MASTER OF SCIENCE
Occupational Ergonomics and Safety

Not many tools and machines are designed to accommodate the human form, human thought patterns or human lifestyle. As a result, job-related stress and injury resulting from machinery, operations and systems are endemic. The solutions are simple, but challenging: make new stuff, make it better and make it fast; and create jobs, processes and work environments that mesh with how people are meant to live. Are you up to the challenge? Prevent acute injuries, musculoskeletal disorders, and mental stresses resulting from poorly designed work environments, with our master’s degree in Occupational Ergonomics and Safety.

With this degree you’ll prepare for a career recognizing, evaluating and controlling the hazards that result from a poor fit between the worker and the workplace. You’ll develop an understanding of human anatomy, physiology and psychology, as well as industrial hygiene and epidemiology, manufacturing technology and work organization. With this knowledge, you’ll be able to create processes that optimize skill utilization and learning, and physiological and psychological well-being.

Graduates find that there is a strong demand for their skill sin private companies and government agencies, and as consultants. Some examples of where our alumni are working:

- Manufacturing
- Hospitals
- Universities
- Insurance companies
- Bio-Pharmaceuticals
- State Department of Public Health, Labor, and Worker’s Compensation
- Occupational Safety and Health Administration
- National Institute for Occupational safety and Health (C.D.C)

Qualifications of students who graduate from our program:

- Technical Competence: Demonstrate a high level of technical and scientific competence in the application of the fundamentals of recognition, measurement, control and prevention of occupational and environmental hazards.
- Analytic Competence: Demonstrate the ability to solve complex problems through literature review, exposure assessment and evaluation and data analysis.
- Effective and Ethical Practice: Understanding of regulatory and programmatic requirements for occupational and environmental hygiene. Demonstrate effective oral and written communications with technical and worker audiences, including the development and presentation of effective worker training. Understand ethical responsibilities for the protection of human subjects and the practice of occupational and environmental hygiene.
- Lifelong Learning: Understand the need to engage in life-long learning and undertake appropriate activities to address this need, including professional advancement leading to professional certification.
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Full-time Curriculum Plan (36 Credits)*

Fall Semester Year 1

19.530  Ergonomics and Work  3 credits
19.575  Introduction to Biostatistics and Epidemiology  3 credits
19.551  Work Environment Policy & Practice  3 credits

Spring Semester Year 1

19.503  Toxicology and Health  3 credits
19.531  Occupational Biomechanics  3 credits
19.540  Occupational Safety Engineering  3 credits

Fall Semester Year 2

19.600  Work Environment Capstone  3 credits
19.XXX  Elective (Choose 2)  6 credits
  - 19.632 - Advanced Biomechanics
  - 19.640 – Macroergonomics
  - 19.684 - Musculoskeletal Epidemiology
  - 19.685 – Acute Injury Epidemiology

Spring Semester Year 2

19.601  Work Environment Capstone  3 credits
19.614  Evaluation of Work Environment Hazards  3 credits
19.XXX  Elective (Choose 1)  3 credits
  - 19.532 – Occupational Biomechanics Lab
  - 19.579 – Disability Outcomes
  - 19.533 – Intervention Research

* Part-time plans of study can also be arranged in consultation with academic advisor. Full-time plans of study that begins in the spring semester will include the same courses, taken in a slightly different order