

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 AND COURSE INFORMATION

<i>Instructor:</i> Professor Fiona Fui-Hoon Nah	<i>Class:</i> Tuesday, 7:00–9:30 p.m.
<i>Office:</i> 107B Fulton Hall	<i>Classroom:</i> Online synchronous (typically hybrid)
<i>Phone:</i> 573-341-6996	<i>Office Hours:</i> Monday, 5:00–6:00 p.m.
<i>E-Mail:</i> nahf@mst.edu	and by appointment

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 in one way or another. As future designers, developers, and system analysts, you are expected to understand fundamental concepts and principles of Human-Computer Interaction to develop a system that is useful and easy to use.

This course is designed to familiarize 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 Material/Textbook

- Textbook Title: Interaction Design: Beyond Human-Computer Interaction, 5th Edition
Authors: Helen Sharp, Jennifer Preece, and Yvonne Rogers
Copyright Year: 2019
Publisher: John Wiley & Sons
Print ISBN 13: 9781119547259, 1119547253
eText ISBN: 9781119547303, 111954730X

Instructional Methods

This course involves lectures, class discussions, group projects, presentations, exams, and various in-class activities.

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

Course Learning Objectives

	Program Learning Objectives				
	Oral Communication	Written Communication	Critical Thinking	IT Impact Knowledge	Leadership
Course Objectives					
Be able to identify and evaluate good and bad interfaces	X	X	X	X	
Understand the multi-disciplinary nature of HCI	X	X	X	X	
Understand fundamental theories and models associated with HCI	X	X	X	X	
Be able to follow a user-centered approach in HCI projects	X	X	X	X	X
Be able to research on recent developments in HCI, as well as synthesize and present the ideas	X	X	X	X	

COURSE ASSIGNMENTS

1. Homework Assignments (Individual and Group Activity)

There will be various individual and group mini-assignments throughout the semester. The group mini-assignments are designed for your group to learn each member's strengths/weaknesses and learn the best way to collaborate and communicate with one another.

2. HCI Article Presentation (Individual Activity)

Every day, there are new developments that may change the way we think about HCI/UX and new research findings and discoveries that improve our understanding of how humans interact with various interfaces. Therefore, students are encouraged to explore HCI/UX topics that are of interest to them, find relevant article(s), synthesize the article(s), and share the key findings with the class.

3. CITI Program Training (Individual Activity)

The Collaborative Institutional Training Initiative (CITI Program) is widely used to enhance the knowledge and professionalism of investigators, staff, and students conducting research in the United States and internationally. It is dedicated to promoting ethical research in organizations. Each student is required to complete this training before conducting their group project.

4. Usability Project (Group Activity)

One of the goals of this course is to provide students with hands-on experience on HCI/UX. 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, develop prototype(s), and evaluate the prototype. This process can be iterative.

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

The project includes four major components:

Choosing the project

Your team should choose the project on your own. The project should involve some aspects of design/redesign 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 reasonably 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 the project and a great opportunity for you to apply the various usability techniques to practice. Techniques/concepts 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. However, the software is to be used to support or demonstrate your design work, and NOT to carry out the design for you. Hence, it is NOT acceptable to simply adopt your design from existing websites or templates (e.g., from Wix.com).

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.

Group Presentation:

Each group will present their project comprising the above four parts to the class. Each group is also responsible for answering any questions the professor or the other students may have about the project.

Written Group Report:

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

Peer Evaluation:

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 to the group project (which includes attending the group meetings, contributing your ideas, etc.).*** These adjustments could result in a lower final grade.

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

5. *Research Participation (Individual Activity)*

Students are expected to serve as research participants for the other teams' usability projects and will be awarded points individually for responsible and timely participation.

6. *Weekly Post-Class Reflections (Individual Activity)*

Students are required to submit a weekly reflection write-up on their learning process to the Canvas discussion board. The reflection should highlight what they have learned from the class and reading materials each week, how they would apply the key concepts covered in the class, any additional insights or thought processes on these concepts (and/or techniques/methods) and their application, and what they find useful (or not useful) or even confusing. The instructor monitors and grades the post-class reflections promptly and participates in the discussion board. The goal of the weekly reflection writeups is to demonstrate your understanding and application of the materials learned in each class.

7. *Exams (Individual Activity – Administered in Canvas; Proctored by Proctorio)*

There will be two exams in this class. The exams will cover materials from the assigned readings, class lectures, and in-class discussions. The format of the exams will comprise true/false, multiple-choice, and short-essay questions. Proctorio (<https://keeplearning.umssystem.edu/students/other-tools/proctorio>) will be used for proctoring the exam administered through Canvas. A practice test will be provided in Canvas to help increase your familiarity with Proctorio.

