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Department Mission

Capitalizing on the strong technological emphasis of Missouri S&T, the Department of Business and Information Technology educates individuals for careers in modern business organizations. The Department emphasizes management through technology with particular focus on information systems and their application in a fast-changing, global, and competitive environment. Through innovative instruction and research, the Department serves the economic interests of industry and the evolving needs of society.

Instructor Information

**Instructor:** Professor Carla Bates  
**Office:** 105 Fulton Hall  
**Phone:** 573-341-7719  
**E-Mail:** carla@mst.edu

**Class:** MW: 2 p.m. – 2:50 p.m.  
**Classroom:** 260 Toomey  
**Office Hours:** Monday/Friday noon – 1 (251 Toomey)  
**Office:** F: 10 a.m. – noon (105 Fulton)  
And by appointment

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.

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

Course Learning Objectives

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Program Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oral Communication</td>
</tr>
<tr>
<td>Be able to identify and evaluate good and bad interfaces</td>
<td>X</td>
</tr>
<tr>
<td>Understand multi-disciplinary nature of HCI</td>
<td></td>
</tr>
<tr>
<td>Understand fundamental theories and models associated with HCI</td>
<td>X</td>
</tr>
<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>
</tr>
</tbody>
</table>

Course Assignments

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. Blackboard 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.

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
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Department of Business and Information Technology

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.

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.

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. Some software will be introduced in the class.

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.

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. Each group is also required to submit a final **project report** to detail your tasks and results at the end of the semester.

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 may be given to individual students upon request). 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.

**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, **you will receive negative points for participation.**

**Class Attendance**
**Attendance will be monitored.** Each absence will be interpreted as an unprepared class and will be recorded as a zero for that day's class participation. Most days, you will be given the opportunity to let me know what topics you found interesting and/or questions you have about the new topic. **Distance students,** you should do the same via email (This should be short and to the point. Please do not spend more than 5 minutes on the email). Students are also encouraged to utilize the electronic communication tools to communicate with your team members and discuss course related topics.
Course Grading

**Graded Material**

<table>
<thead>
<tr>
<th>Graded Material</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>50</td>
</tr>
<tr>
<td>Online discussion</td>
<td>30</td>
</tr>
<tr>
<td>HCI article presentation</td>
<td>20</td>
</tr>
<tr>
<td>Group Project</td>
<td>200</td>
</tr>
<tr>
<td>Project proposal</td>
<td>10</td>
</tr>
<tr>
<td>Project update</td>
<td>10</td>
</tr>
<tr>
<td>Project presentation</td>
<td>100</td>
</tr>
<tr>
<td>Project report</td>
<td>80</td>
</tr>
<tr>
<td>Peer evaluation</td>
<td>Weighted into grade for each component</td>
</tr>
<tr>
<td>Group mini assignments</td>
<td>20</td>
</tr>
<tr>
<td>Exam I</td>
<td>100</td>
</tr>
<tr>
<td>Exam II</td>
<td>100</td>
</tr>
<tr>
<td>Attendance/Participation</td>
<td>30</td>
</tr>
<tr>
<td>Class attendance</td>
<td>10</td>
</tr>
<tr>
<td>Participation in classroom</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
</tbody>
</table>

**Grading Scale**

<table>
<thead>
<tr>
<th>Score</th>
<th>Grade</th>
<th>Score</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
<td>60 - &lt; 70</td>
<td>D</td>
</tr>
<tr>
<td>80 - &lt; 90</td>
<td>B</td>
<td>&lt; 60</td>
<td>F</td>
</tr>
<tr>
<td>70 - &lt; 80</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.

**Attendance/Participation**

Both attendance and participation are important for this class and will be evaluated for grading.

**Classroom Behavior**

Disruptive behaviors will not be tolerated in this class. Turn off all audible alerts before class. If one goes off during class, that student must leave for the rest of that class. If there is an exam that period, the student will not be able to complete the exam.
# Missouri University of Science & Technology
## Department of Business and Information Technology

**Course Projected Schedule (Some dates will be changed due to class size)**

<table>
<thead>
<tr>
<th>Week Starting</th>
<th>Topics</th>
<th>Reading Assignments</th>
</tr>
</thead>
</table>
| Jan 18        | Introduction and Course Overview  
Giving a Presentation  
Why HCI? | Syllabus  
Posted information  
Chapter 1 |
| Jan 23        | The Process of Interaction Design  
Cognitive Aspects | Chapter 9  
Chapter 3 |
| Jan 30        | LITE Demos | |
| Feb 6         | In-Class LITE Lab equipment demo,  
Social and Emotional Interaction Interface | Chapters 4 & 5 |
| Feb 13        | Interface Interactions, and User Requirements | Chapters 2, 6, &10 |
| Feb 20        | Data Gathering Techniques | Chapters 7 & 8 |
| Feb 27        | Exam 1: Chapters 1-6 & 9-10  
Data Analysis and Prototyping & Interaction | Chapters 11 & 12 |
| Mar 6         | Design/Data gathering tools tutorials  
Evaluation | Chapters 13, 14, & 15 |
| Mar 13        | Demo: Software that can be used for data gathering | Group project work |
| Mar 20        | TBD  
Exam 2 Chapters 7-8 & 11-15 | Group project work  
**Test is on March 22** |
| Mar 27        | **Spring Break** | |
| Apr 3         | HCI article presentations | Group project work |
| Apr 10        | HCI article presentations | Group project work |
| Apr 17        | HCI article presentations | Group project work |
| Apr 24        | Group Project presentations | |
| May 1         | Group Project presentations | |
| May 7         | Group Report Due | |
Title IX

