluating published articles and preparing a manuscript and an oral presentation. Prerequisites: PHC 6000 and PHC 6065.

PHC 6935 Special Topics in Health Promotion (3). A detailed exploration into particular research methodologies, approaches and techniques relevant to Health Promotion. Topic will vary depending upon the instructor. Course may be repeated. Prerequisite: Permission of the instructor.

PHC 6939 Special Topics in Cardiovascular Disease Epidemiology (3). The purpose of this course is designed to impart in-depth knowledge of a particular cardiovascular disease or risk factor that is affecting populations nationally and or internationally. Prerequisites: PHC 6000, PHC 6065, or permission of the instructor.

PHC 6945 Practicum in Public Health (3). This course is a preceptor-guided experience in public health organization. It provides an opportunity for graduate students in Public Health to bridge the gap between theory and practice. Prerequisite: Permission of the faculty advisor. (F,S,SS)

PHC 6971C Master's Thesis in Public Health (1-6). The Master's Thesis is a scholarly manuscript resulting from a long period of research and related preparation, undertaken to fulfill partially the requirements of an advanced degree.

PHC 6977 Master's Research Project (3). Course provides the student with an opportunity to pursue research in an area pertaining to Public Health.

PHC 7011 Advanced Current Research in Epidemiology (3). The purpose of this course is to examine and critically review current areas of research in Epidemiology with focus on observation studies. Prerequisites: PHC 6000, PHC 6013, PHC 6065 or equivalent.

PHC 7015 Advanced Research Methods-Experimental Design (3). A course on methods in experimental epidemiologic studies, including randomization, blinding, assessment of adverse effects, compliance, and intent-to-treat, survival and subgroup analyses. Prerequisites: PHC 6000, PHC 6065, PHC 6013.

PHC 7017 Advanced Epidemiology for Health Disparity (3). Provides advanced understanding of health disparity - disparity indicators, complex measurement methods and applications, theoretical frameworks, and analysis and evaluation of programs/policy. Prerequisites: PHC 6055 and PHC 6065 or equivalent.

PHC 7018C Advanced Environmental Health (3). The objective of this course is to teach students advanced toxicology principles such as toxicokinetics, polymorphisms of metabolizing enzymes, toxicogenomics, and biomarkers of toxic exposure. Prerequisite: PHC 6310.

PHC 7050 Advanced Biostatistics I (3). Application of linear statistical model to public health data held in the Public Health Informatics Laboratory. Utilizes various statistical software. Prerequisites: PHC 6052 or permission of the instructor.

PHC 7051 Advanced Biostatistics II (3). Design and analysis of experiments for public health data. ANOVA and mixed model analysis, testing assumptions diagnostics, uses the Public Health Informatics Laboratory. Utilizes various statistical software. Prerequisites: PHC 7050 or permission of the instructor.

PHC 7054 Advanced Biostatistics III (3). Generalized linear model and estimating equation approaches for non-linear public health data. Held in the Public Health Informatics Laboratory utilizing various statistical software. Prerequisites: PHC 7050, PHC 7051, or permission of the instructor.

PHC 7095C Advanced Methods for Health Systems Research (4). This course focuses on quantitative research methods using secondary data and introduces students to a wide spectrum of national and global health policy databases. Prerequisite: PHC 6091.

PHC 7162 Grant Writing in Public Health (3). Course covers proposal writing political/social aspects of "grantmanship" identifying sources of grant funding doing research to support the application, and tailoring the proposal to specific audiences.

Prerequisites: PHC 6091, PHC 7705, PHC 7981.

PHC 7198 Advanced Qualitative Methods in Public Health (3). Advanced research design, data analysis and writing findings in qualitative research. Prerequisites: PHC 6706, PHC 6710, PHC 6715, or equivalent advanced research methods.

PHC 7300 Biological Basis of Environmental Diseases (4). This course describes the state of homeostasis of anatomical and physiological systems where contributing environmental factors are translated to influence the human health and diseases.

PHC 7327 Emerging Issues in Environmental Health Sciences (2). This course will explore emerging scientific discoveries to understand environmental human disease and how the emerging technologies can be applied to environmental health and regulatory decisions.

PHC 7372 Signal Transduction in Environmental Health and Toxicology (3). Designed to develop critical and analytical thinking about how hazardous agents interfere with normal signaling while others may mimic endogenous stimulants and mediators.

PHC 7374 Organ-Specific Toxicology (4). Provides an advanced understanding of the responses of specific, key organ systems (e.g. immune, renal, hepatic, reproductive) to toxic insult.

PHC 7381C Neuroscience (4). This course will familiarize doctoral students with fundamental concepts in neuroscience with emphasis on the role of environmental factors play in the modulation of neurological processes.

PHC 7384 Advanced Neurotoxicology (4). This doctoral course will provide students an in-depth knowledge of how various environmental neurotoxicants may induce neurotoxicity resulting in neurodegeneration as seen in some brain diseases. Prerequisite: PHC 7381C

PHC 7385C Emerging Issues in Neurotoxicology (2). This course will require doctoral students to integrate media reports and scientific literature to develop socially-relevant and impactful hypotheses for research in environmental health sciences. Prerequisite: PHC 7381C, PHC 7384.

PHC 7437C Applied Economic Evaluation for Health Systems Research (4). This course is an advanced methods course focuses on the economic evaluation of health policies, programs, and systems. Prerequisites: PHC 6091, PHC 7095C.

PHC 7466 Policy and Advocacy in Global Health Disparities (3) This course focuses on the influence of policy and advocacy on health disparities in the United States, Caribbean region and globally and other structural factors impacting disparity.

PHC 7502 Health Promotion in the Workplace (3). This course emphasizes program design, management, and evaluation of health promotion in corporations. Issues in health assessment, fitness, wellness, and stress will be covered. Prerequisites: PHC 6589, PHC 6410.

PHC 7583 Policy and Practice in Health Promotion (3). Intensive exploration of health promotion policies with critical analysis. Preparation to develop effective policies and to assess the appropriate practice of health promotion or different levels.

PHC 7584 Advanced Research Designs (3). This course reviews and critically evaluates multiple research methods of analysis from disciplines such as psychology and sociology as they apply to health promotion research and ethics. Prerequisites: PHC 6750 and PHC 6146 or permission of the instructor.

