ITMD 362 SYLLABUS

ITMD 362 Human-Computer Interaction

Hours: 3 credit hours / 45 contact hours

Instructor: Karl Stolley

Textbook, title, author, and year:
a. *The New CSS Layout.* Andrew, Rachel, 2017
b. *Designing for Touch.* Clark, Josh, 2015
c. *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability, 3rd ed.* Krug, Steven, 2014
d. *Thinking with Type: A Critical Guide for Designers, Writers, Editors, & Students. 2nd ed.* Lupton, Ellen, 2010
e. *Responsive Design: Patterns and Principles.* Marcotte, Ethan, 2015

Specific course information
a. Catalog description: Students in this course will learn the importance of human-computer interaction design and the effectiveness of user-centered design. The course will cover a survey of methods frequently used in the HCI profession, such as usability testing and proto-typing, as well as general design principles and the use design guidelines. A particular empha-sis will be placed on usability for website engi-neering. Students will apply knowledge from the field in the design and construction of user-centered websites.
b. Prerequisites: ITMD 361
c. Required

Specific goals for the course
a. Program Educational Objectives:
2. Perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best prac-tices as appropriate
b. Course Outcomes: At the conclusion of this course, successful students will be able to:
- Describe the diversity of information system users and tasks, and their impact on design.
- Describe the core concepts, applicability, and cost benefits of user-centered design.
- Demonstrate how user-centered concerns can be incorporated into system development life cycles.
- Explain the need to evaluate system usability.
- Recall and apply general principles of design.
- Describe and execute touch-friendly, mobile-first responsive web design.
- Understand and apply core theories from human-computer interaction to web design and development.

c. Course student outcomes:
Students completing this course will be able to:
- Recall, describe and apply principles of user-centered design.
- Conduct task analysis & apply the information to user-centered design.
- Evaluate user interface designs with human subjects.
- Recall, explain, and apply the design principles of alignment, contrast, proximity, and repetition.
- Design and build a user-centered website applying HCI methods and good principles of design.
- Apply color and typography in web design to optimize the interface.
- Engage in agile, iterative web design and development individually and in teams, supported by version control.
- Write useful, descriptive messages attached to granular commits in a version control system.
- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solu-tions **(ABET Computing Criterion 3.1)**
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline **(ABET Computing Criterion 3.2)**
- Communicate effectively in a variety of professional contexts **(ABET Computing Criteria 3.3)**
- Identify and analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems **(ABET IT Criterion 3.6)**

Topics to be covered
a. Course Overview; Valid, Semantic HTML
b. Mobile-First, Relative-Unit CSS and Media Queries
c. Unobtrusive JavaScript; Form Elements, Data, and Events
d. Typography: Content, User Interface
e. The New CSS Layout
f. Color and Material Design Systems
g. Git in Team Settings; Catching Up
h. Designing for Touch; Motion and Effects
i. Activity Theory
j. Usability: Guiding Principles, HCI Guidelines
k. Ethics and Dark Patterns
l. JavaScript-Backed Prototyping
m. Traditional Usability Testing Methods; Remote Testing, Experimental Builds
n. Parting Material: Assessing Front-End Libraries and Frameworks