Twin Cities Campus

Environmental Health M.S.

School of Public Health - Adm

School of Public Health

Link to a list of faculty for this program.

Contact Information:
School of Public Health, MMC 819, A395 Mayo Memorial Building, 420 Delaware Street, Minneapolis, MN 55455 (612-626-3500 OR 1-800-774-8636, Fax: 612-624-4498)
Email: sph-oasr@umn.edu
Website: http://www.sph.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2017
- Length of program in credits: 33 to 56
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

Environmental health is the study of how exposures to external hazards, including chemical, physical, and biological agents, affect human health. Environmental health researchers and professionals seek to understand how to evaluate exposures that create risk to human health, how those exposures elicit biological responses that lead to disease and injury, and how policy is developed and used to prevent adverse health effects. This program offers academic programs at the master's and doctoral levels, conducts research in diverse areas of environmental health, offers continuing education, and conducts outreach. The academic programs prepare students to be leaders in environmental health in academia, industry, consulting groups, and government agencies. The program's training and research emphasizes the importance of translating basic scientific knowledge into solutions for current societal problems and concerns.

Applicants must indicate an interest in one of the following specialties within the major: the general environmental health, environmental health policy, environmental infectious diseases, environmental and occupational epidemiology, regulatory toxicology, occupational and environmental health nursing, occupational environmental medicine, occupational injury epidemiology and control, or industrial hygiene.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

Minimum requirements include a baccalaureate degree with coursework in the basic sciences. Each concentration requires different preparation: http://www.sph.umn.edu/programs/ehs/tracks/index.asp

Required prerequisites

Industrial Hygiene

In addition to program requirements - industrial hygiene requires demonstrable strengths in physics, chemistry (including organic chemistry), biology, and math (including calculus). One or two missing requirements may be completed upon enrollment.

Other requirements to be completed before admission:
Please visit www.sph.umn.edu for admission requirements.

Applicants must submit their test score(s) from the following:

- GRE
  - General Test - Verbal Reasoning: 150
  - General Test - Quantitative Reasoning: 150
  - General Test - Analytical Writing: 3.5
- GMAT
- MCAT
  - Verbal Reasoning score: 10
  - Physical Science score: 10
  - Biological Reasoning score: 10

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- LSAT
- DAT
  - Score: 18

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 100
  - Paper Based - Total Score: 600
- IELTS
  - Total Score: 7
- MELAB
  - Final score: 80

Key to test abbreviations(GRE, GMAT, MCAT, LSAT, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan A: Plan A requires 14 to 20 major credits, 6 credits outside the major, and 10 thesis credits.The final exam is written and oral.

Plan B: Plan B requires 27 to 45 major credits and 6 credits outside the major.The final exam is written and oral. A capstone project is required.
Capstone Project: The Plan B project is a master's project.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 3.00 is required for students to remain in good standing.

At least 3 semesters must be completed before filing a Degree Program Form.

The M.S. program prepares students for specialized careers in environmental and occupational health. M.S. students receive a solid technical background in their disciplines and by graduation are proficient in applied or basic research.

The minimum credits required for graduation depend on the chosen specialty area. Most concentration areas require a two-year program. M.S. students have the option of completing a Plan A with a thesis or a Plan B project or Plan C.

Concentration Areas
Students may pursue a general program in environmental and occupational health, or focus in a concentration area with basic required courses, or pursue the industrial hygiene sub-plan.

Environmental Chemistry
Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
Environmental chemistry examines the interactions of pollutants with air, water, soil, and their exposures to humans and wildlife. The curriculum emphasizes the processes that control chemical behavior, transport, and fate as a function of environmental factors and chemical properties.

