

INDUSTRIAL ENGINEERING: HUMAN FACTORS AND HEALTH SYSTEMS ENGINEERING, M.S.

If you have questions, please contact COE Grad Admissions at iegradadmission@engr.wisc.edu; Subject Line: IE Grad Admissions and I Sy E Seniors please contact Pam Peterson, prpeterson@wisc.edu. (prpeterson@wisc.edu)

This is a named option course-based program within the Industrial and Systems Engineering M.S. (<http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/>)

By examining, designing, testing and evaluating products, environments and how people interact in it, Human Factors and Health Systems Engineering (<https://www.engr.wisc.edu/app/uploads/2017/02/HFHSE-web-1.pdf>) professionals can create productive, safe and satisfying environments for humans, and apply industrial and systems engineering tools and approaches to specific health care problems.

IS THIS PROGRAM RIGHT FOR YOU?

The demand for engineers who can combine a concern for the human component with traditional engineering principles is great. The Human Factors and Health Systems Engineering program provides students content from physical ergonomics, cognitive ergonomics, macroergonomics and broad issues in health care, including long-term care, prevention, quality improvement, health care financing, and system evaluation.

This program considers human reliability, psychomotor capabilities and human characteristics in equipment, as an important aspect of equipment design is human-computer interaction. Engineers are concerned with the complex physical relationships between people, machines, job demands and work methods, design, work quality and assessment of skill. Also important are organizational issues such as management approaches, job design, participative problem solving, psychological stress, job satisfaction, performance effectiveness, product/service quality, and quality of work life.

Effective model building requires strong systems analysis skills. While skill in manipulating statistical and mathematical models is essential to an industrial engineer's success, the health systems engineer must also be able to initiate resolutions to strategic problems using knowledge of how organizational decisions are made.

WHAT YOU LEARN

- Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry or schools of practice in industrial and systems engineering including areas such as decision science and operations research, quality engineering, manufacturing and health systems, and/or human factors.
- Identifies sources and assembles evidence pertaining to questions or challenges in industrial and systems engineering.
- Selects and/or utilizes the most appropriate industrial and systems engineering methodologies and practices.
- Evaluates or synthesizes information pertaining to questions or challenges in industrial and systems engineering.
- Communicates clearly in ways appropriate to industrial and systems engineering.