

## **Programmatic Competencies for the MS in Industrial Hygiene & Environmental Management**

Graduates of the Master of Science in Industrial Hygiene & Environmental Management program should be able to:

- Apply knowledge of mathematics, science, and applied sciences;
- Design and conduct experiments and analyze and interpret experimental data;
- Formulate and design a system, process, or program to meet identified needs;
- Function on multi-disciplinary teams;
- Identify and solve applied science problems;
- Understand professional and ethical responsibility;
- Communicate effectively in the field with people at all levels of an organization;
- Communicate effectively with professional peers;
- Understand the impact of solutions in a global and social context;
- Recognize the need for and ability to engage in life-long learning;
- Demonstrate a knowledge of contemporary professional issues;
- Identify agents, factors, and stressors generated by and/or associated with defined sources, unit operations, and/or processes;
- Describe qualitative and quantitative aspects of generation of agents, factors, and stressors;
- Understand physiological and/or toxicological interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors with the human body;
- Assess qualitative and quantitative aspects of exposure assessment, dose-response, and risk characterization based on applicable pathways and modes of entry;
- Calculate, interpret, and apply statistical and epidemiological data;
- Recommend and evaluate engineering, administrative, and personal protective equipment controls and/or other interventions to reduce or eliminate hazards;
- Demonstrate and understanding of applicable business and managerial practices, based in part on field experience;
- Interpret and apply applicable occupational and environmental regulations;
- Understand fundamental aspects of safety and environmental health.