

**Twin Cities Campus****Environmental Health Ph.D.**

School of Public Health - Adm

**School of Public Health**

Link to a [list of faculty](#) for this program.

**Contact Information:**

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- Program Type: Doctorate
- Requirements for this program are current for Fall 2019
- Length of program in credits: 48 to 87
- This program does not require summer semesters for timely completion.
- Degree: Doctor of Philosophy

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.

**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.

A baccalaureate degree with coursework in the basic sciences. Each specialty requires slightly different preparation. Industrial Hygiene requires physics, biology, chemistry, organic, and calculus.

Other requirements to be completed before admission:

Applicants to the industrial hygiene track must meet the following additional criteria:

For students with undergraduate degrees in a relevant discipline, good academic performance (preferably science or engineering, but other disciplines will be considered), and a minimum level of coursework in biology, chemistry (including organic), physics, and mathematics (including calculus) are required. Students with undergraduate degrees in non-science fields with appropriate additional coursework and work experience may also apply, but must demonstrate strengths in physics, chemistry (including organic), biology, and mathematics (including calculus); complementary courses in non-science disciplines (e.g., social sciences, languages) that reflect a well-rounded education; a clear motivation toward occupational and environmental health as articulated by the written statement, and strong letters of recommendation. Success in prior industrial hygiene-related work is preferred.

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: 4
- GMAT
- MCAT
  - Verbal Reasoning score: 10
  - Physical Science score: 10
  - Biological Reasoning score: 10

- LSAT

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

24 to 63 credits are required in the major.

24 thesis credits are required.

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 4 semesters must be completed before filing a Degree Program Form.

### Core Coursework (3 credits)

Take the following courses:

- [PUBH 6742](#) - Ethics in Public Health: Research and Policy (1.0 cr)  
[PUBH 6250](#) - Foundations of Public Health (2.0 cr)

### Thesis Credits (24 credits)

Take at least 24 doctoral thesis credits.

- [PUBH 8888](#) - Thesis Credit: Doctoral (1.0 - 24.0 cr)

## Concentration Areas

### Generalist (48 credits)

#### Coursework (48 credits)

Select courses in consultation with the advisor.

- [PUBH 6385](#) - Epidemiology and Control of Infectious Diseases (2.0 cr)  
[PUBH 6601](#) - Born a Girl: Global Women's Health (1.0 cr)  
[PUBH 6852](#) - Program Evaluation in Health and Mental Health Settings (2.0 cr)  
[PUBH 6034](#) - Evaluation I: Concepts (3.0 cr)  
[PUBH 6055](#) - Social Inequalities in Health (2.0 cr)  
[PUBH 6045](#) - Skills for Policy Development (1.0 cr)  
[PUBH 6066](#) - Building Communities, Increasing Health: Preparing for Community Health Work (2.0 cr)  
[PUBH 6572](#) - Management for Clinical Research (2.0 cr)  
[PUBH 6655](#) (*Inactive*)(2.0 cr)  
[PUBH 6906](#) - Global Nutrition (2.0 cr)  
[PUBH 6730](#) - International Comparative Health Systems (2.0 cr)  
[PUBH 6605](#) - Sexual, Reproductive, and Perinatal Public Health (2.0 cr)  
[PUBH 6106](#) (*Inactive*)(2.0 cr)  
[PUBH 6112](#) - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)  
[PUBH 6120](#) - Injury Prevention in the Workplace, Community, and Home (2.0 cr)  
[PUBH 6123](#) - Violence Prevention and Control: Theory, Research, and Application (2.0 cr)  
[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 6154](#) - Climate Change and Global Health Modeling (3.0 cr)  
[PUBH 6160](#) - Principles of Toxicology II (3.0 cr)