General Requirements
Thesis/dissertation will be taken for 10 credits
PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
STAT 5021 - Statistical Analysis (4.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Division Core Courses
PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)

Specialty Program Course Requirements
CEGE 5541 - Environmental Water Chemistry (3.0 cr)
EEB 5601 - Limnology (3.0 cr)
PUBH 6190 - Environmental Chemistry (3.0 cr)

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Proposed Electives

Select electives in consultation with adviser.
Take 0 or more credit(s) from the following:

- CONS 8004 - Economic and Social Aspects of Conservation Biology (3.0 cr)
- CEGE 4561 - Solids and Hazardous Wastes (3.0 cr)
- CEGE 8503 - Environmental Mass Transport (4.0 cr)
- CEGE 8542 - Chemistry of Organic Pollutants in Environmental Systems (3.0 cr)
- CEGE 8561 - Analysis and Modeling of Aquatic Environments I (3.0 cr)
- EEB 4611 - Biogeochemical Processes (3.0 cr)
- PUBH 7196 - Applied Practice Experience: Environmental Health (1.0 - 5.0 cr)
- WRS 8050 - Special Topics in Water Resources Science (1.0 - 3.0 cr)
- EEB 5609 - Ecosystem Ecology (3.0 cr)

-OR-

Environmental and Occupational Epidemiology

Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
Environmental and occupational epidemiology strives to understand the causal impact of environment and occupation on human health, because public health interventions are most likely to be effective when disease and injury etiology is understood. Epidemiologists develop studies to identify factors that cause diseases and injuries.

General Core Requirements

PUBH 6341 - Epidemiologic Methods I (3.0 cr)
PUBH 6450 - Biostatistics I (4.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)

Division Core

PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
or PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)

Specialty Program Course Requirements

PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
PUBH 6342 - Epidemiologic Methods II (3.0 cr)
PUBH 6451 - Biostatistics II (4.0 cr)

Proposed Electives

Select electives in consultation with adviser.
Take 0 or more credit(s) from the following:

- PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
- PUBH 6121 *{Inactive}*(1.0 - 2.0 cr)
- PUBH 6122 *{Inactive}*(1.0 cr)
- PUBH 6130 - Occupational Medicine: Principles and Practice (2.0 cr)
- PUBH 6150 - Interdisciplinary Evaluation of Occupational Health and Safety Field Problems (3.0 cr)
- PUBH 6170 - Introduction to Occupational Health and Safety (3.0 cr)
- PUBH 6173 - Exposure to Physical Agents (2.0 cr)
- PUBH 6181 - Surveillance of Foodborne Diseases and Food Safety Hazards (2.0 cr)
- PUBH 6343 - Epidemiologic Methods III (4.0 cr)
- PUBH 6355 - Pathophysiology of Human Disease (4.0 cr)
- PUBH 6385 - Epidemiology and Control of Infectious Diseases (2.0 cr)
- PUBH 6387 - Cancer Epidemiology (2.0 cr)
- PUBH 8120 - Occupational and Environmental Health Sciences Research Seminar (1.0 cr)
- PUBH 8140 *{Inactive}*(2.0 cr)
- PUBH 8142 *{Inactive}*(2.0 cr)

-OR-

Environmental Health Policy

Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
Environmental health policy provides broad, multidisciplinary training in environmental health issues, including occupational health, risk assessment, risk management, decision making, and policy analysis.

General Requirements

PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
or PUBH 6341 - Epidemiologic Methods I (3.0 cr)
PUBH 6414 - Biostatistical Literacy (3.0 cr)
or PUBH 6450 - Biostatistics I (4.0 cr)

Division Core Courses

PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)

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PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)
PUBH 7196 - Applied Practice Experience: Environmental Health (1.0 - 5.0 cr)

Specialty Program Course Requirements

PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)
PUBH 6115 - Worker Protection Law (1.0 cr)
PUBH 6116 - Environmental Law (1.0 cr)

