

MS IN OCCUPATIONAL HEALTH

Program of Study for the Master of Science in Occupational Health: Industrial Hygiene Program

The Master of Science in Occupational Health (MSOH) degree program is available in Industrial Hygiene. Industrial hygiene professionals are involved in understanding and implementing scientific, technical, and regulatory aspects that focus on preventing and controlling workers' exposures to factors and agents that can cause them harm. The profession focuses on prevention of exposure or occurrence and mitigation of factors and agents that contribute to worker harm, as work-related illnesses and injuries.

The comprehensive and flexible curriculum of the Master of Science in Occupational Health (MSOH) degree – Industrial Hygiene (IH) program provides a solid foundation of information for students with limited or no background in industrial hygiene, while simultaneously offering students with professional experience the opportunity to expand the scope of their knowledge and skills. The program offers classes during evenings and weekends to facilitate graduate study for those engaged in full-time daily employment. The schedule also permits students without applicable practical experience to complete an internship.

The MSOH degree is fully accredited by the Accreditation Board for Engineering and Technology - Applied Science Accreditation Commission (ABET-ASAC) and requires four semesters to complete as a full-time student. Part time students take approximately eight semesters to complete the program.

Student Learning Objectives

The MSOH degree-IH program student outcomes state that upon completion of the program, graduates should be able to:

- 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 the importance of appropriate ethical performance and practice
- Demonstrate an understanding of applicable business and managerial practices
- Interpret and apply applicable occupational and environmental regulations

- Participate in the development and implementation of applicable industrial-hygiene-related programs
- Generate, review, and interpret data, whether from original research or other published sources
- Prepare scientific and technical summaries and reports
- Understand fundamental aspects of safety and environmental health
- Understand the necessity of teamwork among management, industrial hygienists, safety specialists, environmental specialists, engineers, and clinicians (i.e. occupational health physicians and nurses)
- Attain recognized professional certification

Applicants are required to complete an online application, as well as submit official transcripts from all institutions where they have taken courses (transcripts from institutions from outside the US must be translated, evaluated, and reported on the 4.00 scale), 3 letters of recommendation (2 of which must be from persons with a graduate degree), a resume, and a letter of interest (statement of purpose).

The GRE is not required for graduates from an accredited US institution with a GPA ≥ 3.00 . The GRE may be required by the MPH Admissions Committee for applicants with a GPA < 3.00 . The GRE is required for all students graduating from institutions outside the US and for any student with a GPA ≤ 2.7 .

Regular admission to the MSOH program requires:

- An earned bachelor's degree from an accredited college or university
- GPA ≥ 3.00 (on a 4.00 scale)
- Foundation courses in college-level mathematics (preferably calculus), inorganic chemistry, organic chemistry, physics, biology, and English/writing
 - Work experience based on applicability and duration and applicable certifications such as CIH or CSP will also be considered
- TOEFL ≥ 550 (paper-based), ≥ 213 (computer-based), or >79 (iBT) for applicants who graduated from institutions outside the US and whose primary language is not English.

Provisional admission to the MSOH program may be offered with one or more of the following deficiencies:

- Missing foundation course(s)
- GPA < 3.00 , but ≥ 2.7

Provisional students take 4 courses (12 credits hours) in the MSOH program. No electives may be taken. Students must attain a B or better in each of these courses to be admitted as a regular status student. Any student not attaining a B or better in these 4 courses could be dismissed from the program.

The MSOH degree has a minimum of 40 credit hours for degree requirements. The curriculum incorporates the general areas of science, technology, management, and communication within the context of the core courses and thesis requirements for the MSOH degree.

All MSOH students take the following courses. For those students not requiring an internship, 1 advised elective is added.

| Code | Title | Hours |
|---------------------------|---|-------|
| PUBH 5020 | Occupational Health | 3 |
| PUBH 5060 | Occupational Safety | 3 |
| PUBH 5160 | Environmental Health | 3 |
| PUBH 5260 | Haz Mat and Emerg Response | 3 |
| PUBH 5310 | Chemical Agents | 3 |
| PUBH 5410 | Hazard Control | 3 |
| PUBH 5520 | Biological Agents | 3 |
| PUBH 5620 | Physical Agents | 3 |
| PUBH 5700 | Risk Assessment | 3 |
| PUBH 6000 | Biostatistics | 3 |
| PUBH 6010 | Public Health Epidemiology | 3 |
| PUBH 6960 | Internship in Public Health (3 credits required if <1 year experience, otherwise 3 credits advised electives) | 3 |
| PUBH 6970 or PUBH 6990 | Project in Public Health Thesis Research | 4 |
| Total Hours | | 40 |

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2. Describe qualitative and quantitative aspects of generation of agents, factors, and stressors
3. Understand physiological and/or toxicological interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors with the human body.
4. Assess qualitative and quantitative aspects of exposure assessment, dose-response, and risk characterization based on applicable pathways and modes of entry
5. Calculate, interpret, and apply statistical and epidemiological data.
6. Recommend and evaluate engineering, administrative, and personal protective equipment controls and/or other interventions to reduce or eliminate hazards.
7. Demonstrate the importance of appropriate ethical performance and practice.
8. Demonstrate an understanding of applicable business and managerial practices.
9. Interpret and apply applicable occupational and environmental regulations
10. Participate in the development and implementation of applicable industrial hygiene-related programs.
11. Generate, review, and interpret data, whether from original research or other published sources.
12. Prepare scientific and technical summaries and reports.
13. Understand fundamental aspects of safety and environmental health.
14. Understand the necessity of teamwork among management, industrial hygienists, safety specialists, environmental specialists, engineers, and clinicians (i.e., occupational health physicians and nurses).
15. Attain recognized professional certification.