- PUBH 6162 - Biomarkers (2.0 cr)  
PUBH 6170 - Introduction to Occupational Health and Safety (3.0 cr)  
PUBH 6181 - Surveillance of Foodborne Diseases and Food Safety Hazards (2.0 cr)  
PUBH 6173 - Exposure to Physical Agents (2.0 cr)  
PUBH 6011 - Public Health Approaches to HIV/AIDS (3.0 cr)  
PUBH 6232 - Emergency Preparedness: A Public Health Perspective (2.0 cr)  
PUBH 6386 - Cardiovascular Disease Epidemiology and Prevention (2.0 cr)  
PUBH 6035 - Evaluation II: Planning & Evaluation (3.0 cr)  
PUBH 6190 - Environmental Chemistry (3.0 cr)  
PUBH 6049 - Legislative Advocacy Skills for Public Health (3.0 cr)  
PUBH 6210 (*Inactive*)(1.0 cr)  
PUBH 6060 - Motivational Interviewing: Strategies to Effect Behavior Change (1.0 cr)  
PUBH 6074 - Mass Communication and Public Health (3.0 cr)  
PUBH 6078 - Public Health Policy as a Prevention Strategy (2.0 cr)  
PUBH 6085 (*Inactive*)(2.0 cr)  
PUBH 6094 - Interventions to Address Weight-Related Health and Eating Disorders (2.0 cr)  
PUBH 6342 - Epidemiologic Methods II (3.0 cr)  
PUBH 6343 - Epidemiologic Methods III (4.0 cr)  
PUBH 6344 - Completing the Integrative Learning Experience: Secondary Data Analysis (2.0 cr)  
PUBH 6389 - Nutritional Epidemiology (2.0 cr)  
PUBH 6350 - Epidemiologic Methods III: Lab (1.0 cr)  
PUBH 6355 - Pathophysiology of Human Disease (4.0 cr)  
PUBH 6381 - Genetics in Public Health in the Age of Precision Medicine (2.0 cr)  
PUBH 6420 - Introduction to SAS Programming (1.0 cr)  
PUBH 6431 - Topics in Hierarchical Bayesian Analysis (1.0 cr)  
PUBH 6470 (*Inactive*)(3.0 cr)  
PUBH 6541 - Statistics for Health Management Decision Making (3.0 cr)  
PUBH 6542 - Management of Health Care Organizations (3.0 cr)  
PUBH 6544 - Principles of Problem Solving in Health Services Organizations (3.0 cr)  
PUBH 6547 - Health Care Human Resources Management (2.0 cr)  
PUBH 6555 - Health Economics (2.0 cr)  
PUBH 6560 - Operations Research and Quality in Health Care (3.0 cr)  
PUBH 6562 - Information Technology in Health Care (2.0 cr)  
PUBH 6563 - Integrated Delivery Systems (2.0 cr)  
PUBH 6564 - Private Purchasers of Health Care: Roles of Employers and Health Plans in U.S. Health Care System (2.0 cr)  
PUBH 6565 - Innovation of Healthcare Services (2.0 cr)  
PUBH 6571 - Quality, Patient Safety, and Performance Improvement (2.0 cr)  
PUBH 6589 - Medical Technology Evaluation and Market Research (2.0 cr)  
PUBH 6596 - Legal Considerations in Health Services Organizations (2.0 cr)  
PUBH 6617 (*Inactive*)(3.0 cr)  
PUBH 6627 - Sexuality Education: Criteria, Curricula, and Controversy (1.0 cr)  
PUBH 6630 - Foundations of Maternal and Child Health Leadership (3.0 cr)  
PUBH 6634 (*Inactive*)(2.0 cr)  
PUBH 6702 - Integrative Leadership Seminar (3.0 cr)  
PUBH 6711 - Public Health Law (2.0 cr)  
PUBH 6717 - Decision Analysis for Health Care (2.0 cr)  
PUBH 6724 - The Health Care System and Public Health (3.0 cr)  
PUBH 6727 - Health Leadership and Effecting Change (2.0 cr)  
PUBH 6729 (*Inactive*)(1.0 cr)  
PUBH 6755 - Planning and Budgeting for Public Health (2.0 cr)  
PUBH 6765 - Continuous Quality Improvement: Methods and Techniques (3.0 cr)  
PUBH 6803 - Conducting a Systematic Literature Review (3.0 cr)  
PUBH 6805 - Introduction to Project Management for Health Professionals (2.0 cr)  
PUBH 6806 - Principles of Public Health Research (2.0 cr)  
PUBH 6832 - Economics of the Health Care System (3.0 cr)  
PUBH 6809 - Advanced Methods in Health Decision Science (3.0 cr)  
PUBH 6810 - Survey Research Methods (3.0 cr)  
PUBH 6812 (*Inactive*)(2.0 cr)  
PUBH 6813 - Managing Electronic Health Information (2.0 cr)  
PUBH 6814 (*Inactive*)(2.0 cr)  
PUBH 7214 - Principles of Risk Communication (1.0 cr)  
PUBH 6835 (*Inactive*)(2.0 cr)  
PUBH 6845 - Using Demographic Data for Policy Analysis (3.0 cr)  
PUBH 7222 - Best Practices in Emergency Response (1.0 cr)  
PUBH 6855 - Medical Sociology (3.0 cr)  
PUBH 6862 - Cost-Effectiveness Analysis in Health Care (3.0 cr)