PHC 7587 Theory Development in Health Promotion (3). Discussion and critique of the structural components and research processes related to the origination and construction of health promotion

theories. Prerequisites: PHC 5409 and PHC 6602.

PHC 7588 History and Foundations of Public Health (3). This course reviews the evolution of the public health profession and the principles and practices of health promotion. Prerequisites: PHC 6710 and advanced standing.

PHC 7606 Tobacco Use: Causes, Consequences, and Control (3). The course will utilize a broad approach to provide a comprehensive overview of the history, epidemiology, health effects, and policy aspects of the tobacco epidemic. Prerequisites: None for PhD students, and core courses for MPH students.

PHC 7702 Advanced Measurement in Public Health (3). Advanced course in measurement and evaluation in public health. Computer applications for public health practice emphasized. Prerequisites: PHC 6065, PHC 6715, PHC 6750.

PHC 7705 Methods in Evidence Based Public Health (3). Review of methods in evidence based public health; study designs addressing patient reported outcome measures; health status measures, area-based health intervention evaluation, quality of life and survival measures in health interventions. Prerequisite: PHC 6065.

PHC 7711 Methodological Issues in Scientific Inquiry of Public Health Research (3). Understanding and application of analytical methods in the philosophy of science in order to explore systematically the critical methodological issues underlying public health research. Prerequisite: Doctoral standing.

PHC 7713 Advanced Environmental Toxicology Research Methods (2). Students will gain an appreciation and knowledge of key methods in environmental toxicology, and how to apply these to the design, execution, and analysis of environmental health case studies. Prerequisites: PHC 6001, PHC 6065, Ph.D. standing or advanced MPH student with departmental approval.

PHC 7716 Advanced Research Methods: Survey Research (3). Conceptualization of survey research including how to conduct a survey and present results for professional publication. Prerequisites: PHC 6706, PHC 6065.

PHC 7719 Quantitative Multivariate Analysis in Health Sciences Research (3). Application of quantitative techniques used for research analysis in health and urban affairs practice settings with focus on statistical modeling. Prerequisites: PHC 6052, PHC 6091, or permission of the instructor.

PHC 7723 Survey Research in Public Health (3). This course facilitates the systematic identification, interpretation, and understanding of survey research concepts, principles, and practices in public health. Prerequisites: PHC 6000, PHC 6065, PHC 6410, PHC 6706.

PHC 7731C Advanced Neurotoxicology Research Methods (2). A rigorous doctoral level course designed to familiarize students with fundamental approaches in neurotoxicology necessary for conducting cutting-edge research in environmental health sciences. Prerequisite: PHC 7381C Corequisite: PHC 7384.

PHC 7732C Research Ethics & Scientific Integrity (1). This course will introduce and familiarize students with basic elements of research ethics using real-life scenarios to create a foundation of responsible research conduct.

PHC 7733 Theoretical Paradigms in Health Disparities Research (3). This course focuses on the concept of cultural and social diversity in public health and its importance in guiding policy, programs, services, and health within a community.

PHC 7753C Applied Econometrics for Health Systems Research (4). This methods course focuses on using econometrics methods to identify causal relationships using cross-sectional or panel data for health systems research. Prerequisites: PHC 6091, PHC 7095C.

PHC 7908C Health Systems Research Readings 1 (3). This is the first of a two-semester course sequence for doctoral students covering the main components of health system in the U.S. and abroad, and the diverse ways in which researchers analyze them. Prerequisite: Permission of the instructor.

PHC 7909C Health Systems Research Readings 2 (3). This is the second of a two-semester course sequence for doctoral students covering the main components of health systems in the U.S. and abroad, and the diverse ways in which researchers analyze them. Prerequisite: Permission of the instructor.

PHC 7932 Health Disparities Training and Development Seminar (3). This course focuses on health disparities development and research training in the areas of HIV, substance abuse, obesity, and diabetes with a focus in the United States and the Caribbean region.

PHC 7933 Seminar in Biostatistics (1-6). Course emphasis on the biostatistical methods used in research. Various biostatisticians will present their current research and lead class discussions on the development of their research agenda.

Prerequisites: PHC 7050, PHC 7051, PHC 7054.

PHC 7980 Dissertation (1-12). Research for doctoral dissertation under the supervision of a major professor and a doctoral committee. Prerequisites: Permission of instructor and doctoral candidacy.

PHC 7981 Research Concepts and Proposal Development (3). The purpose of this course is to present the basic general components of research, to describe methods, and to present perspectives specifically and directly applicable to the field of public health. Prerequisites: PHC 6091 or equivalent.

PHC 7982 Public Health Pre Dissertation Research (1-6). This course is designed to provide Doctoral students with the guidance necessary to prepare for comprehensive examination and dissertation proposal under the guidance of the dissertation chair. Prerequisites: Admission into the Ph.D. program, instructor consent, completion of coursework.

For additional and updated information about degrees offered, entrance requirements, and services, please visit our website:

<http://stempel.fiu.edu/students/advising/index.html>.

Elective Course Options

In consultation with the advisor and with the approval of the Head of the department, students enrolled in any graduate program of the EHS department may obtain credit for elective courses that are offered in other departments of the college, FIU or even outside FIU. Options for some relevant elective EHS courses are the following, which may be offered in other departments of the college, university and in another local university.

1. **EHS Courses:** In general, any EHS course that is not a specific degree requirement can serve as an elective. The full list is available on your advising sheet.
2. **RSCPHSW Courses:** Many of the courses offered by other departments in the College can be taken as an elective for EHS MPH or PhD degrees. Check with your advisor as the Head may need to approve your selection. The full list is available at this website: <http://catalog.fiu.edu>
3. **FIU College of Arts and Sciences, Department of Earth & Environment Courses:** The Department of Earth and Environment offers several courses that are highly suitable as electives for EHS MPH and PhD students. The full list is available at the website below:

http://catalog.fiu.edu/2018_2019/graduate/College_of_Arts_Sciences_and_Education/Graduate_Earth_and_Environment.pdf

In particular, the following courses are highly relevant to EHS degree:

EVR 5005 Environmental Science and Sustainability (3). Introductory environmental science course for graduate students in environmental studies and other disciplines. Emphasizes physical sciences and applications to environmental issues.

EVR 5044 Advanced GIS and Environmental Data Analysis (3). Explores project planning, geospatial database design and implementation of analytical and display methods in GIS for organizing, querying, analyzing and presenting spatial data.

