

## MASTER OF SCIENCE IN WORK ENVIRONMENT

### 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 Work Environment, Occupational Ergonomics and Safety option.

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 in 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.

# MASTER OF SCIENCE

## Occupational Ergonomics and Safety

*Full-time Curriculum Plan (36 Credits)\**

### Public Health Core Courses

PUBH.5030	Toxicology and Health	3 credits
PUBH.5510	Work Environment Policy & Practice	3 credits
PUBH.5750	Introduction to Epidemiology	3 credits
PUBH.6000	Capstone I / Practicum I	3 credits
PUBH.6010	Capstone II / Practicum II	3 credits

### Ergonomics and Safety Option Courses

PUBH.5300	Ergonomics and Work	3 credits
PUBH.5311	Occupational Biomechanics	3 credits
PUBH.5400	Occupational Safety Engineering	3 credits
PUBH.6140	Evaluation of Work Environment Hazards	3 credits

### Public Health Electives

PUBH.XXXX	Elective (Choose 3)	9 credits
	<ul style="list-style-type: none"><li>• <i>PUBH.5320 – Occupational Biomechanics Lab</i></li><li>• <i>PUBH.5330 – Intervention Research</i></li><li>• <i>PUBH.5790 – Disability Outcomes</i></li><li>• <i>PUBH.6321 - Advanced Biomechanics</i></li><li>• <i>PUBH.6400 – Macroergonomics</i></li><li>• <i>PUBH.6840 - Musculoskeletal Epidemiology</i></li><li>• <i>PUBH.6850 – Acute Injury Epidemiology</i></li></ul>	

\* 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

*Updated 1/4/17*