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 OSHAct; 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. Senior Seminar 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)