EVR 5215 Water Resources Assessment (3). Elements of hydrological cycle, hydrological processes and water resources assessment with emphasis on surface and groundwater water quantity and quality evaluation is central to the course.

EVR 5320 Environmental Resource Management (3). The scientific and philosophical basis for the management of renewable and non-renewable energy, mineral, air, water, and biotic resources. Prerequisites: Graduate standing or permission of the instructor.

EVR 5332 Integrated Solutions for Water in Environment and Development (3). Examines the theory and practice of integrated water resources management, focusing on science, policy, and socioeconomic themes evaluated through case studies from different regions of the world. Emphasis given to environmental elements.

EVR 5355 Environmental Resource Policy (3). A survey of international and national environmental policy and the legal, economic, and administrative dimensions of international accords and selected U.S. law.

GIS 5050 Environmental GIS (3). Concepts of GIS, database design and management, advanced spatial analysis and modeling, uncertainty, error, and sensitivity in GIS. Focus on GIS project design, execution and presentation using ArcGIS.

4. **University of Miami, Department of Public Health and Epidemiology Courses:** The Department of Public Health and Epidemiology at the University of Miami offers several relevant courses that could serve as electives. Check with your advisor to see what is available and to see if the course can be taken under the agreement between FIU and UM. The full list is available at the website below:

<http://publichealth.med.miami.edu/academic-programs/course-descriptions>

The following courses are relevant:

EPH 541 ENVIRONMENTAL HEALTH (3): Gives an overview of both local and international environmental health problems. The course is comprised of a broad range of topics, including: environmental regulation and ethics, toxicology, global change, food safety, sanitation, different forms and media of pollution, built environment, and occupational disease and injury.

EPH 540 URBAN ENVIRONMENT AND PUBLIC HEALTH (3): This course examines the urban environment – including homes, neighborhoods, cities and regions – and how its design and function influence our daily health-related decisions. This course will provide a framework for understanding health and urban environment relationships, principles of healthy community design, and interventions that promote better population health. Specific attention will be paid to the effect of ‘place’ on vulnerable populations.

EPH 542 OCEANS AND HUMAN HEALTH (3): Provides students with introductory knowledge of the broad and relatively young field of Oceans and Human Health. The focus is the present, future, and potential effects of oceanic processes and marine organisms on human health and well-being.

EPH 580 ECOLOGY AND CONTROL OF VECTOR-BORNE DISEASES (3): This course, through didactic presentations, group discussions of literature, and a team project will introduce students to the science of vector biology and the public health challenges of controlling emerging and re-surg-ing vector-borne diseases. The course will provide students with an overview of the epidemiology of major vector-borne diseases in the U.S. and globally, field and lab-based methodologies for vector studies to incriminate vector species and assess transmission dynamics, vector and disease surveillance, and “cutting-edge” vector control technology.

EPH 681 GIS FOR PUBLIC HEALTH (3): Builds general knowledge of spatial applications in the field of public health and epidemiology as well as to provide hands-on experience using geographic information systems (GIS). Through scheduled lab sessions, students will learn how to explore, analyze, and interpret public health data using ArcGIS, GeoDa and RIF.

EPH 512 GLOBAL HEALTH (3): Examines current global public health issues, governance, and decision-making challenges in developing, middle income, and developed nations.

EHS-PhD Course Schedule

Fall 2021

Course Prefix	Course Title	Credits	Format	Instructor
PHC 6601	Emerging Issues in Public Health	3	Hybrid	Patricia Rojas
PHC 6328	Molecular and Cellular Toxicology	4	Online	Quentin Felty
PHC 7327	Emerging Issues in Environmental Health Sciences	2	Online	Deodutta Roy
PHC 7385C	Emerging Issues in Neurotoxicology	2	Onsite	Roberto Lucchini
Electives	TBA	3	TBA	TBA
Total		12		
Electives: Content & other courses				
PHC 6917	Pre-doctoral Research	1-6	Onsite	TBA
PHC 6914L	Current Topics in EHS Research Lab	1-9	Onsite	TBA
PHC 6907	Independent study in Public Health	3	TBA	TBA
PHC 6315 (MPH)	Introduction to EHS	3	Hybrid	Quentin Felty
PHC 7384	Advanced Neurotoxicology	4	On site	Jeremy Chambers
PHC 6355 (MPH)	Environmental Health and Safety	3	Hybrid	Deodutta Roy
PHC 6442 (MPH)	Global Environmental Public Health	3	Online	Alok Deoraj
IDS 3183 (MPH)	Health Without Borders	3	Online/hybrid	Alok Deoraj
PHC 7374C	Organ Specific Toxicology	3	Online	Jeremy Chambers
PHC 6380 (MPH)	Introduction to Neurotoxicology	3	Onsite	Kim Tieu
PHC 6382C (MPH)	Neuropharmacology	3	Onsite	Jeremy Chambers

Spring 2022

Course Prefix	Course Title	Credits	Format	Instructor
PHC 7705	Methods in Evidence Based Public Health	3	Onsite	Nasar Ahmed
PHC 6329	Biomarkers	3	Online	Diana Azzam
PHC 7732C	Research Ethics and Scientific Integrity	1	Online	Jeremy Chambers
PHC 6921	Environmental Health Sciences Seminar	1	Onsite	Jason Richardson
PHC 7381C	Neuroscience	4	Onsite	Jeremy Chambers
PHC 7300	Biological Basis of Environmental Diseases	4	Online	Deodutta Roy
PHC 7713	Advanced Environmental Tox Res Methods	2	Online	Mohammad Hossain
Total		12		
Electives: Content & other courses				
PHC 7917	Pre-doctoral Research	1-6	Onsite	TBA
PHC 6914L	Current Topics in EHS Research Lab	1-9	Onsite	TBA
PHC 6907	Independent study in Public Health	3	TBA	TBA
PHC 7731C	Advanced Neurotoxicology Research Methods	2	Onsite	Mohammad Hossain

PHC 6730C	Neurotoxicology Research Methods	3	Onsite	Mohammad Hossain
PHC 6315 (MPH)	Introduction to EHS	3	Online	Alok Deoraj
PHC 6311 (MPH)	Environmental Health Risk Assessment	3	Hybrid	Alok Deoraj
IDS 3183 (MPH)	Health Without Borders	3	Online/hybrid	Alok Deoraj
PHC 6312C (MPH)	Health Impacts of Air, Water, Land Pollution	3	Hybrid	Quentin Felty
PHC 6310 (MPH)	Environmental Toxicology	3	Online	Quentin Felty
PHC 6538	Gene Environment Interaction	3	Online	Deodutta Roy
PHC 6383C (MPH)	Neurobehavioral Techniques	3	Onsite	Jeremy Chambers

Shared core courses (12 credits)

EHS core courses (9 credits)

BBE concentration (12 credits)

Environmental Toxicology concentration (12 credits)

Elective ("Content" and "Secondary Field") courses

Additional information about 3 Content courses related to research.

