Missouri University of Science & Technology
Department of Business and Information Technology

IST 5885– Introduction to Human Computer Interaction
Course Syllabus

Department Mission

To serve the economic interests of industry and the evolving needs of society in a challenging, rapidly-changing, global environment, the Department of Business & Information Technology capitalizes on the strong technological emphasis of Missouri S&T to enable individuals to excel in a technology-centric business world. Recognizing this rapid evolution of the marketplace, we create and disseminate knowledge impacting the theory and practice of business.

Instructor Information

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Course Information

Catalog Description:
Introduction to the field of Human-Computer Interaction (HCI). Students examine issues and challenges related to the interaction between people and technology. The class explores the social and cognitive characteristics of people who use information systems. Students learn techniques for understanding user needs, interface prototyping, and interface evaluation.

Extended Description:
Technology has become an important part of our daily lives. Each day, we interact with different types of technologies one way or another. As future designers, developers, and system analysts, you are expected to understand fundamental concepts and principles of Human-Computer Interaction in order to develop a system that is useful and easy to use.

This course is designed to familiarize the students with various concepts and techniques for understanding user needs, interface design and prototyping, and interface evaluation. Major topics to be covered in this course include: human aspects of HCI, interface aspects of HCI, interaction aspects of HCI, data gathering and analysis tools for understanding user requirements, design/prototyping, and various evaluation techniques.

Required Materials:
- Interaction Design: Beyond Human-Computer Interaction, 4th Edition
  Jenny Preece, Helen Sharp, Yvonne Rogers
  ISBN: 1119020751 (1-119-02075-1)
  E-Book
Meeting Times:
Although this course is scheduled to meet Monday, Wednesday, and Friday; we will meet in the classroom on Mondays and Wednesdays. Friday class time will be reserved for on-line/group activities and watching lectures on-line.

Instructional Methods:
This course involves lectures, class discussion, group projects, quizzes, exams, presentations, and various in-class activities.

Policies and procedures

Late Work Policy:
Assignments are due as indicated. Late work will not be accepted unless it is under exceptional circumstances (e.g., documented illness). The acceptance of late work is at the discretion of the professor.

Classroom Behavior:
I expect that you will all act professionally in this class. Thus, I expect that you will attend each class, on time, and notify me in advance if you must miss a class. Also, you are required to pay attention to what is going on in class and not be on electronic devices or chatting with your neighbor. If you think of our class meetings as work meetings, i.e., as if you were working full time and our meetings are an important part of your job, you will have an idea of what I expect.

You are also part of a group. Besides letting me know of any absences more than just a couple days, you should also alert your group members.

You are expected to come to class having read and distilled the essential points of the assigned readings. Students will be responsible for various in-class activities to exercise their skills and knowledge, and stimulate their critical thinking. These activities may include discussing cases, providing feedback to classmates, doing presentations, and presenting views on methods and the material. These activities will help to develop skills that are important to one’s career.

Groups:
I will assign groups. With every group assignment, students will rate other members in the group. The same rating form will be used with every group assignment. You only need to submit the form for any group member who doesn’t earn full points. If a form is not submitted for any member in your group, I will assume you are giving that student 10 out of 10 points.
Course Learning Objectives

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<thead>
<tr>
<th>Course Objectives</th>
<th>Program Learning Objectives</th>
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<tbody>
<tr>
<td></td>
<td>Oral Communication</td>
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<tr>
<td>Be able to identify and evaluate good and bad interfaces</td>
<td>X</td>
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<tr>
<td>Understand multi-disciplinary nature of HCI</td>
<td>X</td>
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<tr>
<td>Understand fundamental theories and models associated with HCI</td>
<td>X</td>
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<tr>
<td>Be able to follow user-centered approach in HCI projects</td>
<td>X</td>
</tr>
<tr>
<td>Be able to research on recent developments in HCI, synthesize and present the ideas</td>
<td>X</td>
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Course Assignments

Class Participation:
Your participation is essential for the success of this class. There will be a subjective evaluation on your participation in class. This includes class discussions and answering questions posed in class. If you are talking to other students or on electronic devices during class and not participating, you will receive negative impact for participation. This subjective evaluation will play a big part in any rounding up if you are close to the next letter grade up.

Reading (Individual Activity):
Reading will be assigned each week during the first half of the semester. You are required to complete the reading before the lecture/discussion in class for each topic. We will progress through the book quickly so we can cover all the material needed to allow you to complete your major group project before the end of the semester.

Lectures (Individual Activity):
Most lectures will be recorded and posted on-line. You should review and study the material in the lectures before we cover that material in class. Class time, most often will be used to do small group or whole class activities about the material in the lectures.