- PUBH 6863 - Understanding Health Care Quality (2.0 cr)  
PUBH 6901 - Foundations of Public Health Nutrition Leadership (2.0 cr)  
PUBH 6920 - Foundations of Interprofessional Professional Communication and Collaboration (1.0 cr)  
PUBH 7210 - Topics: Global Food Systems (0.5 cr)  
PUBH 7430 - Statistical Methods for Correlated Data (3.0 cr)  
PUBH 7535 (*Inactive*)(3.0 cr)  
PUBH 7236 (*Inactive*)(2.0 cr)  
PUBH 7250 - Designing and Conducting Focus Group Interviews (1.0 cr)  
PUBH 7253 - Introduction to GIS (1.0 cr)  
PUBH 7257 - Qualitative Data Analysis (1.0 cr)  
PUBH 7475 - Statistical Learning and Data Mining (3.0 cr)  
PUBH 7534 - Marketing for Health Care Professionals (1.0 cr)  
PUBH 7541 - Statistics for Health Management Decision Making (3.0 cr)  
PUBH 7556 - Health and Health Systems (2.0 cr)  
PUBH 7562 - Information Technology in Health Care (2.0 cr)  
PUBH 7564 - Private Purchasers of Health Care (2.0 cr)  
PUBH 7565 - Innovation of Healthcare Services (2.0 cr)  
PUBH 7568 - Interdisciplinary Teamwork in Health Care (2.0 cr)  
PUBH 7569 - Health Care Policy (1.0 cr)  
PUBH 8140 (*Inactive*)(2.0 cr)  
PUBH 8141 - Doctoral Seminar in Observational Inference (2.0 cr)

-OR-

#### **Environmental Chemistry (21 credits)**

##### **Required Coursework (16 credits)**

Take the following courses:

- CEGE 5541 - Environmental Water Chemistry (3.0 cr)  
CEGE 8542 - Chemistry of Organic Pollutants in Environmental Systems (3.0 cr)  
EEB 5601 - Limnology (3.0 cr)  
PUBH 6190 - Environmental Chemistry (3.0 cr)  
STAT 5021 - Statistical Analysis (4.0 cr)

##### **Electives (5 credits)**

Choose electives in consultation with the advisor.

- 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 8561 - Analysis and Modeling of Aquatic Environments I (3.0 cr)  
EEB 4611 - Biogeochemical Processes (3.0 cr)  
EEB 5609 - Ecosystem Ecology (3.0 cr)

-OR-

#### **Environmental and Occupational Epidemiology (27 credits)**

##### **Required Coursework (16 credits)**

Take the following courses. Take 4 credits of PUBH 8120.

- PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)  
PUBH 8120 - Occupational and Environmental Health Sciences Research Seminar (1.0 cr)  
PUBH 8341 - Advanced Epidemiologic Methods: Concepts (3.0 cr)  
PUBH 8342 - Advanced Epidemiologic Methods: Applications (3.0 cr)  
PUBH 8343 - Synthesis and Application of Methods in Epidemiologic Research (3.0 cr)

##### **Electives (11 credits)**

Choose electives in consultation with the advisor.

- 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 6381 - Genetics in Public Health in the Age of Precision Medicine (2.0 cr)  
PUBH 6385 - Epidemiology and Control of Infectious Diseases (2.0 cr)  
PUBH 6387 - Cancer Epidemiology (2.0 cr)  
PUBH 6806 - Principles of Public Health Research (2.0 cr)  
PUBH 7430 - Statistical Methods for Correlated Data (3.0 cr)

PUBH 7435 (*Inactive*)(3.0 cr)  
PUBH 7460 - Advanced Statistical Computing (3.0 cr)  
PUBH 6180 - Ecology of Infectious Diseases (3.0 cr)  
PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)  
PUBH 6162 - Biomarkers (2.0 cr)  
PUBH 6182 - Emerging Infectious Disease: Current Issues, Policies, and Controversies (3.0 cr)  
PUBH 6389 - Nutritional Epidemiology (2.0 cr)  
PUBH 6915 - Nutrition Assessment (2.0 cr)  
VMED 8090 - Epidemiology of Zoonoses and Diseases Common to Animals and Humans (3.0 cr)  
VMED 5180 - Ecology of Infectious Disease (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)  
PUBH 6880 - Introduction to Public Health Informatics (2.0 cr)  
PUBH 6813 - Managing Electronic Health Information (2.0 cr)  
PUBH 6814 (*Inactive*)(2.0 cr)  
HINF 5430 - Foundations of Health Informatics I (3.0 cr)

