

Course #:	I300
Course Title:	Human-Computer Interaction Design
Course Type:	Upper level elective
Prerequisites:	INFO I202, I211.
Credits:	3
Text Book:	<p>Interaction Design: beyond human-computer interaction. Preece, J., Rogers, Y., & Sharp, H. (2002) New York: John Wiley & Sons.</p> <p>Universal principles of design. Lidwell, W., Holden, K., & Butler, J. (2003) Gloucester, MA: Rockport Publishers.</p>
References:	NA
Current Catalog Description:	<p>This course helps you build competence, knowledge, and skills in the field of Human-Computer Interaction Design. The goal of this field is to shape new media and tools that will support human use, augment human learning, enhance communication, and lead to more acceptable technological developments at the individual and the social levels. Topics covered include Human-Computer Interaction, Human-Centered Design, Design, Interaction, Understanding Users, Design Methods, Usability and Evaluation, Prototyping, Collaboration Design, Observation Techniques, Interview Techniques, and other related issues.</p>
Course Goals	<p>Students will gain experience, through classroom exercises, homework assignments, and a course project, in the following activities relevant to interaction design:</p> <ul style="list-style-type: none"> • Identifying stakeholders for the interaction design. • Establishing requirements for the interaction design. • Performing iterative design and evaluation for the interaction design. This includes consideration of low- and high-fidelity prototyping. <p>Students will also learn basic psychological and sociological principles and techniques relevant to interaction design. Techniques may include design of human laboratory experiments, survey/questionnaire and interview use, and ethnographic studies.</p>
Major Topics Covered in the Course	<ul style="list-style-type: none"> • Understanding interaction • Understanding users and how user interfaces affect them (psychological principles) • Designing for collaboration and communication (sociological principles) • Identifying needs and establishing requirements. • Design, prototyping, and construction • Evaluating designs: observing users, asking users and experts, testing and modeling users.

	(Major topics in Preece, Rogers, and Sharp text.)																		
Laboratory projects (specify number of weeks on each)	<ul style="list-style-type: none"> Approximately 9 homework assignments (1 week each). One half-semester course project. 																		
Estimate Curriculum Category Content (Semester hours)	<table border="1"> <thead> <tr> <th>Area</th> <th>Core</th> <th>Advanced</th> </tr> </thead> <tbody> <tr> <td>Algorithms</td> <td></td> <td></td> </tr> <tr> <td>Software Design</td> <td>10</td> <td>5</td> </tr> <tr> <td>Comp. Arch.</td> <td></td> <td></td> </tr> <tr> <td>Data Structures</td> <td></td> <td></td> </tr> <tr> <td>Prog. Languages</td> <td>1</td> <td></td> </tr> </tbody> </table>	Area	Core	Advanced	Algorithms			Software Design	10	5	Comp. Arch.			Data Structures			Prog. Languages	1	
Area	Core	Advanced																	
Algorithms																			
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Oral and Written Communications	Portions of some class periods are reserved for actual design and evaluation activities. Students (individually or as part of a team) present homework and course project designs to entire class throughout the semester. Students critique each other's designs throughout the semester. Homeworks sometimes include short written evaluations of designs. Course project requires a written report and class presentation at the end of the semester.																		
Social and Ethical Issues	Approximately nine hours are devoted specifically to psychological and sociological principles and techniques. Further, these topics are intrinsically involved in many of the design and evaluation components of the course (e.g. constructing surveys and performing ethnographic studies in evaluation of a design). Similarly, ethics is intrinsically involved in certain aspects of the course: identifying stakeholders of a new user interface, assessing risk and evaluating safety of an interface design, etc.) .																		
Theoretical Content	Psychological and sociological principles provide the main theory of interaction design. Approximately nine hours are devoted specifically to basic principles of psychology and sociology.																		
Problem Analysis	The course project requires "identifying needs and establishing requirements" for the interaction design. There are approximately nine one-week homework assignments, some of which require design evaluation (which may depend on analysis). Additionally there are in-class design evaluation activities.																		
Solution Design	Human-computer interaction, or interaction design as many now call it, consists primarily of 'iterative design and evaluation' of interfaces between human users and a variety of technologies. A very large percentage of the course – classes, homeworks, exams, project – is therefore devoted to design.																		
Prepared By	Scheessele																		