INSC 588: Human-Computer Interaction  
Class Meetings: Tuesday, 6:30-9:10 PM  
Meetings: Virtual via Zoom  
Spring 2019

Professor Dania Bilal  
Office Hours: By Appointment  
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Knoxville, TN 37996-0341  
SIS Office: 865.974.2148

CATALOG DESCRIPTION
This course is an introduction to the field of human-computer interaction with a focus on the design and evaluation of the interfaces to information systems. Students will be introduced to the topics of interaction design, describing user competencies, defining user requirements, user interface design and evaluating interaction success. In addition, they will gain hands-on experience with user interviewing and user interface design specifications and test construction.

COURSE DESCRIPTION
HCI is rooted in human psychology. Good understanding of design principles and guidelines and their effective application requires knowledge of their scientific underpinnings. Therefore, the course will start with covering theoretical topics. The emphasis will be on applied user experience (UX) design. However, the course will start by discussing fundamental aspects of human perception and cognition and linking them with design principles. The course will present an iterative evaluation-centered UX lifecycle and will introduce a broader notion of UX, including but not limited to usability and emotional impact. The UX lifecycle activities cover contextual inquiry and analysis, gathering user requirements and extraction, agile development and design-informing models, design thinking, ideation, sketching, conceptual design, and formative evaluation.

LEARNING OUTCOMES
Students who complete this course will be able to demonstrate awareness, knowledge, and/or understanding of:
1. UX and UX design concepts;
2. theories of human perception and cognition, and their implications for UX and interface design;
3. UX Wheel including processes, lifecycles, methods, and techniques;
4. Agile lifecycle processes and the Funnel Model of Agile UX;
5. understanding users, needs, and characteristics;
6. nature of UX design and design solutions;
7. design solutions including methods, techniques, mental models and conceptual design;
8. UX empirical and analytical evaluation methods and techniques; and
9. Affordances and design guidelines.

**Special Note:** Occasionally, I get students with considerable experience in HCI/UX. If you are one of those students, you are still welcome to participate in this course, but be mindful that this is not an advanced course in HCI/UX.

**REQUIRED TEXTBOOK**

![The UX Book](image)

**OTHER REQUIRED READINGS**


**Additional Readings**

Additional readings are assigned throughout the semester. Later in the semester, you will be asked to read this article,

COURSE DESIGN
Class time will be divided between lectures, discussions, and activities inside and outside of the classroom. The part of class time used for lectures will be devoted to highlighting course materials, questions and answers, and discussions. The composition of individual class meetings will differ somewhat throughout the semester. Reading the assigned materials is highly recommended before each class session so that you will be able to participate in class constructively. Five percent (5%) of the grade is assigned to class participation, attendance, keeping up with assigned readings, discussions, and class activities.

Outside of the classroom
Students will acquire in-depth hands-on experience in UX by working on a team project to develop a product for a “real client.” That is, interviewing and collecting data from real clients/users in specific environments or contexts. The project is time consuming and its success depends on effective collaboration and communication among team members working together remotely. The project is submitted in parts and each part has a due date shown on the course schedule. You will be spending a chunk of time working on this project (from 2 to 6 hours a week depending on the part in question). Individual assignments require investing time outside of the classroom to complete satisfactorily.

This course adopts an active learning approach. You are required to complete the readings on time, attend all class lectures, complete assigned activities and projects, and participate in all class discussions and activities. There will be invited guest speakers and attendance of their lectures is required.

CLASS LECTURE NOTES & ASSIGNMENTS
The lecture notes, assignments, and class activities will be posted in Canvas course site under Files. You have my permission to print a copy of the lecture notes for personal use.

COMMUNICATION
I will communicate with you through your UTK email address. If you prefer to use another address, consult the OIT Helpdesk to obtain directions for forwarding your UTK mail to your preferred address if you don’t wish to check both accounts.

COMPUTING REQUIREMENTS
The Office of Information Technology (OIT) provides training classes in using various technologies for students at no charge (advance registration is required). The following are the major requirements.

- Adequate level of computing skills, including but not limited to, use of Microsoft Office suite or equivalent, web searching including search engines, online databases, and online catalogs;
- Subscription to the SIS student listserv
Knowledge of using Zoom and Canvas.
- UTK email account.
- Access to a PowerPoint Reader, PowerPoint, Prezi, or equivalent to download lecture notes.
- Computer, microphone, and headphone for attending classes in Zoom. Preferred is a hard-wired computer, especially if your wireless network has a weak signal. Use of a headphone may be needed to receive a high audio quality.
- Attending classes using mobile devices while driving is not recommended. If you do so, you will be responsible for any issues or problems that may arise. Attending classes using your mobile phone or other mobile device may compromise the quality of the audio and video. The instructor is not responsible for this issue.
- *Testing before class:* Please test your computer audio by running the Zoom Audio Wizard before attending each class meeting. This will sync the computer audio in Zoom and ensure a quality audio on both sides during class.

