IE 418 Human/Computer Interface Design

Course Description
Design and evaluation of the human/computer interface, including human performance, visual displays, software design, and automated system monitoring.

The emphasis of this course is to design human-computer interfaces (HCI) according to principles outlined in foundational HCI readings. We will focus on the actively learning of design, use, and assessment concepts by way of programming interfaces on the personal computer as well as on the Palm computer platform. This course contains a project that requires student groups to communicate with customers to design and implement a solution for a web-based problem.

Learning Objectives
Upon completion of this course, students should be able to:

- Conduct task analysis of a problem domain
- Design software according to sound HCI principles
- Implement software based on sound programming principles
- Assess the usability of human-computer interfaces

The objectives directly impact the following Program Outcomes:

3.1 Present Engineering Study Results in Technical Reports or Orally
3.2 Demonstrate Independent Learning by Synthesizing Information from Several Sources
4.1 Work effectively in Groups on Case Study/Projects

General Course Information
Instructor: Prof. Ling Rothrock
Class Time and Location: 9:05am - 9:55am on M, W; 371 Willard
Lab Hours and Location: 3:35pm - 5:30pm on Tuesday; 105 Leonhard
Office Hours: 10:00 - 11:00am on M, W. All other times by appointment
Office: 210 Leonhard Building
Phone: 814-865-7241
Email: We will use ANGEL (https://angel.psu.edu) for course correspondence and administration.
Prerequisites: CMPSC 210C
Prerequisite or Concurrent: IE 408
Credits: 3
Course Instructor:
Dr. Ling Rothrock
Assistant Professor of Industrial & Manufacturing Engineering
210 Leonhard Building
University Park, PA 16802
Phone: 814-865-7241
Fax: 814-863-4745
Email: lrothroc@psu.edu

Textbook required:


Tentative Schedule & Topic Outline

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading Assignment</th>
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<tr>
<td>1.</td>
<td>Jan 9</td>
<td>Why HCI, Overview of User-Centered Development Cycle Ch. 1</td>
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<td>2.</td>
<td>Jan 16 (No Class on 1/16 - Martin Luther King Day)</td>
<td>Prototyping Ch. 7</td>
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<td>3.</td>
<td>Jan 23</td>
<td>User Testing Ch. 8</td>
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<td>4.</td>
<td>Jan 30</td>
<td>Human Memory and Perception, User and Task Analysis Ch. 2 and 3</td>
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<td>5.</td>
<td>Feb 6</td>
<td>Content Organization Ch. 4</td>
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<td>6.</td>
<td>Feb 13</td>
<td>Visual Organization Ch. 5</td>
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<td>7.</td>
<td>Feb 20</td>
<td>Navigation Ch. 6</td>
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<td>8.</td>
<td>Feb 27</td>
<td>Exam #1</td>
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<td>9.</td>
<td>Mar 6</td>
<td>Spring Break</td>
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<td>10.</td>
<td>Mar 13</td>
<td>Color Ch. 9</td>
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<td>12.</td>
<td>Mar 27</td>
<td>Typography Ch. 10</td>
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<td>13.</td>
<td>Apr 3</td>
<td>Multimedia Ch. 11</td>
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<td>14.</td>
<td>Apr 10</td>
<td>Bandwidth Ch. 12</td>
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<td>15.</td>
<td>Apr 17</td>
<td>Accessibility or Globalization Ch. 13 and 14</td>
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<td>16.</td>
<td>Apr 24 TBA</td>
<td>Final Project Presentations Exam #2</td>
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Grading:

Laboratory Assignments: 20%
Class participation: 10% (Students are expected to contribute to class discussion)
Exams: 30%
Final Project: 40%

Academic Integrity

Academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. It is basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with it. Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation or deception. In this course, students are expected to respect other students’ dignity, rights and property. As this course contains a significant laboratory component, students are also expected to help create and maintain an environment in which all can succeed through the fruits of their individual efforts. All homework and exam work for the course must reflect individual effort and no form of academic integrity violations will be tolerated.

Students are expected to familiarize themselves with the college’s academic integrity policy. This information is testable material. The minimum penalty for academic dishonestly is one letter grade deduction.