Proposed Electives

Select electives in consultation with adviser.
Take 0 or more credit(s) from the following:
•PUBH 6049 - Legislative Advocacy Skills for Public Health (3.0 cr)
•PUBH 6078 - Public Health Policy as a Prevention Strategy (2.0 cr)
•PUBH 6080 *{Inactive}*(2.0 cr)
•PUBH 6420 - Introduction to SAS Programming (1.0 cr)
•PUBH 6634 *{Inactive}*(2.0 cr)
•PUBH 6711 - Public Health Law (2.0 cr)
•PUBH 6724 - The Health Care System and Public Health (3.0 cr)
•PUBH 6726 *{Inactive}*(3.0 cr)
•PUBH 6780 - Topics in Public Health Administration and Policy (1.0 - 3.0 cr)
•PUBH 6835 *{Inactive}*(2.0 cr)
•PUBH 6852 - Program Evaluation in Health and Mental Health Settings (2.0 cr)
•PUBH 6862 - Cost-Effectiveness Analysis in Health Care (3.0 cr)
•PUBH 8801 - Health Services Policy Analysis: Theory (1.0 cr)
•PUBH 8802 - Health Services Policy Analysis: Applications (2.0 cr)
•PUBH 8803 *{Inactive}*(2.0 cr)
•ANTH 5041 *{Inactive}*(3.0 cr)
•ANTH 8203 - Research Methods in Social and Cultural Anthropology (3.0 cr)
•PA 5001 *{Inactive}*(1.5 cr)
•PA 5002 - Introduction to Policy Analysis (1.5 cr)
•PA 5021 - Microeconomics for Policy Analysis (3.0 cr)
•PA 5022 - Applications of Economics for Policy Analysis (1.5 - 3.0 cr)
•PA 5031 - Statistics for Public Affairs (4.0 cr)
•PA 5032 - Applied Regression (2.0 cr)
•PA 5033 - Multivariate Techniques (2.0 cr)
•PA 5035 *{Inactive}*(1.5 cr)
•PA 5711 - Science, Technology & Environmental Policy (3.0 cr)
•PA 5722 - Economics of Environmental Policy (3.0 cr)
•PUBH 7196 - Applied Practice Experience: Environmental Health (1.0 - 5.0 cr)

-OR-

Environmental Infectious Diseases

Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
The Environmental Infectious Diseases (EID) specialty is concerned with the emergence of food-borne and infectious diseases in the United Sates and around the world. The environment, and changing conditions in the environment can have a great impact on the distribution and occurrence of infectious diseases. In evaluating the chain of infection, environment may play a key role in reservoir maintenance, as well as a route of transmission through food, water, and air.

General Requirements

PUBH 6450 - Biostatistics I (4.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
or PUBH 6341 - Epidemiologic Methods I (3.0 cr)

Division Core Courses

PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
or PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)

Specialty Program Course Requirements

PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)
PUBH 6182 - Emerging Infectious Disease: Current Issues, Policies, and Controversies (3.0 cr)
PUBH 6180 - Ecology of Infectious Diseases (3.0 cr)
PUBH 6385 - Epidemiology and Control of Infectious Diseases (2.0 cr)

Recommended Electives

Select electives in consultation with adviser.
Take 0 or more credit(s) from the following:
•PUBH 6181 - Surveillance of Foodborne Diseases and Food Safety Hazards (2.0 cr)

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•PUBH 7210 - Topics: Global Food Systems (0.5 cr)
•PUBH 8140 *{Inactive}*(2.0 cr)
•VMED 8090 - Epidemiology of Zoonoses and Diseases Common to Animals and Humans (3.0 cr)
•VMED 5420 *{Inactive}*(3.0 cr)
•FSCN 4121 - Food Microbiology (3.0 cr)
•FSCN 4122 - Food Fermentations and Biotechnology (2.0 cr)
•PMB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
•MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)

-OR-

Exposure Science

Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
Students in the Exposure Science program study methods for the identification, measurement and simulation of human exposure and dose from single and multimedia environmental exposures. Students will receive training on various aspects of exposure analysis such as measurements and modeling; chemical, biological, and physical principles required to analyze exposure; mechanisms of exposure; development of molecular biomarkers; and genomic, proteomic, and metabolomic metrics for assessing exposure.

General Requirements

PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 6450 - Biostatistics I (4.0 cr)
or STAT 5021 - Statistical Analysis (4.0 cr)

Division Core Courses

PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)
PUBH 7196 - Applied Practice Experience: Environmental Health (1.0 - 5.0 cr)

Specialty Program Course Requirements

PUBH 6192 - Measurement and Properties of Air Contaminants (2.0 cr)
PUBH 6193 - Advanced Topics in Human Exposure Science (2.0 cr)
PUBH 6175 - Environmental Measurements Laboratory (2.0 cr)
PUBH 6100 - Topics: Environmental Health (1.0 - 4.0 cr)
PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)
PUBH 6190 - Environmental Chemistry (3.0 cr)
PUBH 6180 - Ecology of Infectious Diseases (3.0 cr)

Electives

Select electives in consultation with adviser.