PHC 6907 Independent Study: Public Health (1-3). Allows student investigations of special topics and issues utilizing literature searches, analysis, or active performance in public health settings under the direction of faculty supervision. Prerequisite: Permission of the faculty advisor.

PHC 6914L Current Topics in Environmental Health Sciences Research Lab (1-9). To conduct laboratory based analytical research and collect data.

PHC 6917 EHS Pre Doctoral Research (1-6). This course is designed to provide the Pre-Doctoral student with experience in the conduct of a research project with guidance from appropriate environmental health faculty.

Helpful Links

FIU Links

- **FIU Main Webpage** – www.fiu.edu
- **Robert Stempel College of Public Health & Social Work** - Stempel.fiu.edu
- **College Fellowships** - <http://stempel.fiu.edu/students/scholarships-financial-aid/index.html>
- **Department of Environmental Health Sciences** - <http://stempel.fiu.edu/academics/environmental-and-occupational-health/index.html>
- **Office of Student & Alumni Affairs** - http://rscphsw.fiu.edu/students_affairs
- **University Graduate School** - <http://gradschool.fiu.edu>
- **University Graduate School Fellowships** - <http://gradschool.fiu.edu/fellowships.shtml>
- **Graduate School Newsletter** - <http://gradschool.fiu.edu/faculty-staff-newsletter.shtml>
- **Graduate catalog** - <http://catalog.fiu.edu>
- **Financial Aid** - <http://finaid.fiu.edu>
- **MyFIU Account** - <https://my.fiu.edu>
- **Policies and Regulations** - <http://conduct.fiu.edu>
- **FIU Policies and Procedures Library** - <http://policies.fiu.edu>
- **FIU Library** - <https://library.fiu.edu>
- **Online FIU Phonebook/Directory** - <https://phonebook.fiu.edu>
- **Map of FIU's Modesto A. Maidique Campus** - <http://campusmaps.fiu.edu>
- **International Students and Scholar Services** - <http://iss.fiu.edu>
- **Academic Calendar** - <http://onestop.fiu.edu/academic-calendar>
- **FIU Student Media** - <http://fiusm.com>
- **FIU Online** - <http://online.fiu.edu>

Environmental Health and Public Health Career Resources

- **APHA CareerMart** - <http://www.apha.org/about/careers>
- **Environmental Health Perspectives Online - Career Opportunities** - <http://ehp03.niehs.nih.gov/static/careerops.action>
- **Environmental Jobs and Careers** - <http://ehp03.niehs.nih.gov/static/careerops.action>
- **Public Health Employment Connection** - <http://cfusion.sph.emory.edu/PHEC/index.cfm?CFID=256568&CFTOKEN=92546549>

PublicHealthJobs.net - <http://www.publichealthjobs.net>

Government Agency Job Sites

- **Agency for Toxic Substances and Disease Registry -**
<http://www.atsdr.cdc.gov/jobs/jobatsdr.html>
- **CDC - National Center for Environmental Health -** <http://www.cdc.gov/nceh>
- **CDC - National Institute for Occupational Safety & Health (NIOSH) -**
<http://www.cdc.gov/niosh>
- **FDA - National Center for Toxicological Research -**
<http://www.fda.gov/AboutFDA/CentersOffices/OC/OfficeofScientificandMedicalPrograms/NCTR/default.htm>

Employment Opportunities in Public Health

- **Biotechfind (biotech industry search engine and career center) -**
<http://www.lifesciencesworld.com>
- **Medzilla (Biotech job search engine) -** <http://www.lifesciencesworld.com>
- **The Scripps Research Institute -** <http://jobs.scripps.edu>
- **Public Health Employment Connection -**
<http://cfusion.sph.emory.edu/PHEC/index.cfm?CFID=256568&CFTOKEN=92546549>
- **PublicHealthJobs.net -** <http://www.publichealthjobs.net>

Professional Organizations

- **Air & Waste Management Association -** <http://www.awma.org/Public>
- **American Association for Cancer Research -** <http://www.aacr.org>
- **American Chemical Society -** <http://portal.acs.org/portal/acs/corg/content>
- **American College of Occupational and Environmental Medicine (ACOEM) -**
<http://www.acoem.org>
- **American Public Health Association -** <http://www.apha.org/about/careers>
- **Environmental Mutagen Society -** <http://www.ems-us.org>
- **Florida Environmental Health Association (FEHA) -** <http://www.feha.org>
- **National Environmental Health Association -** <http://www.neha.org/index.shtml>
- **Society of Environmental Toxicology and Chemistry (SETAC) -** <http://www.setac.org>
- **Society for Risk Analysis (SRA) -** <http://www.sra.org>
- **Society of Toxicology (SOT) -** <http://www.toxicology.org>
- **The International Federation of Environmental Health -** <http://www.ifeh.org>
- **The Teratology Society -** <http://teratology.org>

Good Research Practice

Guidelines for research students (BS, MS/MPH, PhD)

The EHS Department prepares students for a career in a broad range health science professions. This is more than simply a qualification, but research and professional training for your future career. We aim to promote a high standard of academic rigour, collegiate behaviour and regard students as part of the Department's research team. As such, we expect you to follow these Good Research Practice guidelines, encourage and assist other students in the Department, to plan for enough time each week to conduct the research scheduled for that week, and to regularly monitor the available scientific literature relevant to your research.