-OR-

#### **Environmental Infectious Diseases (30 credits)**

##### **Required Coursework**

Take the following courses for a total of 12 credits:

PUBH 6181 - Surveillance of Foodborne Diseases and Food Safety Hazards (2.0 cr)  
PUBH 6182 - Emerging Infectious Disease: Current Issues, Policies, and Controversies (3.0 cr)  
PUBH 6385 - Epidemiology and Control of Infectious Diseases (2.0 cr)  
VMED 5180 - Ecology of Infectious Disease (3.0 cr)  
PUBH 6102 - Issues in Environmental Health (2.0 cr)

##### **Epidemiology (10 credits)**

Take the following courses:

PUBH 6341 - Epidemiologic Methods I (3.0 cr)  
PUBH 6342 - Epidemiologic Methods II (3.0 cr)  
PUBH 6343 - Epidemiologic Methods III (4.0 cr)

##### **Biostatistics (8 credits)**

Take the following courses:

PUBH 6450 - Biostatistics I (4.0 cr)  
PUBH 6451 - Biostatistics II (4.0 cr)

-OR-

#### **Occupational and Environmental Health Nursing (33 credits)**

##### **Required Coursework**

Take the following courses. Take 2 credits of PUBH 8120.

PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)  
PUBH 6170 - Introduction to Occupational Health and Safety (3.0 cr)  
PUBH 6451 - Biostatistics II (4.0 cr)  
PUBH 8120 - Occupational and Environmental Health Sciences Research Seminar (1.0 cr)  
PUBH 6342 - Epidemiologic Methods II (3.0 cr)  
PUBH 6343 - Epidemiologic Methods III (4.0 cr)  
GRAD 8101 - Teaching in Higher Education (3.0 cr)  
PUBH 6102 - Issues in Environmental Health (2.0 cr)  
PUBH 6341 - Epidemiologic Methods I (3.0 cr)  
PUBH 6450 - Biostatistics I (4.0 cr)  
PUBH 6150 - Interdisciplinary Evaluation of Occupational Health and Safety Field Problems (3.0 cr)

-OR-

#### **Environmental Toxicology (21 credits)**

##### **Required Coursework (20 credits)**

Take the following courses:

PUBH 6320 - Fundamentals of Epidemiology (3.0 cr)  
PUBH 6414 - Biostatistical Literacy (3.0 cr)  
PUBH 6112 - Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2.0 cr)  
PUBH 6159 - Principles of Toxicology I (2.0 cr)  
PUBH 6160 - Principles of Toxicology II (3.0 cr)  
PUBH 6161 - Regulatory Toxicology (2.0 cr)  
PUBH 6162 - Biomarkers (2.0 cr)  
PUBH 8160 - Advanced Toxicology (2.0 cr)  
PUBH 8161 - Current Literature in Toxicology (1.0 cr)

**Electives (1 credit)**

Select one of the following courses, in consultation with the advisor, to complete the 21-credit minimum for this concentration.

[ANSC 8344](#) - Mechanisms of Hormone Action (2.0 cr)

[PHCL 5111](#) - Pharmacogenomics (3.0 cr)

[BIOC 8216](#) - Signal Transduction and Gene Expression (3.0 cr)

[CSCI 5980](#) - Special Topics in Computer Science (1.0 - 3.0 cr)

[CSCI 5461](#) - Functional Genomics, Systems Biology, and Bioinformatics (3.0 cr)

[BIOC 5361](#) - Microbial Genomics and Bioinformatics (3.0 cr)

[GRAD 8101](#) - Teaching in Higher Education (3.0 cr)

[GRAD 8102](#) - Practicum for Future Faculty (3.0 cr)

-OR-

**Occupational Injury Prevention Research Training (60 credits)****Required Coursework (57 credits)**

Take the following courses. Take 4 credits of PUBH 8120.

