Environmental Health MS

The Environmental Health (EH) MS program addresses environmental and occupational health concerns as they relate to public health in Minnesota, the United States and around the world. While completing program requirements, students have the opportunity to explore their own interests by choosing one of the eight areas of emphasis. Students must complete a minimum of 30 credits. To complete program requirements, students will choose electives, in consultation with their academic advisor, which may include credits towards a minor.

**CORE REQUIREMENTS**

11-12 CREDITS

- PubH 6102 Issues in Environmental and Occupational Health (2 cr)
- PubH 6250 Foundations of Public Health (2 cr) *
- PubH 6320 Fundamentals of Epidemiology* (3 cr) or
- PubH 6341 Epidemiologic Methods I (3 cr) or
- PubH 6414 Biostatistical Literacy (3 cr) or
- PubH 6450 Biostatistics I (4 cr) or
- STAT 5021 Statistical Analysis** (4 cr) or
- PubH 6742 Ethics in Public Health: Research and Policy (1 cr)

*Required for students who do not have an MPH, a bachelor’s degree in Public Health or a Minor in Public Health.

**ENVIRONMENTAL HEALTH REQUIREMENT**

4 CREDITS

INTEGRATED EXPOSURE & HEALTH EFFECTS

Select at least one course from the following list:
- PubH 6112 Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2 cr)
- PubH 6141 GIS & Spatial Analysis for Public Health (3 cr)
- PubH 6154 Climate Change & Global Health (3 cr)
- PubH 6162 Biomarkers (2 cr) or
- PubH 6181 Surveillance of Foodborne Diseases & Food Safety Hazards (2 cr)
- PubH 6190 Environmental Chemistry (3 cr)
- PubH 6193 Adv. Topics in Human Exposure Science (2 cr)

**RISK MANAGEMENT**

Select at least one course from the following list:
- PubH 6115 Worker Protection Law (1 cr)
- PubH 6116 Environmental Law (1 cr)
- PubH 6120 Injury Prevention in the Workplace, Community, & Home (2 cr)
- PubH 6123 Violence Prevention & Control: Theory, Research, & Application (2 cr)

**PLAN A/PLAN B**

Students pursuing the Plan A program complete 10 credits of PubH 8777. Students pursuing the Plan B program complete 3 credits of PubH 7195.

**AREAS OF EMPHASIS**

As part of elective courses, students may choose one of the following seven Emphasis Areas, in consultation with their academic advisor.

**GENERAL**

This emphasis provides the most flexibility for students to explore their own interests, by choosing courses from the numerous elective options.

**ENVIRONMENTAL CHEMISTRY**

**Students strongly encouraged to take STAT 5021 instead of PubH 6450.**
- PubH 6190 Environmental Chemistry (3 cr)
- EEB 5601 Limnology (3 cr)
- CEGE 5541 Environmental Water Chemistry (3 cr)

**ENVIRONMENTAL INFECTIONOUS DISEASES**

- VMED 5180 Ecology of Infectious Diseases (3 cr)
- PubH 6182 Emerging Infectious Diseases: Issues, Policies, & Controversies (3 cr)
- PubH 6184 Field and Laboratory Methods in Public Health Entomology (2 cr)
- PubH 6385 Epidemiology and Control of Infectious Diseases (2 cr)

**ENVIRONMENTAL & OCCUPATIONAL EPIDEMIOLOGY**

- PubH 6450 & PubH 6341 required.
- PubH 6140 Occupational and Environmental Epidemiology (2 cr)
- PubH 6342 Epidemiologic Methods II (3 cr)
- PubH 6451 Biostatistics II (4 cr)

**EXPOSURE SCIENCE**

- PubH 6450 required
- PubH 6112 Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2 cr)
- PubH 6162 Biomarkers (2 cr)
- PubH 6175 Environmental Measurements Laboratory (2 cr)
- PubH 6190 Environmental Chemistry (3 cr)
- PubH 6192 Measurement and Properties of Air Contaminants (2 cr)
- PubH 6193 Advanced Topics in Human Exposure Science (2 cr)

**FOOD SAFETY**

- PubH 6181 Surveillance Foodborne Diseases & Food Safety Hazards (2 cr)
- PubH 6182 Emerging Infectious Diseases: Issues, Policies, & Controversies (3 cr)
- PubH 6183 Theory & Practice of Outbreak Investigations (1 cr)
- PubH 6385 Epidemiology of Infectious Diseases (2 cr)
- PubH 7210 Global Food Systems (0.5 cr)
- FSCN 5131 Food Quality (3 cr)

**INJURY & VIOLENCE EPIDEMIOLOGY & PREVENTION**

*Students required to take PubH 6341 and PubH 6450.
- PubH 6120 Injury Prevention in Workplace, Community & Home (2 cr)
- PubH 6123 Violence Prev & Control: Theory, Research, Application (2 cr)
- PubH 6342 Epidemiologic Methods II (3 cr)
- PubH 6451 Biostatistics II (4 cr)
- PubH 8120 Occupational & Env Health & Safety Research Seminar (2 cr)

**REGULATORY TOXICOLOGY & RISK ASSESSMENT**

Prerequisites: basic sciences bachelor’s degree, completion of organic chemistry, biochemistry, cell biology & physiology courses. Students who have not completed prerequisites must take courses during MS training.

- PubH 6112 Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals (2 cr)
- PubH 6159 Principles of Toxicology I (2 cr)
- PubH 6160 Principles of Toxicology II (3 cr)
- PubH 6161 Regulatory Toxicology (2cr)
- PubH 6162 Biomarkers (2 cr)
- PubH 8160 Advanced Toxicology (2 cr)
- PubH 8161 Current Literature in Toxicology (1 cr)

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