-OR-

General Program in Environmental Health

Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
Students are admitted to the General Program in Environmental Health when they are looking for a program of study that does not fit precisely with the specialty tracks defined in the environmental health sciences major. Emphasis is on the development of a broad, solid foundation in environmental health, with a larger than usual number of elective credits to allow the student an opportunity to pursue their particular interests.

General Requirements

PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 6414 - Biostatistical Literacy (3.0 cr)
or PUBH 6450 - Biostatistics I (4.0 cr)

Division Core Courses

PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
or PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)

Concentration Program Course Requirements

Choose at least two courses from each of the following Environmental Health focus areas.

Exposure

Take 2 or more course(s) from the following:
•PUBH 6190 - Environmental Chemistry (3.0 cr)
•PUBH 6192 - Measurement and Properties of Air Contaminants (2.0 cr)
•PUBH 6193 - Advanced Topics in Human Exposure Science (2.0 cr)
•VMED 5180 - Ecology of Infectious Disease (3.0 cr)

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Policy
Check with adviser for other policy class options.
Take 2 or more course(s) from the following:
•PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)

Health Effects
Take 2 or more course(s) from the following:
•PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
•PUBH 6130 - Occupational Medicine: Principles and Practice (2.0 cr)
•PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
•PUBH 6170 - Introduction to Occupational Health and Safety (3.0 cr)

Electives
Select electives in consultation with adviser.

-OR-

Global Environmental Health
Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
The global environmental health track provides key information for individuals looking to work in the field of global environmental health either overseas or in the U.S. Issues of water and air quality, food safety, and the effects of industrialization are examined, as well as major ecological problems such as deforestation and sustainable agriculture.

General Requirements
PUBH 6020 - Fundamentals of Social and Behavioral Science (2.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 6751 - Principles of Management in Health Services Organizations (2.0 cr)
PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
or PUBH 6341 - Epidemiologic Methods I (3.0 cr)
PUBH 6414 - Biostatistical Literacy (3.0 cr)
or PUBH 6450 - Biostatistics I (4.0 cr)

Division Core Courses
PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
or PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)

Specialty Program Course Requirements
PUBH 6131 - Working in Global Health (2.0 cr)
PUBH 6132 - Air, Water, and Health (2.0 cr)
PUBH 6133 *{Inactive}*(1.0 cr)
PubH 72xx Topics: Globalization and Health (1 cr)
PUBH 6390 - Topics: Epidemiology (0.5 - 4.0 cr)
PUBH 6180 - Ecology of Infectious Diseases (3.0 cr)

Electives
7-9 credits, selected in consultation with adviser.

-OR-

Occupational and Environmental Health Nursing (OEHN)
Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105
Occupational and Environmental Health Nursing (OEHN) provides intensive training for nurses interested in the development, management and evaluation of health services, programs, and policies designed to promote health and prevent work-related injuries and disease.

General Requirements
PUBH 6341 - Epidemiologic Methods I (3.0 cr)
PUBH 6450 - Biostatistics I (4.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)

Division Core Courses
PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)
PUBH 7196 - Applied Practice Experience: Environmental Health (1.0 - 5.0 cr)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Specialty Program Course Requirements
PUBH 6130 - Occupational Medicine: Principles and Practice (2.0 cr)
PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
PUBH 6150 - Interdisciplinary Evaluation of Occupational Health and Safety Field Problems (3.0 cr)
PUBH 6170 - Introduction to Occupational Health and Safety (3.0 cr)
PUBH 6451 - Biostatistics II (4.0 cr)

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NURS 8600 *{Inactive}*(2.0 cr)
NURS 8170 *{Inactive}*(3.0 cr)

Recommended Electives

Select electives in consultation with adviser.
Take 3 or more credit(s) from the following:

- PUBH 6034 - Evaluation I: Concepts (3.0 cr)
- PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
- PUBH 6325 - Data Processing with PC-SAS (1.0 cr)
- PUBH 6342 - Epidemiologic Methods II (3.0 cr)
- PUBH 6348 - Writing Research Grants (2.0 cr)
- NURS 8100 *{Inactive}*(3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Industrial Hygiene

Industrial hygiene (IH) is concerned with the health and safety of people at work, and the community at large. Specific concerns are with the recognition, evaluation and control of potential workplace hazards, including chemical, physical, and biological agents; and the potential health threats to the community and the environment.