COURSE POLICIES

Class Conduct

All students are expected to be attentive and to participate in class discussions (some of which will be carried out in breakout rooms or through the chat or poll function) during class. Students are also expected to conduct themselves professionally during class.

Late Work Policy

Assignments are due as indicated. Late submissions will not be accepted unless exceptional circumstances (e.g., documented illness) are involved. The acceptance of late submissions under such circumstances is at the discretion of the professor.

General Statement

This syllabus presents the policies and expectations that have been established for this course. These policies and expectations are intended to create a productive learning atmosphere for all students. Please bring any concerns you may have to my attention.

To create and preserve a course atmosphere that optimizes teaching and learning, all students share the responsibility of creating a positive learning environment. Students are expected to conduct themselves in a manner that does not disrupt teaching or learning, and they are expected to follow these standards.

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

Course discussions should be civilized and respectful to everyone and relevant to the topic we are discussing. Discussion forums are meant to allow for a variety of viewpoints. This can only happen if we respect one another and our differences.

I will begin online live sessions promptly at the designated time and students are expected to be on time for these sessions. Please refrain from engaging in other tasks during the online session as it is disruptive to me and others around you.

Expectations on Class Behavior in Zoom

Classes will be conducted in Zoom (including video, audio, and chat text) and they will be recorded. You can access the class archives using the Panopto link in Canvas. Everyone is expected to be professional and respectful when attending class on Zoom. Sign in with your full first name and last name as listed on the class roster. Turn on your video when possible. It is helpful to be able to see each other, just as in an in-person class. If you have limited Internet bandwidth, it is ok to not use video. However, you do need to have a webcam and microphone for the exams which will be conducted using Proctorio (<https://keeplearning.umssystem.edu/students/other-tools/proctorio>).

If you are unable to find an environment without a lot of visual distractions, it is ok to turn off your video during class. Mute your microphone when you are not talking as it helps to eliminate background noise. Find a quiet, distraction-free spot to log in. Turn off any music, videos, etc. in the background.

COURSE GRADING

CV/resume (under Assignment)		1 bonus point
Self-introduction (Canvas discussion board)		1 bonus point
Individual online homework assignment		10 point
Individual mini-assignments/projects (2 X 10 points each)		20 points
Group mini-assignments/projects (2 X 10 points each)		20 points
Peer evaluation	weighted into grade	
Group Project		220 points
Project proposal	10 points	
Project update	10 points	
Project presentation	100 points	
Project report	100 points	
Peer evaluation	weighted into grade for each component	
Exams		200 points
Exam I	100 points	
Exam II	100 points	
HCI article presentation		10 points
Participation (includes weekly reflections and contributions in discussion forum)		20 points
Total		<u>500 points</u>

Graded Scale

Score/Points	Letter Grade	Score/Points	Letter Grade
450 - 500	A	350 - < 400	C
400 - < 450	B	< 350	F

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

Course Schedule/Plan

Dates	Topics	Reading & Other Assignments	Assignments Due (by 6 PM on Sunday)
Week 1	Introduction and Course Overview Giving a Presentation What is Interaction Design?	Syllabus Info on Canvas Chapter 1	Bonus point: CV/resume <i>Individual Online Assignment in Canvas Discussion Board: Good and Bad Interfaces</i>
Week 2	Guest Speaker from Microsoft The Process of Interaction Design Conceptualizing Interactions	Chapters 2 & 3 Group project work	<i>Group Mini-project 1: Timepiece</i>
Week 3	Cognitive Aspects Social and Emotional Interaction Interfaces	Chapters 4, 5, 6 & 7	<i>Individual Mini-project 1: CITI Training</i>
Week 4	Discovering Requirements Exam 1 Review	Chapter 11	<i>Individual Mini-project 2: Personas</i>
Week 5	Experience/Service Design Workshop		
Week 6	Exam 1: Chapters 1-7 & 11	Group project work	<i>Group Project Proposal</i>
Week 7	Data Gathering and Data Analysis	Chapters 8, 9 & 10 Group project work	<i>Group Mini-project 2: Gathering Data</i>
Week 8	Design, Prototyping, and Construction Interaction Design in Practice	Chapters 12 & 13	HCI article for individual presentation
Week 9	Evaluation Exam 2 Review	Chapters 14, 15 & 16	<i>Group Project Update Report</i>
Week 10	Spring Break		
Week 11	Guest Speaker on Principles of Web Design		
Week 12	Exam 2 Chapters 8-10 & 12-16		<i>Slides for HCI article presentation</i>
Week 13	HCI article presentations	Group project work	
Week 14	HCI article presentations	Group project work	
Week 15	Group project presentations	Group project work	
Week 16	Group project presentations	Group project work	
Week 17	<i>Group Report Due (by midnight)</i>		

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

CAMPUS SYSTEMS AND RESOURCES

Canvas. Use Canvas (canvas.mst.edu) as the site to house the syllabus and policies, calendar, and gradebook. Students rely on Canvas as the “home” for the site, even in an in-person course. In the event of a campus closure, Canvas is the single most useful resource for instructional continuity.

