

CSE 441 Advanced HCI: Advanced User Interface Design, Prototyping, and Evaluation

Credits

5.0 (5 hrs lecture/meeting times)

Lead Instructor

Katherina Reinecke

Textbook

None

Course Description

Human-Computer Interaction (HCI) theory and techniques. Advanced methods for designing, prototyping, and evaluating user interfaces to computing applications. Novel interface technology, advanced interface design methods, and prototyping tools.

Prerequisites

CSE 440.

CE Major Status

None

Course Objectives

Gain a much deeper understanding of techniques in human computer interaction, including design methods, testing methods, and prototyping techniques, along with knowledge of when to best employ them. Work in teams to build and test a substantial HCI application.

ABET Outcomes

- (1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- (2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, , and economic factors
- (3) an ability to communicate effectively with a range of audiences
- (4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- (5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- (6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- (7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Course Topics

- Studio-based design and critiques
- Evaluation techniques for HCI (beyond those covered in CSE 440)
- Mobile user interface design
- Understanding and evaluating interfaces for behavior change
- Visual design