[PUBH 6341](#) - Epidemiologic Methods I (3.0 cr)

[PUBH 6342](#) - Epidemiologic Methods II (3.0 cr)

[PUBH 8341](#) - Advanced Epidemiologic Methods: Concepts (3.0 cr)

[PUBH 8342](#) - Advanced Epidemiologic Methods: Applications (3.0 cr)

[PUBH 8343](#) - Synthesis and Application of Methods in Epidemiologic Research (3.0 cr)

[PUBH 6450](#) - Biostatistics I (4.0 cr)

[PUBH 6451](#) - Biostatistics II (4.0 cr)

[PUBH 6102](#) - Issues in Environmental Health (2.0 cr)

PUBH 6109 (*Inactive*) (2.0 - 4.0 cr)

[PUBH 6120](#) - Injury Prevention in the Workplace, Community, and Home (2.0 cr)

[PUBH 6123](#) - Violence Prevention and Control: Theory, Research, and Application (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 8120](#) - Occupational and Environmental Health Sciences Research Seminar (1.0 cr)

[GRAD 8101](#) - Teaching in Higher Education (3.0 cr)

[IE 5513](#) - Engineering Safety (4.0 cr)

[PSY 5501](#) - Self, Society and Health - What's Work Got To Do With It? (3.0 cr)

**Human Factors/Ergonomics Requirement (3-4 credits)**

Choose one of the following in consultation with the advisor:

[IE 5511](#) - Human Factors and Work Analysis (4.0 cr)

or [HUMF 5001](#) - Foundations of Human Factors/Ergonomics (3.0 cr)

-OR-

**Occupational Health Services Research and Policy (41 credits)****Required Coursework (29 credits)**

Take the following courses. Take 2 credits of PUBH 8120.

[PUBH 6102](#) - Issues in Environmental Health (2.0 cr)

PUBH 6109 (*Inactive*) (2.0 - 4.0 cr)

[PUBH 6341](#) - Epidemiologic Methods I (3.0 cr)

[PUBH 6342](#) - Epidemiologic Methods II (3.0 cr)

[PUBH 6343](#) - Epidemiologic Methods III (4.0 cr)

[PUBH 6450](#) - Biostatistics I (4.0 cr)

[PUBH 6451](#) - Biostatistics II (4.0 cr)

[PUBH 8120](#) - Occupational and Environmental Health Sciences Research Seminar (1.0 cr)

[GRAD 8101](#) - Teaching in Higher Education (3.0 cr)

**Additional Coursework (12 credits)**

Select courses from the following in consultation with the advisor:

[PUBH 6862](#) - Cost-Effectiveness Analysis in Health Care (3.0 cr)

[PUBH 6855](#) - Medical Sociology (3.0 cr)

[PUBH 6845](#) - Using Demographic Data for Policy Analysis (3.0 cr)

[PUBH 8801](#) - Health Services Policy Analysis: Theory (1.0 cr)

-OR-

**Food Safety (35 credits)**

Take the following courses. Take PUBH 7210 twice for a total of 1 credit.

[PUBH 6102](#) - Issues in Environmental Health (2.0 cr)

[PUBH 6181](#) - Surveillance of Foodborne Diseases and Food Safety Hazards (2.0 cr)

[PUBH 6183](#) - Theory and Practice in Foodborne Disease Outbreak Detection, Investigation and Control (1.0 cr)

[PUBH 6182](#) - Emerging Infectious Disease: Current Issues, Policies, and Controversies (3.0 cr)

[PUBH 6385](#) - Epidemiology and Control of Infectious Diseases (2.0 cr)

[PUBH 7210](#) - Topics: Global Food Systems (0.5 cr)

[VMED 5180](#) - Ecology of Infectious Disease (3.0 cr)

[FSCN 5131](#) - Food Quality for Graduate Credit (3.0 cr)

**Epidemiology (10 credits)**

[PUBH 6341](#) - Epidemiologic Methods I (3.0 cr)

[PUBH 6342](#) - Epidemiologic Methods II (3.0 cr)

[PUBH 6343](#) - Epidemiologic Methods III (4.0 cr)

**Biostatistics (8 credits)**

[PUBH 6450](#) - Biostatistics I (4.0 cr)

[PUBH 6451](#) - Biostatistics II (4.0 cr)

## Program Sub-plans

A sub-plan is not required for this program.

Students may not complete the program with more than one sub-plan.

### Industrial Hygiene

The Industrial Hygiene track focuses on 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.

**Industrial Hygiene (21 credits)**

Take the following courses:

[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 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)