General

1. While your supervisory team are committed to supporting you, you have the ultimate responsibility for your PhD/Master's project, its progress and success. Remember, the award you are seeking is not automatic, or a right, but the result of hard work and dedication.
2. The number of hours spent on research is a function of the other obligations of the student (e.g. courses) and on the nature of the research project. Remember, your time with us is limited, and good timekeeping is therefore essential.
3. Graduate students are treated like faculty or professional staff in regard to holidays. Students may take standard FIU holidays (e.g. New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, Christmas Eve, and Christmas Day). Ordinarily, vacation is taken between the end of the Spring Semester and the beginning of the Fall Semester, but students may elect to use some of this time during academic breaks. Students are expected to consult with their research advisor before taking personal days, or vacation time.
4. Students must inform their research advisor when they must be absent because of illness or an emergency. Likewise, faculty will inform students when they will be absent for an extended period of time.
5. There will be milestones throughout your project (see the EHS Student Handbook for details). Successful progression beyond these milestones will, in part, be based upon the amount of data you have, how the project is progressing and your understanding of the project.
6. Your weekly lab meetings are important, even if you have no new data to discuss. You can simply present/describe your activities for the week e.g. literature review, together with listening and contributing to the discussions. Your attendance is mandatory, unless excused by your supervisor.
7. EHS has regular "Research In Progress" Meetings, where all EHS researchers present their research in more detail to the Department/College (Thursdays, 12 – 1 pm AHC5 – 300). Your attendance is mandatory, unless excused by your supervisor.

8. At a minimum, weekly meetings with your supervisor are important. It is your responsibility to arrange a meeting with your supervisor(s). On other occasions, your supervisor(s) will ask you to meet with them.
9. If you spot a particularly interesting paper in your regular literature searches, it's a good idea to share it with your supervisors, and they'll do the same.
10. It is your responsibility to keep up to date with the literature – and this will be supported by discussions with supervisors, peers and at laboratory meetings.
11. The Department expects you attend Departmental seminars, and encourages you to attend other seminars, across campus, to help put your work in a broader context.
12. Students are expected to present at lab meetings and, for PhD students as your project progresses, at least one Departmental Research In Progress meeting.
13. The door to the Department's faculty is always open – feel free to drop by to discuss your project, some data, or an interesting paper you've seen.

Laboratory

1. Remember to adhere to all the basic lab safety rules (wear a lab coat and gloves, safety glasses when appropriate, no eating or drinking etc.), as detailed in your induction.
2. Without exception, ALL of your materials must be labelled with your name, date received or date made, and contents clearly labelled e.g. on Duran bottles. Items which are unlabelled or incompletely labelled run the risk of disposal without consultation.
3. You are expected to get involved in laboratory rotas, where applicable, and help in the lab to keep it running smoothly.
4. You are expected to maintain a clean and tidy work space.
5. It is recommended that you do not share materials and reagents, minimising risks of infection, accidents or mistakes.
6. By the same token, do not 'borrow' others' reagents, in particular cell culture media and reagents, without permission.
7. Any technical support and post-docs should be regarded with respect as surrogate members of academic staff in the lab. Their advice and instruction should be followed.

Laboratory book

1. Your lab book must be like a diary, indicating on a daily basis what you have been doing. It should be dated, and the pages numbered. It should contain a detailed record of your experiments with Title, Aims, Methods, Results and Conclusions. Raw data should be inserted and also statistically analysed, plotted and affixed. Cross referencing with electronic storage media (e.g. Prism or Excel files) should give location and filename.
All electronic files should be stored on the network, not on removable disks, and backed up elsewhere.
2. All written work should be clearly legible.
3. An index is recommended, along with page numbers.

4. Make a note of the source of the materials you use (lot number, manufacturer, city, country – is a minimum of information). The same applies to the equipment you use.
5. Make sure all information is attached in your lab book, there should be no loose material.
6. When writing up your data, make sure you extract as much 'mileage' from your data as possible e.g. draw all data as figure (or Tables), where possible. Remember it is your time and data – make full use of it.
7. We encourage the use of Standard Operating Procedures, when you have developed a new method, please write it up as an SOP (you will be helped with doing this), so other may use it.
8. Keep asking yourself "is this described in sufficient detail for someone to reproduce my work?". If the answer is no, then your lab book is not meeting this requirement.

Before leaving at the end of your project/degree, all lab books and files containing data are to be left with your supervisor(s), together with a description of their content etc. These remain the property of FIU.

Doctor of Philosophy (Ph.D.) in Public Health with a Specialization in EHS Policy and Procedures

The Ph.D. in Public Health in the Environmental Health Sciences track focuses on graduate training in Environmental Health/Toxicology. The PhD program prepares professionals and researchers to identify and analyze the links between human health and exposure to the environmental factors, with the goal of prevention, control or risk reduction of environmental health problems, with concomitant improvements in human health.

PROGRAM OBJECTIVES

The Ph.D. Program is designed to prepare students for academic or research careers. To complete the program a student must make an original and significant contribution to the field of environmental health science and this contribution must be described in a doctoral dissertation. In addition to the thesis, there are course and examination requirements for the completion of the program as described below. Students should keep in mind that these formal requirements are actually only a small part of a Ph.D. degree. The main component of a Ph.D. program is the intangible process by which the student learns to do research and become part of the academic community. Progress in the program will be judged by the student's progress in research as well as their progress in satisfying the formal requirements. Please follow the link to learn more about the Ph.D. program:

<http://gradschool.fiu.edu/student-forms.shtml>

[Potential PhD research areas can be found here:](#)

<http://stempel.fiu.edu/academics/environmental-and-occupational-health/areas-of-study/phd-public-health-with-specialization-in-environmental-and-occupational-health/index.html>

DESCRIPTION OF THE STEPS FOR UNDERTAKING A Ph.D. IN PUBLIC HEALTH WITH A SPECIALIZATION IN EHS

DISSERTATION COMMITTEE APPOINTMENT (FORM D-1)

No later than the end of the first year of study (for full time students), the student should consult with his/her major professor on the selection of a dissertation committee. Form D-1 should be completed by the student and submitted to the Doctoral Program Director immediately upon formation of a dissertation committee. Should the composition of a dissertation committee need to be changed at some point during a student's program of study, the student must submit to the Doctoral Program Director form D-1r. Should the student request changing of the major professor, the student should submit a written request to the Dissertation Committee for approval.