Our IH program is accredited by the Applied Science Accreditation Commission of ABET, http://www.abet.org.

Required Coursework

Environmental Health Sciences Core: PUBH 6103, PUBH 6104, PUBH 6105

School of Public Health Core Requirements

PUBH 6020 - Fundamentals of Social and Behavioral Science (2.0 cr)
PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)
PUBH 6741 - Ethics in Public Health: Professional Practice and Policy (1.0 cr)
PUBH 6742 - Ethics in Public Health: Research and Policy (1.0 cr)
PUBH 6751 - Principles of Management in Health Services Organizations (2.0 cr)
Choose one of the following courses.
PUBH 6414 - Biostatistical Literacy (3.0 cr)
or PUBH 6450 - Biostatistics I (4.0 cr)

Division of Environmental Health Sciences Core Requirements

PUBH 6103 *{Inactive}*(2.0 cr)
PUBH 6104 *{Inactive}*(2.0 cr)
PUBH 6105 *{Inactive}*(2.0 cr)
PUBH 7194 - Integrative Learning Experience: Environmental Health (1.0 - 5.0 cr)
PUBH 7196 - Applied Practice Experience: Environmental Health (1.0 - 5.0 cr)

Occupational Health and Safety Core Requirements

PUBH 6130 - Occupational Medicine: Principles and Practice (2.0 cr)
PUBH 6150 - Interdisciplinary Evaluation of Occupational Health and Safety Field Problems (3.0 cr)
PUBH 6170 - Introduction to Occupational Health and Safety (3.0 cr)

Industrial Hygiene Program Requirements

PUBH 6172 - Industrial Hygiene Applications (2.0 cr)
PUBH 6173 - Exposure to Physical Agents (2.0 cr)
PUBH 6174 - Control of Workplace Exposure (3.0 cr)
PUBH 6175 - Environmental Measurements Laboratory (2.0 cr)
PUBH 6192 - Measurement and Properties of Air Contaminants (2.0 cr)
PUBH 6193 - Advanced Topics in Human Exposure Science (2.0 cr)

Industrial Hygiene Electives

Select electives in consultation with adviser.
Take 0 or more credit(s) from the following:

- PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)
- PUBH 6115 - Worker Protection Law (1.0 cr)
- PUBH 6116 - Environmental Law (1.0 cr)
- PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
- PUBH 6131 - Working in Global Health (2.0 cr)
- PUBH 6132 - Air, Water, and Health (2.0 cr)
- PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
- PUBH 6161 - Regulatory Toxicology (2.0 cr)
- PUBH 6176 - Hazardous Materials and Waste Management (2.0 cr)
- PUBH 6182 - Emerging Infectious Disease: Current Issues, Policies, and Controversies (3.0 cr)
- PUBH 6190 - Environmental Chemistry (3.0 cr)

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•PUBH 6415 *{Inactive}*(3.0 cr)
•PUBH 6451 - Biostatistics II (4.0 cr)
•PUBH 7220 *{Inactive}*(1.0 cr)
•PUBH 7260 - Ergonomics and the Prevention of Workplace Injuries (1.0 cr)
•CEGE 4561 - Solids and Hazardous Wastes (3.0 cr)
•CEGE 5551 - Environmental Microbiology (3.0 cr)
•IE 5511 - Human Factors and Work Analysis (4.0 cr)
•IE 5513 - Engineering Safety (4.0 cr)
•KIN 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
•ME 5113 - Aerosol/Particle Engineering (4.0 cr)
•ME 5133 - Aerosol Measurement Laboratory (4.0 cr)
•PA 5721 - Energy Systems and Policy (3.0 cr)

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