**CLASS ATTENDANCE POLICY**
Class attendance is required by UT and SIS. Missing classes or failing to participate class will lower your grade; frequent constructive participation will raise the grade. Unexplained absences will affect your grade. If you will be absent from class:

- Let me know in advance or as soon as you can;
- Submit any work due from the missed class period;
- Listen to class recordings;
- Obtain notes, handouts, etc. from Canvas and/or classmates, as applicable.

*Acceptable reasons for absence from class include:*

- Illness, serious family emergencies, special curricular or job requirements (e.g., conferences), severe weather conditions, religious holidays, participation in official university activities such as music performances, athletic competition or debate; imposed legal obligations (i.e., jury duty, subpoena), or conferences.

Missing more than one class meeting for reasons other than those listed above will have a negative impact on your course participation grade; a **reduced credit of 2 points** will be deducted from the total grade for each absence.

**COURSE POLICY**
The course is delivered live via Zoom and asynchronously using Canvas for supporting materials and interactions. There will be some sessions delivered asynchronously (previously recorded), which will be announced in advance. I prefer that you **speak** in class instead of relying on text chat. Please refrain from using text chat for non-class related conversations.

Be mindful to **mute the sound** in Zoom during class and turn it on when you speak. Be close to the microphone when you speak so that we are all able to hear you clearly.

**E-MAIL NOTIFICATION**
I will use email as the main means of communication with you. You will be responsible for checking your email regularly. When you email me, please include INSC588 in the subject line of the email so that I identify your email quickly.
COLLABORATIVE TEAM WORK
For working as a team, you are encouraged to use Google Docs, Google Hangouts, or equivalent applications outside of the classroom. You may also create a user group in Google+, Yahoo Groups, or other social media.

One grade will be assigned for all team members working collaboratively on a project or assignment or class activity.

EXPECTATIONS
HCI is about designing and testing interfaces from users’ perspectives. Therefore, you will be spending time collecting data from clients/users in real-world settings. If you are unable to meet this expectation, email me to discuss your options.

On-time submission of assignments and activities is expected. All submissions must be in Canvas. No emailing of assignments, unless I indicate so. A past due assignment will incur a reduced credit of 2 points.

This course will introduce you to use of basic research methods in HCI/UX. You are advised to consult additional sources on research methods to augment your knowledge.

Attendance to assigned readings in the primary and secondary texts, and readings from outside of these sources.

SUBMISSION OF PROJECTS/ASSIGNMENTS
All assigned class activities must be submitted in Canvas by 11:59 p.m. on the due date as indicated in the Course Schedule. Before submitting an assignment, name and save it as follows:

LastnameFirstinitial-588-assignment or project name

Example 1: BilalD-588-assignment-1

For a group project, use the example below to name the project’s document:

Example 2: Bilal-Dosch-Esterwood-588-project-1-part 1.1

All submissions should be in Word or equivalent with file extension .doc or .docx. Do not use RTF or PDF or HTML or txt or dot file formats. Assignments that do not bear .doc or .docx will be rejected.

Paginate each assignment.

Include a cover page with your name or names of team members, as applicable, project or assignment name, course number, instructor’s name, semester, and submission date.

Assignments/projects that are not in line with the submission guidelines will be rejected.
TROUBLESHOOTING
If you experience Zoom or Canvas connectivity problems, please contact OIT at 865. 974. 9900 or complete a help form online at, http://remedy.utk.edu/contact. Note that OIT office is not open 24/7; therefore, plan to connect to ZOOM at least 30 minutes before class time.

CLASS ENGAGEMENT AND INTERACTION RULES
You are highly encouraged to participate in class by sharing constructive ideas and related experiences, engaging in class discussion, and collaborating with peers to solve certain UX problems or simulate situations.

INCLEMENT WEATHER
“The chancellor (or appointed representative) may officially close or suspend selected activities of the university because of extreme weather conditions. When a decision to close is made, information is distributed to the campus community, shared with local media, and posted on the front page at http://utk.edu. SIS will cancel classes when UT is closed. Please check the SIS student listserv (UTKSIS-L@LISTSERV.UTK.EDU), UT website, and/or UT Facebook page for messages about closing.

DISABILITIES THAT CONSTRAIN LEARNING
Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services (ODS) at 865.974.6087 in 100 Dunford Hall to document their eligibility for services. ODS will work with students and faculty to coordinate reasonable accommodations for students with documented disabilities.