COURSES – PROGRAM OF STUDY (FORM D-2)

The primary requirement for the Ph.D. degree is the submission and defense of the dissertation that is based upon original research in the area of specialization acceptable to the Ph.D.

student's dissertation committee. Students must complete a Program of Study designed by the dissertation committee to support the dissertation research and to provide a strong and comprehensive background in the Environmental Health Sciences and must include 39 graduate credits. The courses required by the committee must be listed on form D-2 and must be taken before or during the term the student plans to take the candidacy exams and present the proposal seminar (i.e., if you try to take your candidacy exams without completing the course of study, you will not be allowed to take the exams). A minimum of 75 term credits of graduate course work beyond the baccalaureate is required including a minimum of 24 credits in dissertation research (PHC 7980). The student, in consultation with the committee, should only list the courses required by the committee on the D-2, exclusive of Doctoral Dissertation (PHC 7980). Students must maintain a cumulative GPA of 3.0 or higher, and earn a grade of "B" or higher in all courses.

TRANSFER OF GRADUATE CREDITS

If approved by the dissertation committee, a maximum of 39 term hours earned elsewhere within a completed graduate degree program may be accepted toward the Ph.D. degree. Up to six thesis credit hours may be transferred to a Ph.D. program only if they were part of an earned degree and are approved by the dissertation committee. A maximum of six term hours of graduate credit earned from another institution or a maximum of twelve term hours of graduate credit earned at FIU in a non-degree seeking status may be transferred if approved by the dissertation committee.

Purpose of the Doctoral Qualifying Examination and Admission to Candidacy

The purpose of the qualifying exam is to test student's knowledge of core competency areas. Each student must answer qualifying exam questions from memory. No external aids of any kind (including electronic or written notes, books or references, external memory devices, cell phones or study aids of any kind) are allowed during the exam. Any exceptions must be approved by a petition to the Doctoral Program Director one month prior to taking the qualifying exam. Any violation of the above rules will result in immediate dismissal from the doctoral program. The purpose of a doctoral qualifying examination is to evaluate each student's comprehensive understanding of the field, as well as the student's insight, creativity, and clarity of expression. The examination is one of the requirements for admission to candidacy. A graduate student does not become a candidate for the Ph.D. degree until granted formal admission to candidacy. Such admission requires the approval of the student's dissertation committee, the Head of the Department, the College Dean, and the Dean of the Graduate School. The approval must be based on: (1) the academic record of the student, (2) the opinion of the dissertation committee concerning overall fitness for candidacy, (3) an approved dissertation topic, and (4) a qualifying examination as described above.

CANDIDACY/COMPREHENSIVE QUALIFYING EXAMINATION (FORM D-2)

A candidacy examination is required of all students working toward the Ph.D. This examination should be completed after a minimum of 48 credits in residence and no later than the sixth term of study (including the summer term). Written and oral sections of the examination will be conducted and evaluated by the dissertation committee and will test the student's competence and mastery of his or her field of specialization. A unanimous decision by all committee members is required to successfully pass the candidacy exam. Failure to pass one or more subject areas of the candidacy examination constitutes a failure. Passing of the candidacy examination may not be conditional. The student either passes or fails on the performance on

the exam and cannot be passed contingent on satisfactory completion of courses or submission of research papers.

Preparation for the Examination

To provide the committee with adequate information for the development of appropriate questions for their written examination, each student shall submit to the committee chair syllabi or course descriptions and paragraphs describing the parameters of the study area established for each question in consultation with the appropriate committee member(s). The course descriptions need to include required readings for each course taken during the coursework portion of the program. Students will be held responsible for the coursework they were required to complete as a prerequisite to the doctoral program. All of these materials – syllabi, course descriptions and paragraphs describing each question area – must be submitted to the chair no later than the beginning of the semester planned for the qualifying examination. In addition to the paragraphs describing each question, the student must submit a reading list of current journals and journal articles, books, and other appropriate documents for each question, prepared in consultation with the individual committee members and chair. The reading list is meant to act as a study guide so that the student and the committee agree on necessary preparation.

Scheduling Qualifying Examinations

It is the student's responsibility to schedule times for the written and oral portions of the examination. After agreement by the supervisory committee chair that the student may schedule the examination, the student simultaneously arranges the dates, times, and locations for both the written and oral portions of the qualifying examination and proposal. All times and dates of the written and oral qualifying examinations will be announced to the members of the faculty in advance and posted on a bulletin board available to graduate students. A copy of the written questions for every qualifying examination must be on file in the Division of Graduate Studies and are not for public inspection.

Nature of the Qualifying Examination

The Department of Environmental Health Sciences requires both a written and an oral examination. The written and oral components are considered as parts of one unified examination. The student must meet the University's registration requirements at the time he/she takes the exam. The student should register in the term in which he or she plans to take the qualifying examination.

Written Portion of the Examination

Answers to the written portion of the examination must be written. Oral examinations are forbidden as substitutes for any or the entire written portion.

Effective Spring 2011, the written portion of the examination will be divided into three parts:

1)An original research proposal of 25 pages, (double-spaced), in the NIH Format on a research topic that is not related to the student's specific doctoral research project. The student will be given a topic that is unrelated to the dissertation topic. The student will have two weeks to work

on the proposal. The proposal should be submitted one month prior to scheduling the written examination.

2)The written examination focuses on the individual student's coursework and readings. There will be four parts to the written examination, one part each on (a) environmental health sciences in general, (b) the specific aspects of environmental health sciences on students focus areas, (c) research methods central to the study of those specific aspects of environmental health sciences, and (d) supporting studies taken outside the department (Public Health Core Courses). While there is not a formal question regarding the dissertation proposal, the faculty will ask questions designed to increase the student's understanding of the dissertation topic or resolve outstanding issues in the proposal.

3)Satisfactory presentation and defense of an original research proposal (on a topic not related to the student's specific doctoral research project) and a satisfactory completion of a Preliminary Oral examination. The presentation and oral examination occur consecutively in a single session and must be completed before the end of the fifth semester (excluding summer semester). The examination will be conducted by the Dissertation Committee, be based on the student's dissertation research, and include questions from the student's major field and cognate fields. After fulfilling their requirement, passing the comprehensive examinations, and completing all required course work, the student advances to candidacy.

Any foreign language examination requirement will be met outside of the qualifying examination.

Time for Written Portion

The student will be allowed two to three hours for each part. The four parts of the examination must be completed within four official class days.

Responsibility for Preparing Questions

The student's supervisory committee members, under the direction of the chair, are responsible for the development of the questions for the written portion of the qualifying examination in accordance with the policies of the university and the college. The supervisory committee prepares the examination questions within the context of the individual student's program.

