

SIST Graduate Program - Course Details and Schedule

IndM 4220/5120 Human Factors Engineering (3 Credits)

Schedule: Online - Fall

Description:

Integration of concepts involved in providing safe and comfortable work places (Ergonomics) with concepts directed toward increased productivity and profitability (Work Design). This course is co-listed with INDM 4220. An additional fee is associated with this course.

Course Specific Objectives

The student, upon completion of IndM 4220/5120 will be able to:

- Combine the concepts of the traditional work design and measurement
- Develop an understanding motion and time study
- Identify adherence to various laws
- Implement modern management decision processes to work design
- Discuss the cost of CTD's

Topical Content Outline

- Historical development of the industrial (factory) movement
- Impact of global economics on the firm
- A logical approach to problem solving
- Utilization of appropriate and accurate data/information
- Anthropometrics (physical aspects of the human body)
- Task analysis--organizing the work to be done
- Organizing the workstation to accommodate the work to be done
- Safety (OSHA) regulations and potential for liability (lawsuits)
- Proper and improper use of hand tools
- Use of control devices and feedback displays
- Physical environment of work - heat, cold, humidity, light, noise, etc..
- Safety needs for the workplace
- Standard time study
- Work sampling
- Motion study
- Methods-Time-Measurement (MTM)
- Implementing new/improved methods in the workplace

Course Textbook

- Stack, T. & Ostrom, L.T. (2023). Occupational Ergonomics 2nd edition.
Publisher: Wiley