Industrial Hygiene, M.S.

Degree Offered
• Master of Science

Nature of the Program
The industrial hygiene program is designed for students with undergraduate training in the areas of engineering, chemistry, biology, medical sciences, animal sciences or the physical sciences who have an interest in occupational and environmental health and safety.

Through this program, working professionals and full time students can obtain education in industrial hygiene with the overall goal of providing the technical competence to anticipate, recognize, evaluate and control occupational health hazards. This degree is structured to encourage participatory, collaborative and applied problem-solving strategies to address modern day occupational health issues.

Program Overview
In order to meet the Program Educational Objectives of the Industrial Hygiene program, students must be able to meet the following educational outcomes at the time of graduation:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to industrial hygiene
2. An ability to formulate or design a system, process, procedure or program to meet desired needs
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions
4. An ability to communicate effectively with a range of audiences
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Admissions
Applicants to graduate programs in the industrial hygiene program are required to provide the following:

• Applicants must have earned a grade point average (GPA) of 3.0 or better (out of a possible 4.0)
• International applicants must submit proof of English language proficiency
• A completed application submitted to the WVU Admissions Office
• Official transcripts of all previous college course work
• GRE General Test scores
• ABET-ANSAC prerequisite course requirements:
  • sixty-three credit hours of approved science, mathematics, and other technical courses. Of these, at least fifteen credit hours must be junior or senior level.
  • Specific pre/corequisite course requirements include two semesters of general/inorganic chemistry and two semesters of physics.
  • On an individual basis, the faculty may identify additional pre/corequisite coursework, often including organic chemistry and biology. Applicants will be advised about their specific requirements at the time of admission.

To see additional details regarding admission requirements, courses and learning goals, please visit the WVU Catalog.

Major Code: 8419

Curriculum Requirements
A minimum cumulative GPA of 3.0 is required in all courses
A minimum of 60% of courses must be from 500 level or above

Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PUBH 659</td>
<td>Public Health Foundations</td>
<td>3</td>
</tr>
<tr>
<td>BIOS 601</td>
<td>Applied Biostatistics 1</td>
<td>4</td>
</tr>
<tr>
<td>OEHS 523</td>
<td>Ergonomics</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 527</td>
<td>Noise Measurement and Control</td>
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<td>OEHS 528</td>
<td>Industrial Ventilation Design</td>
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<tr>
<td>OEHS 620</td>
<td>Occupational and Environmental Hazard Assessment</td>
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### Industrial Hygiene, M.S.

OEHS 725  Industrial Hygiene Sampling & Analysis  4
OEHS 622  Public Health Toxicology  3
EPID 601  Public Health Epidemiology  3

Online short course: Basic Course in the Protection of Human Research Subjects - Biomedical Focus https://www.citiprogram.org/default.asp

**Complete 1 of the following options:**  9-11

**Thesis Option (9 Hours)**
- OEHS 623  Occupational Injury Prevention
- OEHS 697  Research (6 Hours)
- Written Proposal/Oral Presentation
- Thesis
- Final Oral or Written Examination

**Coursework Option (11 Hours)**
- IENG 662  Systems Safety Engineering
- OEHS 601  Environmental Health
- OEHS 685  Internship
- Environmental or Safety Elective: (choose one) **
  - ENVP 515  Hazardous Waste Training
  - ENVP 555  Environmental Sampling and Analysis
  - SAFM 580  Fundamentals of Environmental Management
  - SAFM 470  Managing Construction Safety
  - SAFM 533  Disaster Preparedness
  - SAFM 534  Fire Safety Management
- Final oral or written examination

**Total Hours**  39-41

* Students who do not hold a baccalaureate degree in industrial hygiene may be required to take a set of undergraduate courses above and beyond the minimum coursework requirements. Students must complete those courses and earn at least a “C” in each before completing the 18th credit hour in the industrial hygiene curriculum.

** All courses contributing to Environmental or Safety Elective are three hours.

### Final Examination

M.S. students following the thesis option must prepare a written research proposal. The proposal must be approved by the student's AEC at least one semester prior to the final oral examination.

All students, regardless of option, are required to pass a final oral or written examination, administered by their AEC, covering the thesis and/or related course material.

### Major Learning Outcomes

#### INDUSTRIAL HYGIENE

- An ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice such as:
  - Principles and methods of industrial hygiene
  - Principles and methods of ergonomics
  - Principles and methods of safety
  - Principles of environmental sciences
  - Principles of epidemiology and biostatistics
  - Principles and methods of control of physical and chemical hazards
  - The ability to apply knowledge of math, science, and Industrial Hygiene;
  - The ability to design and conduct experiments, analyze and interpret data, develop implementation strategies, and shape recommendations so that results will be achieved and findings will be communicated effectively;
  - The ability to work individually, in teams, and/or in multi-disciplinary teams to identify, formulate, and solve problems using Industrial Hygiene, safety, and ergonomics knowledge, skills and tools;
  - An ability to formulate or design a system, process, or program to meet desired needs;
• An understanding of professional and ethical responsibility and the broad education and a knowledge of contemporary issues necessary to understand the impact of solutions in a global and societal context;
• A recognition of the need for an ability to engage in life-long learning;
• The professional characteristics expected of a successful Industrial Hygienist.