Taking the Written Examination

The answers must be written within the departmental office and produced in electronic form. The arrangements to sit for the written portion must be coordinated by the student in consultation with the supervisory committee chair and Graduate Program Director's office. The student is responsible for reserving with the department a computer, room, and other supplies necessary for the examination. The chair of the committee will collect a printed version of the examination answers, plus one output copy or photocopy for each additional supervisory committee member at the conclusion of each of the four parts. The supervisory committee chair also will deliver one set for the official records to the office of Graduate Program Director. The student is responsible for providing the additional copies.

Evaluation of Written Examination

Student responses are evaluated by the student's supervisory committee following the policies of the university and the college and within the context of the individual student's program. There will be no separate faculty evaluation for the written portion of the examination. Rather, the committee will decide whether a student passes or fails the qualifying examination after the

oral portion of the examination. The chair will discuss the results of the written portion of the examination with members of the supervisory committee and separately with the student prior to proceeding with the oral defense.

Oral Portion of the Examination

The oral portion of the examination should take place within one month of the student completing the written portion of the examination. The oral portion of the qualifying examination must be held on campus. A major purpose of the oral exam is to allow the student, in response to faculty, to answer questions that arose as a result of the written portion of the examination. The second purpose is to defend the dissertation proposal. The supervisory committee chair may meet with committee members before admitting the student to the oral portion of the examination, and a committee member may request such a meeting, which request shall be honored by the chair.

Evaluation of the Oral Examination

The oral portion of the examination will be evaluated by the entire supervisory committee following the policies of the university and the college and within the context of the individual student's program. The supervisory committee has the responsibility at this time of deciding whether the student is qualified to continue work toward the Ph.D. degree.

At the conclusion of the oral portion of the examination, the entire committee must agree that the student has passed, conditionally passed, or failed each of the four parts of the examination separately. If a conditional pass is assigned for any portion of the exam, the student must complete additional requirements, as assigned by the committee, to remove the "conditional" status. This work must be completed within a reasonable time period determined by the committee. Any failure must be reported to the Graduate School, and the student must wait at least one semester for a retake if a retake is recommended by the student's committee and approved by the Graduate School.

A failure on the first attempt will result in one of the following:

- Dismissal from the program
- Re-examination
- An application for transfer to the MPH program is made to the Graduate Committee by the student with the approval of the dissertation committee.

A request for re-examination must be made to the Graduate Committee by the student and the dissertation committee. If approved by the Graduate Committee, re-examination may be scheduled after a minimum of one and a maximum of two terms have passed. Only one re-examination will be allowed. Failure of the re-examination results in dismissal from the Graduate Program.

RESEARCH PROPOSAL (FORM D-3)

During their first-term, students should write a brief outline of their proposed research project. Full-time students should submit this preliminary proposal to their dissertation committee no later than the beginning of their second term; part-time students should submit their proposals upon completion of nine credits. Students must prepare a formal version of their research proposal and distribute it to each member of the dissertation committee prior to the end of their sixth term in the program, or upon completion of 24 credits. Students must also prepare a five page abstract to be submitted with form D-3 after the proposal seminar.

The formal proposal should follow the general guidelines outlined in the Regulations for Thesis and Dissertation Preparation Manual (www.fiu.edu/ugs/thesis_dissertation_manual.html) and should contain the following sections:

- 1. Introduction** - statement of the problem/purpose and a review of prior relevant work
- 2. Materials & Methods** - a technical discussion of the methods and approaches to be used in the research
- 3. Preliminary Results/Feasibility**
- 4. Program Schedule**
- 5. References**
- 6. Budget** - a description of any special budgetary requirements necessary to carry out the proposed research.

Sections 1-3 of the formal proposal shall be a minimum of 6 pages single spaced with 12 pt font, OR consistent with guidelines established by the National Science Foundation program for Dissertation Improvement Grants, at the discretion of the student's advisory committee.

All Ph.D. candidates are encouraged to submit this proposal to an appropriate funding agency, as determined by the faculty supervisory committee. Dissertation committee members should review the formal proposal and return it to the student along with their comments no later than two weeks from the date of receipt of the formal research proposal. After revisions, the student should resubmit the proposal to all dissertation committee members for final approval. If necessary, the major professor should poll the dissertation committee regarding the acceptability of the revised proposal. If deemed unacceptable to one or more of the dissertation committee members, the student or the student's major professor should contact the pertinent dissertation committee member(s) to determine the points necessary for approval. If the matter cannot be satisfactorily resolved, the student and major professor should take the issue to the Graduate Committee for mediation.

The student is responsible for scheduling the presentation of the proposal at a time convenient to the supervisory committee members and the faculty of the Environmental Health Sciences department during regular business hours. The student must also adequately advertise the proposal seminar at least one week in advance of the presentation with appropriate signage, and via email by sending the Graduate Program Director a copy of the announcement. Immediately following presentation of the proposal seminar and a public question period, the public audience shall be asked to leave and the committee and major professor will remain for a defense of the proposal and research plan. After successful completion of the proposal seminar, the major professor should send a memo (with the proposal seminar announcement attached) to be put in the student's file (see student progress memos) as well as the D-3.

ADMISSION TO CANDIDACY

A graduate student is not a candidate for the Ph.D. degree until granted formal admission to candidacy by completion of Form D-2 (Program for Doctoral Degree and Application for Candidacy). This form requires signatures from members of the student's major professor, the Graduate Program Director, the Dean of the RSCPH&SW, and the Dean of the University Graduate School. Approval is based on:

- Completion of coursework specified in the Program of Study;
- Successful completion of the Candidacy Examination;
- Completion of the Quantitative Skills Requirement

A student may not enroll for dissertation credits until the term after he/she is admitted to candidacy. At least three terms must elapse between admission to candidacy and awarding of the Ph.D. degree. Refer to the University Academic Calendar for deadlines.

ANNUAL AND SEMI-ANNUAL COMMITTEE MEETINGS

Each doctoral student is required to meet annually and semi-annually (corresponding to Spring and Fall, respectively) with the dissertation committee (if D1 is not completed, meet with Doctoral Program Director for evaluation) before and after the D-2 and D-3 are filed. The student must submit a completed online Annual Evaluation Form prior to the Spring meeting, and a hard copy form prior to the Fall meeting. After the meeting, each committee member must write a comment. If a member cannot attend physically but hears/sees the meeting then he/she can send an email to the advisor authorizing him/her to sign the form.