Quizzes (Individual Activity):
Timed quizzes will be posted in Canvas for you to complete after watching the lecture videos to ensure you are keeping up with the lectures. Please be sure you have a good internet connection when completing these connections. If your internet connection has a problem while taking the quiz, I cannot restart your quiz since you have already seen the questions. Some quizzes will be dropped at the end of the semester.
In-Class Assignments (Classroom Groups and Individual Activity):
There will also be in-class assignments, worth points, after various on-line lectures. Your group members can say you did not participate during the activity, therefore, awarding you 0 points for that activity. If you miss class, you will not earn points for that activity. Distance students can earn the points for these activities by completing them when they watch the recordings and emailing them to the instructor. If you watch the recordings during class, we will do breakout groups (please be patient with me getting this figured out at the beginning of the semester since I haven’t done this before).

Online discussions (Individual Activity):
HCI is an area that everyone has experience with and can relate. Therefore, I encourage each student to exchange with your fellow students your viewpoints, experiences, findings or discoveries through the online medium. Canvas discussion forum will be used for such practice.

I will create a few discussion topics and require you to participate in the discussion. You will be graded based on not only the quantity of your participation, but also the quality of your participation.

Other homework assignments (Individual/Group Activity):
There will be various mini-assignments/discussions assigned throughout the semester. The group mini-assignments will be at the beginning of the semester for your group to learn each other’s strengths/weaknesses and learn the best way to collaborate and communicate with each other.

HCI article presentation (Individual Activity):
Every day, there are new developments which may change the way we think in terms of HCI, and new discoveries and research findings which improve our understanding on how humans interact with various interfaces. Therefore, students are encouraged to explore HCI topics that are of interest to you, find relevant article(s), synthesize the article(s), and share the key findings with the class in 5-7 minutes.

Usability Project (Group Activity):
One of the goals of this course is to provide students with hands-on experience on HCI. A project is an extremely useful way of providing this experience. The project requires students to work in teams (which you will most likely do in your career). Each group will be required to gather user requirements from the user group(s), design the user interface and develop prototype(s), and evaluate the prototype. This process can be iterative.

The project includes four major components:

Choosing the project:
Your team should choose the project on your own. The project should involve certain design/redesign aspect and allow you to apply the user-centered approach in the design cycle. You are encouraged to find a “real” project, with a “client”, a reasonable sized user group, and possible interactions with other stakeholders. Write a brief project proposal to explain the project background, client expectations, deliverables, and timeline.
**Identifying users and gathering user requirements:**
In this stage, you need to identify your user group(s) and gather user requirements using various techniques discussed in the class. This will be the focus of this project and a great opportunity for you to apply the various usability techniques to practice. Techniques that you may apply in this stage can include, but are not limited to: user persona, usability testing, contextual inquiry, interview, survey, observation, eye tracking, etc.

**Prototyping:**
You will develop prototype(s) for the project based on your users’ requirements. Prototyping usually includes a few iterations, including low-fidelity prototypes such as paper prototyping and high-fidelity prototypes such as wireframes generated via computer software. You may use any computer software or programming language that you are comfortable with for this assignment. I will post links for some software that you can use or you can use your own. Several of the prototyping software requires no coding at all, just drag and drop. You are allowed to use a low-fidelity prototype only if you also have another higher fidelity prototype also.

**Evaluation:**
To evaluate the effectiveness of your design, you will be expected to test your prototype(s) with your users. Evaluation techniques will be introduced in the class and some initial evaluations will be conducted in this project.

**Presentation:**
Once all four parts are complete, each group will be given about **17-20 minutes** to present their project in the class. Each group is also responsible for answering any questions the professor or the other students may have about the project.

**Written Report:**
Each group is also required to submit a final **project report** to detail your tasks and results at the end of the semester. The final report should have a lot of images of the prototype and graphs evaluating the results. It should be easy to find all the different sections of the evaluation and not have any grammar or spelling errors.

**Evaluate Group Members:**
To prevent free riding in the group, peer evaluations will be conducted. Your participation and contribution in the group projects will be evaluated by your team members. Your evaluation is confidential. No one will look at your peer evaluation except the professor (although summarizations will be given to individual students to allow them to improve their group work). Individual grades for group assignments will be adjusted after evaluations are completed and submitted. **It is, therefore, very important that you contribute your share of time and effort in the group project (which includes attending the group meetings, contributing your ideas, etc.).** These adjustments could result in a lower final grade.

**Exams (Individual Activity):**
There will be two exams in this class. The exams will cover materials from the assigned readings, class lectures, student presentations, and in-class discussions. The format of the exams will be true/false, multiple-choice, and short-essay questions.
On-line General Evaluation:
Graduate students will be required to complete an on-line general evaluation (for AACSB statistics) before their grades will be submitted to the Registrar’s Office. The results of the on-line evaluation will not be calculated into your grade for the course.

Course Grading

Graded Material:
Homework assignments 300 points
   Online discussion 50 points
   HCI article presentation 50 points
   Quizzes 100 points
   In-class Assignments 100 points

Group Project 250 points
   Project proposal 40 points
   Project update 10 points
   Project presentation 100 points
   Project report 100 points
   Peer evaluation weighted into grade for each component

Group mini assignments 50 points 50 points

Exam I 100 points
Exam II 100 points

Total 800 points

Grading Scale:
A: 100% - 90%
B: 89% - 80%
C: 79% - 70%
D: 69% - 60%
F: Below 59%