**PURDUE UNIVERSITY**

**REQUEST FOR ADDITION, EXPIRATION, OR REVISION OF AN UNDERGRADUATE COURSE**

(100-400 LEVEL)

**DEPARTMENT: Computer and Electrical Engineering Technology & Information Systems and Technology**

**EFFECTIVE SESSION:** Fall / 2010

**INSTRUCTIONS:** Please check the items below which describe the purpose of this request.

- [x] New course with supporting documents
- [ ] Add existing course offered at another campus
- [ ] Expiration of a course
- [ ] Change in course number
- [ ] Change in course title
- [ ] Change in course credit type
- [x] Change in course attributes (department head signature only)
- [ ] Change in instructional hours
- [ ] Change in course description
- [ ] Change in course prerequisites
- [ ] Change in semesters offered (department head signature only)
- [ ] Transfer from one department to another

**PROPOSED:**

- **Subject Abbreviation:** IST
- **Course Number:** 440
- **Long Title:** Introduction to Human-Computer Interaction
- **Short Title:** Introduction to HCI

**EXISTING:**

- **Subject Abbreviation:**
- **Course Number:**
- **Long Title:**
- **Short Title:**

**TERMS OFFERED:**

- [x] Summer
- [ ] Fall
- [x] Spring

**CAMPUSES INVOLVED:**

- Calumet
- Ft. Wayne
- Indianapolis
- N. Central
- Tech Statewide
- W. Lafayette

**CREDIT TYPE:**

- 1. Fixed Credit Cr. Hrs.: 3.0
- 2. Variable Credit Range: Minimum Cr. Hrs. (Check One) To  Or  Maximum Cr. Hrs.
- 3. Equivalent Credit: Yes  No
- 4. Thesis Credit: Yes  No

**COURSE ATTRIBUTES:**

- 1. Pass/Not Pass Only
- 2. Satisfactory/Unsatisfactory Only
- 3. Repeatable
- 4. Maximim Repeatable Credit: 5. Designator Required
- 6. Variable Title
- 7. Registration Approval Type
- 8. Remedial
- 9. Honors
- 10. Full Time Privilege
- 11. Off Campus Experience
- 12. Cross-Listed Courses

**COURSE DESCRIPTION (INCLUDE REQUIREMENTS):**

P. IST 270. This course provides an introduction to the field of human-computer interaction (HCI), an interdisciplinary field that integrates cognitive psychology, design, computer science and others. Examining the human factors associated with information systems provide the students with knowledge to understand the factors that influence usability and acceptance of interactive systems. This course will examine human performance, components of technology, methods and techniques used in design and evaluation of interactive systems. Societal impacts of HCI such as accessibility, user-centered design methods, and contemporary technologies will be discussed.

**Calumet Department Head:**

**Date:**

**Calumet School Dean:**

**Date:**

**Fort Wayne Department Head:**

**Date:**

**Fort Wayne School Dean:**

**Date:**

**Indianapolis Department Head:**

**Date:**

**Indianapolis School Dean:**

**Date:**

**North Central Department Head:**

**Date:**

**North Central Chancellor:**

**Date:**

**West Lafayette Department Head:**

**Date:**

**West Lafayette College/School Dean:**

**Date:**

**West Lafayette Registrar:**

**Date:**

**OFFICE OF THE REGISTRAR**
IST 440  Introduction to Human Computer Interaction  Support

Material

Learning objectives

Students will:

1. Learn to design, implement and evaluate effective computer interfaces.
2. Learn the concepts of user differences, user experience and collaboration as well as how to design contextually.
3. Learn the basic cognitive psychology issues involved in HCI.
4. Learn the different devices used for input and output and the issues / opportunities associated with these devices.
5. Learn how to interact with the software design process in order to create computer interfaces.
6. Learn the role of theory and frameworks in HCI.
7. Learn a number of design techniques.
8. Learn the contemporary techniques to evaluate computer interfaces.

Topics

- Relevance of HCI
- Principles in HCI design
  - Ergonomic engineering
  - Cognitive engineering
  - Affective engineering
- User-Centered Design
  - Users
    - Capabilities
      - Conceptual models
      - Metaphors
      - Mental models
    - Individual differences
    - Learning
    - Errors
    - Training
- Special HCI Issues Related to
  - Users
    - Children
    - Elderly
    - Accessibility
    - Gender
  - Organizations
  - Society
  - Task Analysis
- Devices
  - PCs
  - Industrial devices
  - Consumer devices
  - Mobile devices
- Development
Discussion

• This course is not about developing basic interactive technologies (such as input/output devices), but rather, it briefly introduces these technologies, and then focuses on developing human-centered organizational information systems that support users’ organizational tasks. Human physical, cognitive, and affective characteristics are discussed, as are organizational tasks and context. Such discussions are oriented toward achieving a good fit between human, technology, and tasks within the organizational and business context.

• This course in HCI will take the student through the HCI life-cycle (analysis, design, testing and implementation) in order to be competent in all aspects of HCI practice. This includes understanding the theory perspective of HCI research, the current methods in design and testing and the final implementation of the project. For this reason fundamental SA&D skills will have to be injected into the course or prerequisites will have to be met.

• A project based approach is highly recommended for this course. This includes implementing several hands-on skills either in a laboratory or through self-paced learning at home. This will help students develop the full range of skills that is needed for HCI work.

• It is important that students understand that various concepts and techniques outlined in this class draw upon a multitude of disciplines (e.g., cognitive psychology, consumer behavior, etc.). By gaining a solid understanding of various core theories that inform HCI design, the student can then translate this knowledge into building working prototypes in a broad range of contexts.