

CS 3240 : USABILITY ENGINEERING

<i>Semester Hours:</i>	3.0	<i>Contact Hours:</i> 3
<i>Coordinator:</i>	Joseph T. Chao	
<i>Text:</i>	About Face: The Essentials of Interaction Design	
<i>Author(s):</i>	COOPER, REIMANN, CRONIN, AND NOESSEL	
<i>Year:</i>	2014	

SPECIFIC COURSE INFORMATION

Catalog Description:

User interface design and human- computer interaction. Understanding the user. Design and prototyping of highly usable interfaces. Design notations, dialog styles, screen layouts, and usability testing. Event-driven programming language for rapid prototyping. Prerequisite: CS 2020.

Course type: **SELECTED ELECTIVE**

SPECIFIC COURSE GOALS

- I understand how the user interface characteristics of everyday objects affect their usability.
- I understand the history of user interface design and why it has become increasingly important to software development.
- I understand some human behavioral and perceptual capabilities and limitations that affect interface design.
- I understand different interaction styles and designs, their advantages and disadvantages, and under what circumstances their use is appropriate.
- I understand the dimensions of usability and some possible measurements.
- I understand basic principles of user interface evaluation and the use of standards and guidelines.
- I understand development methodologies and lifecycle models for building user interfaces.
- I understand the roles of prototyping in user interface design.

LIST OF TOPICS COVERED

- Introduction
 - Definitions of human-computer interaction and user interface design
 - Importance of interface design in software design
 - Cost/benefit of good interface design
- The Process - Usability Engineering: Stages in the development of user interfaces
 - Needs analysis
 - Systems analysis
 - User profiling
 - Preliminary design, including design notation
 - Rapid prototyping and interactive design
 - Formative evaluation techniques, including usability testing
 - Using standards and guidelines
- The Product
 - Input and output devices
 - Dialog styles
 - Screen layout and design
 - User documentation
 - Evaluative testing