



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Cognitive Engineering Systems

ISE 3700

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture
Lab

Course Description:

Human-centered design of cognitive tools and work systems. Human-computer interaction; decision making; human error; computer-supported distributed work; design of decision support systems.

Prerequisites and Co-requisites:

Prereq: 2400, and enrollment in ISE major; or enrollment in Engineering Physics major.

Course Goals / Objectives:

- Understand how human-machine work systems carry out cognitive work such as decision making, process control, and planning
 - Assess, study, and model cognitive work systems
 - Understand what challenges basic forms of cognitive work (demand factors that can lead to failure)
 - Understand what makes basic forms of cognitive work successful (how to support forms of cognitive work)
 - Understand how to use computer systems to support coordination and collaboration across roles, space and time in distributed work systems
 - Apply human-centered design principles to the design of products and complex systems
-

Course Topics:

- Introductory Case Study
 - Studies and Models of Cognitive Work Systems
 - Coordination/Collaboration (CSCW)
 - Human Centered Automation & Decision Support Systems
 - Behind Human Error
 - Case Studies of Failure
 - Supporting Cognitive Work: Human Centered Design
 - Design Methods
 - Evaluation of Designs
 - Case Studies from Domains
-

Designation:

Required