



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Cognitive Engineering Systems: Design and Evaluation

## ISE 5770

**Credit Hours:**

3.00 - 3.00

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**Course Levels:**

Graduate

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**Course Components:**

Lecture

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**Course Description:**

Evaluation of product and system design to assess usefulness and usability; advanced design concepts for consumer products, web sites, educational tools and information retrieval systems.

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**Prerequisites and Co-requisites:**

Prereq: Sr or Grad standing, or permission of instructor.

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**Course Goals / Objectives:**

- Apply analytical and empirical methods to the evaluation of product and system designs
  - Apply design concepts and skills to the design of consumer products, web sites, educational tools and large-scale distributed systems
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**Course Topics:**

- Case study to illustrate basic concepts in human-computer interaction and cognitive systems engineering as applied to the design of information retrieval systems.
  - Case study to illustrate basic concepts in human-computer interaction, instructional design and cognitive systems engineering in the design of web sites and consumer products.
  - Design Methods: cognitive task analyses, knowledge elicitation methods observational studies, structured interviews, surveys and focus groups, use case development, requirements development,, storyboard and wire frame design
  - Evaluation Methods: analytical techniques, empirical techniques, use of think-aloud protocols, focus groups, and Wizard-of-Oz studies, quantitative and qualitative methods
  - Case study to illustrate basic concepts in human-computer interaction, instructional design and cognitive systems engineering as applied to the design of educational tools.
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**Designation:**

Elective