Reporting Academic Dishonesty. A new online form will facilitate faculty reports of academic dishonesty. To access it from the [Academic Support](#) home page, scroll down, and click “Submit a Report.”

S&Tconnect. <https://canvas.mst.edu/> (“Starfish” icon on the left toolbar)
S&Tconnect enables students to request appointments with their instructors and advisors via the S&Tconnect calendar, which syncs with the instructor’s Outlook Exchange calendar. S&Tconnect tracks each student’s performance. S&Tconnect Early Alert enables students to be provided with services. S&Tconnect training is provided by Rachel Morris at rachelm@mst.edu or 341-7600.

S&T Writing Center. <http://writingcenter.mst.edu>. The Writing Center will be open for writing consultation during the Spring semester. More information will be provided early in the Spring semester about the mode of services and hours that services are available.

The Student Success Center. SSC 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. The Student Success Center in Toomey Hall was designed for students to visit and feel comfortable about utilizing the campus resources available. Visit the SSC at 198 Toomey Hall; 573-341-7596; success@mst.edu; Facebook: www.facebook.com/SandTssc; web: <http://studentsuccess.mst.edu/>

MISSOURI S&T CAMPUS AND UM SYSTEM POLICIES

Statement about Copyright, FERPA, and Use of Video

It is vitally important that our classroom environment promotes the respectful exchange of ideas. This entails being sensitive to the views and beliefs expressed during discussions whether in class or online. Please speak with me before recording any class activity. It is a violation of the University of Missouri policy to distribute such recordings without my authorization and the permission of others who are recorded. More information is provided [online](#).

Accessibility and Accommodations

It is the university’s goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on a disability, please contact Student Disability Services at (573) 341-6655, sdsmst@mst.edu, visit <http://dss.mst.edu/> for information.

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

Student Honor Code and Academic Integrity

- The Honor Code all students are expected to follow can be found at this link: <http://stuco.mst.edu/honor-code/>.
- 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 and sabotage (<http://registrar.mst.edu/academicregs/index.html>), **all of which will be reported to the Vice Provost for Academic Support.**
- Additional guidance including the University's Academic Dishonesty Procedures is available at <http://academicsupport.mst.edu>.
- Other resources for students regarding ethics and integrity can be found at <http://academicsupport.mst.edu/academicintegrity/studentresources-ai>.

Any of us may experience strained relationships, increased anxiety, feeling down, alcohol/drug misuse, decreased motivation, challenges with housing and food insecurity, etc. When your mental well-being is negatively impacted, you may struggle academically and personally. If you feel overwhelmed or need support, please make use of S&T's confidential [mental health services](#) at no charge. For a quick guide to campus resources that address specific issues please visit our Well-Being Referral Guide, available as a website at <https://minerwellness.mst.edu/well-being-referral-guide/>. If you are concerned about a friend or would like to consult with a Care Manager, please make a UCARE referral for support and assistance. <https://stuaff.mst.edu/ucare/>.

Nondiscrimination, Equity, and Title IX

Missouri University of Science and Technology is committed to the safety and well-being of all members of its community, and to creating an environment free from discrimination and harassment.

The University does not discriminate on the basis of race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. As used in this policy, the word "sex" is also inclusive of the term "gender."

Additionally, 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. Violations of this law include sexual harassment, sexual assault, dating/domestic violence, and stalking.

In accordance with The Collected Rules and Regulations University of Missouri, Missouri S&T requires that all faculty and staff members report, to the Missouri S&T Equity Officer, any notice of discrimination disclosed through communication including but not limited to direct conversation, email, social media, classroom papers, and homework exercises.

Missouri S&T's Equity Officer and Title IX Coordinator is Chief Diversity Officer Neil Outar. Contact him (naoutar@mst.edu; (573) 341-6038; 203 Centennial Hall) to report violations of the university's nondiscrimination policies, including Title IX. To learn more about resources and reporting options (confidential and non-confidential) available to Missouri S&T students, staff, and faculty, please visit <http://titleix.mst.edu>.