According to the University, students with < 18 credit hours are not required to have an annual evaluation. The Department recommends that all students have both annual and semi-annual meetings, irrespective of number of credit hours achieved

DISSERTATION

A dissertation is required of all candidates for the Ph.D. degree and must conform to the format outlined in the Regulations for Thesis and Dissertation Preparation Manual available to students online from the Graduate School (www.fiu.edu/ugs/thesis_dissertation_manual.html). Once a student advances to candidacy, the student must be continuously enrolled in at least three credits each term including summer term until she/he graduates. Students will receive IP (in progress) grades for Doctoral Dissertation credits until the final term. Grades will be changed from IP to P as soon as the candidate successfully defends the dissertation and the major professor files a grade of P for Doctoral Dissertation.

PRELIMINARY APPROVAL OF DISSERTATION & REQUEST FOR ORAL DEFENSE (FORM D-5)

After preliminary approval of the dissertation and completion of all other prescribed work for the Ph.D. degree, the candidate will give a public presentation and be given a final oral examination by the dissertation committee. A copy of the near-final draft of the dissertation, a copy of the defense seminar announcement, and a completed D-5 form must be filed with the Graduate Program Director **5 weeks** before the defense date (the College deadline is 4 weeks before the defense and the University Graduate School deadline is 3 weeks before the defense). The examination will be based primarily on the dissertation research and related topics.

RESULTS OF THE DISSERTATION DEFENSE (FORM D-6 AND RUBRICS)

Form D-6 must be completed by the student and the dissertation committee on the day of the defense and submitted to the Graduate Program Director upon successful defense of thesis. Three rubrics evaluating the contents, written and oral presentation of the dissertation need to be completed by all members of the committee and submitted to the Graduate Program Office after the dissertation defense. The rubrics forms are available in the Graduate Program website. A student who fails the dissertation defense may be allowed a second defense, on recommendation of the dissertation committee. If re-examination is necessary, the examination cannot be held earlier than six months or more than one year from the date of the first examination.

RESULTS OF THE DISSERTATION DEFENSE (FORM D-7)

One paper copy of the final version of the dissertation must be presented to the Graduate Program Director with form D-7, and the accompanying Electronic Thesis and Dissertation submission

packet eight days before it is due at UGS. We will make a copy of the forms and submit the dissertation to the College and to the Graduate School.

ACTIVE STATUS AND TIME LIMITATIONS

Continuous registration is required for all students accepted into the Ph.D. program. Full time students supported by a Graduate Teaching Assistantship or Graduate Assistantship must register for at least nine credits per term during the regular academic year and six credits during the summer term. Once students have advanced to candidacy, a minimum of three hours per term is required to maintain active status in the program. Students must be continually enrolled until they defend.

At the Ph.D. level, for full-time students, all requirements, including the successful defense of a dissertation must be completed within **four-five years** of first enrollment in the Ph.D. program, inclusive of any leaves of absence or other interruptions of active student status. Students who do not complete their dissertation within this time period may apply for an exception to this rule by filing a Request for Exception form to the Dean of the University Graduate School.

Academic Misconduct Including Plagiarism

Full text: <https://gradschool.fiu.edu/academic-misconduct.shtml>

Extract:

Academic Misconduct is defined as the following intentional acts or omissions committed by any FIU student:

- 1.1 Cheating: The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. Any student helping another cheat may be found guilty of academic misconduct.
- 1.2 Plagiarism: The deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is guilty of plagiarism. Any student helping another to plagiarize may be found guilty of academic misconduct.
- 1.3 Misrepresentation: Intentionally lying to a member of the faculty, staff, administration, or an outside agency to gain academic advantage for oneself or another, or to misrepresent or in other ways interfere with the investigation of a charge of academic misconduct.
- 1.4 Misuse of Computer Services: The unauthorized use of any computer, computer resource or computer project number, or the alteration or destruction of computerized information or files or unauthorized appropriation of another's program (s).
- 1.5 Bribery: The offering of money or any item or service to a member of the faculty, staff, or administration anyone in order to commit academic misconduct.

1.6 Conspiracy and Collusion: The planning or acting with one or more fellow students, any member of the faculty, staff or administration, or any other person to commit any form of academic misconduct together.

1.7 Falsification of Records: The tampering with, or altering in any way any academic record used or maintained by the University.

1.8 Academic Dishonesty: In general, by any act or omission not specifically mentioned above and which is outside the customary scope of preparing and completing academic assignments and/or contrary to the above stated policies concerning academic integrity.

FIU College of Education Plagiarism Tutorial: <http://education.fiu.edu/plagiarism>

FIU Online plagiarism page: <http://libguides.fiu.edu/plagiarism>

Academic Grievance Procedure

Full text: <http://gradschool.fiu.edu/current-student-academic-grievance.shtml>

Extracts:

Informal Grievance Procedure

Graduate students must attempt to informally resolve an academic grievance as soon as possible; however, a student must initiate informal resolution by contacting the professor (or administrator as instructor of record) no later than ten (10) university days after classes begin in the semester following that in which the complaint arose or the grievance will be deemed untimely. The student must first attempt to resolve the academic grievance through an informal meeting with the professor. If the matter cannot be resolved, or if the professor cannot be reached, the student must meet next with the chair and failing resolution, with the academic dean. If the student's grievance is against a committee, the students must meet with the committee chairperson and the academic dean to attempt informal resolution. A mutually agreeable resolution shall be formalized through a notation in the student's file/record which is initialed by the student and the professor.

If an informal resolution cannot be reached within thirty (30) university days after the initial contact with the professor, then the student has the right to seek a formal resolution of the academic grievance.

Formal Academic Grievance Procedure

The formal academic grievance procedure is initiated by filing a written complaint with the Dean of University Graduate School. The complaint must be filed within fifteen (15) university days of the date the informal resolution process ends, or within twenty (20) university days after classes begin in the semester following that in which the complaint arose--whichever is later. After receipt, the Dean of University Graduate School, in consultation with the Chairperson of the Graduate Grievance Committee, will review the complaint to determine whether it falls within the scope of this policy and whether a formal hearing is wanted. When there are disputed issues of material fact which must be determined, a formal hearing is warranted. If the complaint does not fall within the scope of this policy, then the student shall be so notified in writing by certified mail.

Map of FIU's Modesto Maidique Campus