COPING WITH STRESS AND PERSONAL HARDSHIP
The university’s Student Counseling Center offers a range of services to students that meet the requirements at no charge. Visit the Center’s website to learn about the services offered (https://counselingcenter.utk.edu/clinical-services/counseling-services/). You may also contact the Center by phone at 865.974.2196 or send email to (counselingcenter@utk.edu).

CIVILITY
Civility is genuine respect and regard for others: politeness, consideration, tact, good manners, graciousness, cordiality, affability, amiability and courteousness. Civility enhances academic freedom and integrity, and is a prerequisite to the free exchange of ideas and knowledge in the learning community. Our community consists of students, faculty, staff, alumni, and campus visitors. Community members affect each other’s well-being and have a shared interest in creating and sustaining an environment where all community members and their points of view are valued and respected. Affirming the value of each member of the university community, the campus asks that all its members adhere to the principles of civility and community adopted by the campus: http://civility.utk.edu/

DIVERSITY STATEMENT
“The College of Communication and Information recognizes that a college diverse in its people, curricula, scholarship, research, and creative activities expands opportunities for intellectual inquiry and engagement, helps students develop critical thinking skills, and
prepares students for social and civic responsibilities. All members of the College benefit from diversity and the quality of learning, research, scholarship and creative activities is enhanced by a climate of inclusion, understanding and appreciation of differences and the full range of human experience. As a result, the College is committed to diversity and equal opportunity and it recognizes that it must represent the diversity inherent in American society. The College is acutely aware that diversity and fairness are foundations that unite the College’s faculty, staff, students, and the larger communication and information community."
http://www.cci.utk.edu/diversity-statement

ACADEMIC INTEGRITY
Students should be familiar and maintain their Academic Integrity described in http://hilltopics.utk.edu/files/Hilltopics%202015-16.pdf , p. 15 as: “Study, preparation and presentation should involve at all times the student’s own work, unless it has been clearly specified that work is to be a team effort. Academic honesty requires that the student present his or her own work in all academic projects, including tests, papers, homework, and class presentation. When incorporating the work of other scholars and writers into a project, the student must accurately cite the source of that work.”

Students should abide by the Honor Statement described below:

“An essential feature of The University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”

PLAGIARISM
Plagiarism in any of its several forms is intolerable, and attention to matters of documentation in all written work is expected and required. Inadvertence, alleged lack of understanding, or avowed ignorance of the various types of plagiarism are not acceptable excuses.

Specific examples of plagiarism are:

1. Copying without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source;
2. Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge);
3. Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge);
4. Collaborating on a graded assignment without the instructor’s approval;
5. Submitting work, either in whole or in part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).

If you are unsure of the nature of plagiarism should consult the instructor or a guide for writing research reports. Additional resources are available at
Infractions of academic integrity are penalized according to the severity of the infraction but may include a course grade of "F."

ASSIGNMENTS AND GRADING
Your work will be assigned a grade using the point system. Only exceptional work will receive an "A" grade. See the point system under Grading Scale.

Your final grade will be based on total points earned over the course of the semester. I advise you to keep record outside of Canvas of every grade on every activity you earn in this course.

In grading your assignment or activity, I will provide comments and/or suggestions for improvement using markups. The comments have to do with your work and NOT you personally. It is up to you to consider these comments or suggestions. You are welcome to provide feedback about my grading style.

QUIZ
There will be one quiz around the midterm or toward the end of the semester. This may be open or closed book. You will be notified in advance about the nature of the quiz.

GRADING SCALE TURNAROUND TIME
Graded class activities will be returned within two to three weeks. Please review each graded activity even if you receive a high grade, as there may be insightful comments or additional thoughts you should consider.

You have one week from the time you receive a grade to question the grade and ask for review. You should do so in writing and via email. I will reply to your request within one week, unless I am travelling and unable to connect to the internet.

DUE DATES AND LATE PAST DUE SUBMISSIONS
Assignments are to be submitted in Canvas by 11:59 p.m. EST on the due date shown on the Course Schedule. As mentioned earlier, a reduced credit of two points will be incurred for a late assignment or activity.

INCOMPLETE
Based on adopted University of Tennessee-Knoxville and SIS policy, a grade of an “I” (Incomplete) is reserved for emergencies that prevent the student from completing the course on time. Incompletes are granted only under "the most unusual of circumstances" and solely at the discretion of the instructor. Plan your semester’s course of study carefully to ensure sufficient time to complete the required work.

For students who simply "disappear" without contacting the instructor and/or without completing the required “I” form, "F" will be submitted.

