

Catalog Description:

BUS 3505 HUMAN-COMPUTER INTERACTION (3 credits). This course is intended to give theoretical and practical experience with human-computer interaction concepts. All four approaches to HCI-empirical, cognitive, predictive, and anthropomorphic-will be addressed. Topics include computer task analysis, HCI design guidelines, usability engineering and testing, and enhancing web design interaction.

Florida Institute of Technology
School of Management
150 West University Avenue
Melbourne, Florida 32901

Semester:

Fall 2004

Course Number:

BUS 3505

Prerequisite:

BUS 1601

Course Title:

Human-Computer Interaction
Meeting Times: Tuesday/Thursday or Monday/Wednesday
Location:
EC-130/Q16

Instructor:

Dr. Deborah Carstens

Office Location:

School of Management, Room #126

Textbook(s)/Reading Material:

Required: Eberts, R. (1994). *User interface design*. Englewood Cliffs, NJ: Prentice Hall. (ISBN: 0-13-140328-1)

Optional: Lazar, J. (2001). *User-Centered Web Development*. Sudbury, MA: Jones and Bartlett Publishers. (ISBN: 0-7637-1431-3)

Other course material will be available through the Internet and class supplemental reading handouts. Students are also expected to check the class homepage regularly for up-to-date information about this class and class material.

Course Description:

This course is intended to give students both theoretical and practical experience with human-computer interaction (HCI) concepts. All four approaches to HCI consisting of empirical, cognitive, predictive, and anthropomorphic will be addressed. The course will include topics such as computer task analysis, human-computer design guidelines, usability engineering and testing, and enhancing web design interaction.

Course Objectives:

Students successfully completing this course should be able to:

Understand the background of human-system interface design and its history;
Demonstrate an understanding of applying HCI concepts in today's (and tomorrow's) product and system designs;
Provide insights into enhancing graphical user interfaces through focusing on the optimization of the human interacting with computers.
Understand basic HCI issues specifically related to technology development;
Gain hands-on experience in optimizing the design and development of systems, products, and web pages;
Explain the four approaches to HCI and be able to determine which approaches are most useful for different projects;
Describe and apply the thirteen stages in the system design development cycle that incorporates human factors in design; and
Use the user-centered analysis method to examine information systems and their affect on people and organizations.

Course Requirements:

The format to the course is primarily that of lectures, software demonstrations, class discussions, and lab workshop sessions.

Class Preparation - Each student is responsible for carefully and thoroughly reading all assigned material before the next class. The majority of the readings will be assigned from the assigned textbook. Additional readings may be assigned and distributed electronically.

School of Management Policies:

Office Hours: Faculty in the School of Management are available a minimum of nine hours each week for consultation with students outside of classroom time. At least four of these are regularly scheduled office hours. The remaining time may be used to respond to students' requests for e-mail correspondence, appointments for times other than office hours, and group problem/discussion sessions.

Incomplete (I) Grades: Incomplete (I) grades should only be awarded under unusual circumstances and must be approved by the Associate Dean. If a student misses a final or fails to complete an assignment and does not have a valid reason, a zero grade should be awarded and the overall grade based on that grade combined with all other course work completed. If an "I" grade is awarded for the fall semester, all make-up work must be completed no later than the sixth week of the spring semester.

Posting Grades: No information concerning students may be disseminated by anyone in the School of Management without the written request of the student. This includes posting grades.

Class Assignments, Exams and Grading Criteria:

Participation/Attendance/Quizzes = 100 points or 10%

Exams (2 exams @ 25 points each) = 500 points or 50%

Lab Exercises/Assignments = 250 points or 25%

Group Project = 150 points or 15%

Total Possible Points = 1000 points or 100%

Attendance, Class Participation, and Quizzes: 10% of the grade will be based on attendance, class participation, and quiz grades. Attendance will be taken at the beginning of each class.

Exams: There will be two exams (mid-term and final).

Group Project: The group project will consist of an analysis of an existing piece of software and/or system. The analysis will include the performance of usability testing resulting in recommendations for improvement being identified.

Late Assignments: Grades on late assignments will be dropped one level (e.g., if you get an A on the assignment, your grade will be lowered to a B) for each class meeting work is late beyond the assignment's due date.

Assigned Readings: These are noted in the tentative class schedule below. If students are not prepared to discuss the material, this will be counted against their participation grade.

Grading Scale: Assignments, exams, and project will be graded on a point basis. The total points earned for the semester will then be totaled and the grade assigned according to the following schedule:

- A 90 – 100%
- B 80 – 89%
- C 70 – 79%
- D 60 – 69%
- F below 59%

Academic Integrity/Plagiarism:

There are standards for academic conduct, rights and responsibilities of members of the academic community, and procedures for handling allegations of academic dishonesty. Academic dishonesty includes, but is not limited to: plagiarism, inappropriate collaboration, dishonesty in examinations (in-class or take-home), dishonesty in papers, work done for one course submitted to another, deliberate falsification of data, interference with other students' work, and copyright violations (including both document and software copyrights).

Plagiarism is defined as taking the language, ideas, or thoughts of another, and representing them as your own. If you use someone's ideas, cite them; if you use someone else's words, clearly mark them as a quotation. Plagiarism includes using another's computer programs or pieces of program. All instances of plagiarism will be reported for appropriate action. No points will be awarded to any collaborators in cases of plagiarized work.

Draft Course Schedule:

✓ All reading assignments should be read **BEFORE** the class on which they are discussed.

Session	Topic	Chapter/Reading/Assignment
1	HCI Introduction/Overview	Review Course Syllabus
2	Interacting with Computers	1
3	Design of Everyday Things	Reading Handout: Psychology of Everyday Things (Norman)
4	Interface Widgets	2
5	Microsoft Front Page Demo	Reading Handout & Lab Assignment
6	Four Approaches to HCI	Session 5 Lab Assignment Due 3
7	Four Approaches to HCI	Reading Handout & Assignment: Four Approaches to HCI (Eberts & Eberts)
8	Four Approaches to HCI	Session 7 Lab Assignment Due and Presented
9	Anthropomorphic Approach: Human-Human Communication	18
10	Anthropomorphic Approach: Human-Human Communication	18/Lab Assignment
11	Anthropomorphic Approach: Natural Interface Design/Alternative Input Methods	19
12	Anthropomorphic Approach: Natural Interface Design/Alternative Input Methods	19/Lab Assignment
13	Anthropomorphic Approach: Affordances, Constraints &	21

	World Knowledge	
14	Anthropomorphic Approach: Affordances, Constraints & World Knowledge	21/Lab Assignment
15	Predictive Approach: The Model Human Processor	13
16	Predictive Approach: The Model Human Processor	13/Lab Assignment
17	Predictive Approach: The Model Human Processor	13
18	Midterm	1, 2, 3, 13, 18, 19, 21
19	Cognitive Approach: Mental Models	7/lab Assignment
20	Cognitive Approach: Human Information Processing	8
21	Cognitive Approach: Human Information Processing	8/Lab Assignment
22	Cognitive Approach: Neural Networks Models	9
23	Cognitive Approach: Metaphors and Analogies	10
24	Cognitive Approach: Metaphors and Analogies	10/Lab Assignment
25	Empirical Approach: Experimental Methodology	4
26	Empirical Approach: Experimental Designs and Analysis	5
27	Empirical Approach: Hazards to Conducting and Interpreting HCI Experiments	6
28	Empirical Approach	4-6/lab Assignment
29	Group Presentations & Projects Due	
30	Group Presentations & Projects Due	
31	Final Exam	4, 5, 6, 7, 8, 10, 12, 13, 18, 19, 21