

IH - INDUSTRIAL HYGIENE (IH)

IH 301. Occupational Safety and Health. (3 Credits)

Principles of occupational health and safety covering standard techniques for the recognition, evaluation and control of workplace and environmental health hazards with emphasis on the role of regulatory agencies, the Occupational Safety and Health Act of 1970, and workplace safety and health regulations. (Fall, Spring, Summer)

IH 310. Industrial Ergonomics and Physical Agents. (3 Credits)

This course studies the role of industrial ergonomics in preventing cumulative trauma and improving occupational safety and health, work organization and productivity. Topics include ergonomics risk factors, cumulative trauma, physical and cognitive ergonomics, and principles of workstation design. A term paper may be required. Requires concurrent enrollment in IH 310L unless already completed. Prerequisites: BI 242, IH 301. (Spring)

IH 310L. Industrial Ergonomics and Physical Agents Laboratory. (1 Credit)

This laboratory presents techniques for recognition and assessment of ergonomics risk factors, evaluation of physical work demands, use of biomechanical and manual material handling models, application of anthropometric techniques, and design of workstations including office and production facilities. One 3-hour laboratory period per week. Field trips may be required. Requires concurrent enrollment in IH 310 unless already completed. Prerequisites: BI 242, IH 301. (Spring)
Course Fees: \$50

IH 311. Industrial Safety. (3 Credits)

Review of the voluntary compliance outreach program (OSHA 501) for general industry. This program includes a review of the OSHA Act; record keeping and recording requirements; the use of the Code of Federal Regulations and the application of safety standards. General principles of occupational safety are discussed along with the regulatory issues. Term projects may be required. Prerequisites: IH 301. (Fall)

IH 322. Industrial Hygiene Problems. (3 Credits)

Review of issues concerning the practice of the Industrial Hygiene profession. Study of health and safety hazards associated to common industrial operations and processes with emphasis on hazard analysis including qualitative and quantitative techniques. Field trip and term project are required. Prerequisites: CH 112, 112L; IH 301. (Summer)

IH 333. Industrial Toxicology. (3 Credits)

Review of human physiology and recognition of physiological effects of toxic agents; TLV and LD concepts; use of medical technology; modes of contact and entry of toxic agents and dosage, time, and concentration effects; recognition of toxic agents, occupational diseases, and epidemiology. Term projects may be required. Prerequisites: BI 242, IH 301, MA 147. (Spring)

IH 401. Health and Safety Applied to Business Operations. (3 Credits)

A study of laws, guidelines, and standard practices concerning occupational health and safety as applied to business operations. Topics included in this course are the administration of occupational health and safety programs, recordkeeping of injuries and illnesses, measures of safety performance, exposure assessment processes, control interventions, emergency preparedness and contingency planning, and ergonomics programs. This course is not applicable for credit toward a degree in industrial hygiene. Prerequisite: IH 301. (Spring)

IH 422. Control of Airborne Hazards. (3 Credits)

This course presents principles for hazard analysis and control of industrial airborne contaminants. Emphasis is given to general ventilation, local exhaust ventilation, and noise control. A term paper may be required. Requires concurrent enrollment in IH 422L unless already completed. Prerequisites: IH 322, IH 311. (Fall)

IH 422L. Control of Airborne Hazards Laboratory. (1 Credit)

This laboratory presents principles of design and methods for the evaluation of controls with emphasis given to general and local exhaust ventilation. The use of band frequency analysis for noise characterization and fit testing techniques for personal respirators are also illustrated. One 3-hour laboratory period per week. Field trips may be required. Requires concurrent enrollment in IH 422 unless already completed. Prerequisites: IH 322, IH 311. (Fall)

Course Fees: \$50

IH 444. Sampling Methods in Industrial Hygiene. (3 Credits)

This course presents air sampling techniques used for the evaluation of airborne gases, vapors, aerosols and biological agents found in the workplace. Quantitative methods of frequent use in occupational hygiene are illustrated following an integrated approach that includes components of sampling strategies, collection techniques, data analyses, and exposure assessment principles. A term paper may be required. Requires concurrent enrollment in IH 444L unless already completed. Prerequisites: IH 333, IH 311. (Spring)

IH 444L. Sampling Methods in Industrial Hygiene Laboratory. (1 Credit)

This course presents techniques and equipment used for collection of airborne contaminants, including integrated and real time methods. Experiments also focus on quality control including calibration techniques, preparation of test atmospheres, and statistical methods of data analysis. One 3-hour laboratory period per week. Field trips may be required. Requires concurrent enrollment in IH 444 unless already completed. Prerequisites: IH 333, IH 311. (Spring)
Course Fees: \$50

IH 490. Special Topics in Occupational Health and Safety. (3 Credits)

An in-depth study of a particular topic of current interest in the field of industrial hygiene. Topics will vary but will be listed in the Schedule of Classes when offered and on students' transcripts. A \$50 laboratory fee or field trips may be required according to topic. Prerequisite: departmental approval. (Fall)
Course Fees: \$50

IH 494. Internship in Industrial Hyg. (0 Credits)

Industrial Hygiene students are required to complete a pre-professional internship. The internship affords students the opportunity to apply comprehensive and cumulative knowledge acquired in industrial hygiene and supporting courses to an industrial operation. Internships involve 150 hours of direct contact work and must be completed during one regular semester or a regular summer term. Students must obtain approval from the instructor as to the comprehensiveness of the proposed experience and also by the submission of a project proposal prior to beginning the internship. (Fall, Spring, Summer) (Pass/Fail)

IH 495. Senior Research/Internship. (1-3 Credits)

Independent research or internship on individual projects under faculty supervision for selected industrial hygiene majors who have completed at least 84 credit hours with a minimum 3.0 overall scholastic average. Scheduled work and conferences require a minimum average of four hours per week per credit hour. Research or internship may be off campus at a preapproved site with credit depending on scope of project. May be repeated for a maximum of three credit hours. Departmental approval required. (Fall, Spring, Summer)

Course Fees: \$50

IH 496. Capstone Project in Industrial Hygiene. (1 Credit)

Student will generate and present a detailed overview of their pre-professional internship project with components of recognition, evaluation and control. In addition, all students will be given a comprehensive exit exam. Open to industrial hygiene majors who have completed or are currently enrolled in IH 494 and are in their last semester of studies. (Fall, Spring)