

Occupational and Environmental Health, MS

An MS in occupational and environmental health (OEH) is offered with optional subprograms in agricultural safety and health and industrial hygiene.

Learning Outcomes

General Outcomes

Students will be able to:

- describe major environmental hazards that adversely affect human health;
- demonstrate the use of regulatory guidelines enacted to control occupational health and injury issues;
- apply epidemiological principles used to assess associations between exposure to occupational health and injury hazards on health outcomes;
- use statistical methods and related software to test a hypothesis; and
- apply interventions to prevent occupational health and injury hazards.

Agricultural Safety and Health Subprogram Outcomes

Students will be able to:

- describe the basic concepts of agricultural safety and health;
- summarize epidemiological and toxicological principles that can be used to determine health outcomes associated with exposure to occupational hazards;
- explain appropriate research design and methodology related to the field of agricultural safety and health;
- communicate agricultural safety and health concepts both orally and in writing;
- interpret the significance of research data relative to an exposure or health outcome;
- apply best practice safety guidance to develop products and interventions to prevent injuries related to agricultural hazards; and
- develop skills to design and evaluate a research project relative to peer-reviewed literature in agricultural safety and health.

Industrial Hygiene Subprogram Outcomes

Students will be able to:

- anticipate and recognize occupational and environmental hazards (i.e., physical, chemical, and biological agents, factors, and stressors) generated by or associated with defined sources, unit operations, and/or processes;
- describe qualitative and quantitative aspects of the generation of hazards;
- apply scientific principles, instrumentation, and methods to adequately assess exposures to hazards;
- organize and interpret exposure data using qualitative and quantitative methods in the context of physiological,

epidemiological, and toxicological knowledge of the response of the human body to hazards;

- recommend and evaluate controls to reduce or eliminate hazards with regard to traditional hierarchy considerations;
- understand applicable business, managerial, and leadership practices with an emphasis on program and project management;
- communicate effectively and appropriately to advocate for continuous improvement in worker health and safety to pertinent audiences, including the workforce, management, the public, and professional peers;
- interpret and apply applicable and emerging regulations, consensus standards, and best practices affecting occupational and environmental health;
- demonstrate an understanding of the professional code of ethics; and
- understand the value of and path to attain professional certification in industrial hygiene and allied fields.