Missouri University of Science and Technology is committed to the safety and well-being of all members of its community. US Federal Law Title IX states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any education program or activity. Furthermore, in accordance with Title IX guidelines from the US Office of Civil Rights, Missouri S&T requires that all faculty and staff members report, to the Missouri S&T Title IX Coordinator, any notice of sexual harassment, abuse, and/or violence (including personal relational abuse, relational/domestic violence, and stalking) disclosed through communication including but not limited to direct conversation, email, social media, classroom papers and homework exercises. Missouri S&T’s Title IX Coordinator is Vice Chancellor Shenethia Manuel. Contact her directly (manuels@mst.edu; (573) 341-4920; 113 Centennial Hall) to report Title IX violations. To learn more about Title IX resources and reporting options (confidential and non-confidential) available to Missouri S&T students, staff, and faculty, please visit http://titleix.mst.edu.

Student Honor Code and Academic Integrity

Please take a few minutes to stress the importance of academic integrity in class. Discuss why it should matter to the student, why it matters to you and your discipline, why it matters to Missouri S&T, and why it matters to future employers. Include a statement on your syllabus about the Honor Code developed and endorsed by the Missouri S&T Student Council: the Honor Code can be found at this link: http://stuco.mst.edu/honor-code/. Encourage students to read and reflect upon the Honor code and its emphasis on HONESTY and RESPECT. Page 30 of the Student Academic Regulations handbook describes the student standard of conduct relative to the University of Missouri System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism or sabotage (http://registrar.mst.edu/academicreg/index.html). Additional guidance for faculty, including the University’s Academic Dishonesty Procedures, is available on-line at http://ugs.mst.edu. Other informational resources for students regarding ethics and integrity can be found online at http://ugs.mst.edu/academicintegrity/studentresources-

S&T Connect https://canvas.mst.edu/ (S&T Connect)

S&T Connect provides an enhanced system that allows students to request appointments with their instructors and advisors via the S&T Connect calendar, which syncs with the faculty or staff member’s Outlook Exchange calendar. S&T Connect will also facilitate better communication overall to help build student academic success and increase student retention. If training is needed, please contact Rachel Morris at rachelm@mst.edu or 341-7600.

Classroom Egress Maps

Faculty should explain where the classroom emergency exits are located. Please include a statement in your course syllabus asking the students to familiarize themselves with the classroom egress maps posted on-line at: http://designconstruction.mst.edu/floorplan/.
Any student inquiring about academic accommodations because of a disability should be referred to Disability Support Services (DSS) so that appropriate and reasonable accommodative services can be determined and recommended. DSS is located in 203 Norwood Hall. Their phone number is 341-6655 and their email is dss@mst.edu. Instructors may consider including the following statement on their course syllabus as a means of informing students about the services offered:

“It is the policy and practice of Missouri University of Science and Technology to promote inclusive learning environments. If you have a documented disability you may be eligible for reasonable accommodations in compliance with university policy, the Americans with Disabilities Act of 1990, the Americans with Disabilities Amendment Act (ADAAA) of 2008, and Section 504 of the Rehabilitation Act of 1973. Please note, students are not encouraged to negotiate accommodations directly with professors. To request accommodations or assistance, please self-identify with Disability Support Services (DSS), 203 Norwood Hall. For more information or to register for services, contact DSS at (573) 341-6655 or by email at dss@mst.edu.”

The Learning Enhancement Across Disciplines Program (LEAD) sponsors free learning assistance in a wide range of courses for students who wish to increase their understanding, improve their skills, and validate their mastery of concepts and content in order to achieve their full potential. LEAD assistance starts no later than the third week of classes. Check out the online schedule at http://lead.mst.edu/assist, using zoom buttons to enlarge the view. Look to see what courses you are taking have collaborative LEAD learning centers (bottom half of schedule) and/or Individualized LEAD tutoring (top half of the schedule). For more information, contact the LEAD office at 341-7276 or email lead@mst.edu.

The Student Success Center is a centralized location designed for students to visit and feel comfortable about utilizing the campus resources available. The Student Success Center was developed as a campus wide initiative to foster a sense of responsibility and self-directedness to all S&T students by providing peer mentors, caring staff, and approachable faculty and administrators who are student centered and supportive of student success. Visit the B&MSSC at 198 Toomey Hall; 573-341-7596; success@mst.edu; facebook: www.facebook.com/SandTsscs; web: