Institutional Syllabus

___ New Course                     Date of Last Review ___ Fall 2007
___ Substantive Change in Existing Course Date of Most Recent Approval __________

I. Course Title: Human Computer Interaction

II. Course Prefix/Number: CSCI 250

III. Credit Hours: 3.0

IV. Prerequisite(s):
CSCI 208 minimum grade C

V. Catalog Description:
 Presents a comprehensive introduction to the principles and techniques of human-computer interaction.

VI. Curricular Relationships:
A core course in the computer science major. It is also a course for the communications technology minor.

VII. Student Learning Outcomes:
• Students will be able to describe and discuss the foundations of human-computer interaction (HCI) including motivation, design, and evaluation.
• Students will be able to describe and implement graphical user-interface design and programming.
• Students will be able to demonstrate an understanding of human-computer interaction aspects of multimedia information systems and speech and natural language issues.
• Students will be able to describe and assess important HCI aspects of collaboration and group communication.

VIII. Content Outline:
• Foundations of human-computer interaction: Motivation; contexts for HCI; human-centered development and evaluation; human performance models; human performance models; accommodating human diversity; principles of good design and good designers; engineering tradeoffs; introduction to usability testing.
• Human-centered software evaluation: Setting goals for evaluation; evaluation without users; evaluation with users
• Human-centered software development: Approaches, characteristics, and overview of process; functionality and usability; specifying interaction and presentation; prototyping techniques and tools
• Graphical user-interface design: Choosing interaction styles and interaction techniques; HCI aspects of common widgets; HCI aspects of screen design; handling human failure; beyond simple screen design; multi-modal interaction; 3D interaction and virtual reality
Graphical user-interface programming: Dialogue independence and levels of analysis; widget classes; event management and user interaction; geometry management; GUI builders and UI programming environments; cross-platform design

HCI aspects of multimedia systems: Categorization and architectures of information; information retrieval and human performance; HCI design of multimedia information systems; speech recognition and natural language processing; information appliances and mobile computing

HCI aspects of collaboration and communication: Groupware to support specialized tasks; asynchronous group communication; synchronous group communication; online communities

IX. Course Procedures/Policies/Grading Scale:
- Regular homework assignments are a component in determining the course grade.
- At least two examinations are given each semester in courses meeting three times a week. Courses that do not meet in the standard 50 minute three times per week time slot will schedule enough exams so as to meet the time equivalence of two exams lasting 50 minutes each.
- A comprehensive final examination is given during finals week.
- A significant project (either group or individual) is a component in determining the course grade.

X. Required/Recommended Readings:
A standard text book will be required. Example textbooks include:

XI. Issues Unique to Course: None.

XII. Additional Departmental Issues:

This course addresses the topics listed below in the CS body of knowledge as described in the ACM document Computing Curricula 2001

PF5 Event-driven programming 3 core hours (of 4)
PL6 Object-oriented programming 2 core hours (of 10)
HC1 Foundations of human-computer interaction 6 core hours
HC2 Building a simple graphical user interface 2 core hours
HC3 Human-centered software evaluation 5 hours
HC4 Human-centered software development 5 hours
HC5 Graphical user-interface design 6 hours
HC6 Graphical user-interface programming 3 hours
HC7 HCI aspects of multimedia systems 5 hours
HC8 HCI aspects of collaboration and communication 3 hours