EVALUATION CRITERIA
Generally, the evaluation of course activities (namely projects and specific homework or
assignments) will be based on operational, qualitative, and quantitative criteria. Operational criteria include meeting the requirements/guidelines and submission on time. Qualitative criteria include quality of writing, organization, formatting, amount of analysis and synthesis, and demonstration of critical thinking, as well as evidence of reading and understanding covered topics, among others. Quantitative criteria will be based on a rubric, especially for the final team project.

**GRADE SCALE**
Semester grades will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93≤</td>
<td>(4 quality points per semester hour) superior performance.</td>
</tr>
<tr>
<td>A-</td>
<td>90-92.99</td>
<td>(3.7 quality points per semester credit hour) distinguished grade performance.</td>
</tr>
<tr>
<td>B+</td>
<td>88-89.99</td>
<td>(3.5 quality points per semester hour) better than satisfactory performance.</td>
</tr>
<tr>
<td>B</td>
<td>83-87.99</td>
<td>(3 quality points per semester hour) satisfactory performance.</td>
</tr>
<tr>
<td>B-</td>
<td>80-82.99</td>
<td>(2.7 quality points per semester credit hour) intermediate grade performance.</td>
</tr>
<tr>
<td>C+</td>
<td>78-79.99</td>
<td>(2.5 quality points per semester hour) less than satisfactory performance.</td>
</tr>
<tr>
<td>C</td>
<td>70-77.99</td>
<td>(2 quality points per semester hour) performance well below the standard expected of graduate students.</td>
</tr>
<tr>
<td>D</td>
<td>60-69.99</td>
<td>(1 quality point per semester hour) clearly unsatisfactory performance and cannot be used to satisfy degree requirements.</td>
</tr>
<tr>
<td>F</td>
<td>59.99≥</td>
<td>(no quality points) extremely unsatisfactory performance and cannot be used to satisfy degree requirements.</td>
</tr>
<tr>
<td>I</td>
<td>(no quality points) a temporary grade indicating that the student has performed satisfactorily in the course but, due to unforeseen circumstances, has been unable to finish all requirements. An “I” is not given to enable a student to do additional work to raise a deficient grade. The instructor, in consultation with the student, decides the terms for the removal of the “I”, including the time limit for removal. If the grade “I” is not removed within one calendar year, the grade will be changed to an F. The course will not be counted in the cumulative grade point average until a final grade is assigned. No student may graduate with an “I” on the record.</td>
<td></td>
</tr>
</tbody>
</table>
**GRADING**
Student class activities will be assigned as follows.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class attendance, participation, and effective communication with instructor</td>
<td>5%</td>
</tr>
<tr>
<td>Assignment 1: Design Critique (DC) &amp; class presentation - individual work</td>
<td>15%</td>
</tr>
<tr>
<td>Quiz</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Project (teamwork, unless otherwise noted)</strong></td>
<td>75%</td>
</tr>
<tr>
<td>Project 1.1: Topic idea &amp; selection, client/user group, product concept statement</td>
<td>5%</td>
</tr>
<tr>
<td>Project 1.2: Contextual inquiry and analysis</td>
<td>15%</td>
</tr>
<tr>
<td>Project 1.3: Requirements and modeling (10%); Design (10%)</td>
<td>20%</td>
</tr>
<tr>
<td>Project 1.4: Prototype (see list of top 22 prototype tools)</td>
<td>10%</td>
</tr>
<tr>
<td>Project 1.5: Team Project: UX evaluation; class presentation; reflections</td>
<td>25%</td>
</tr>
</tbody>
</table>

**COURSE EVALUATION**
You will be invited to evaluate the course at the end of the term. Please participate in this valuable process. I may also ask you to evaluate the wellness of the course informally at different points in the semester. I would appreciate your honest comments and suggestions about the course so that I can make the needed adjustments during the semester.

**CITING SOURCES**
I prefer APA style, but you may use your preferred standard style manual for citing sources.

**TEAM PROJECT**
The major work (and the major part of course grade) you will do for the course is the semester-long team project. The project involves the UX lifecycle of product development including defining, analyzing, specifying, designing, prototyping, and evaluating an interaction design for a target client or user group in a real-world setting. The purpose of the project is to give you exposure to all steps involved in developing a significant user interaction design. The project will include seven phases numbered as 1.1, 1.2, etc.

You will work with classmates in a team. Team members are to participate in each part of the project activities to learn about the whole process of product or interface development.

**TEAMWORK**
One of the challenges of teamwork is being able to work together and establish trust and rapport. You need to get to know one another to develop trust in each other’s abilities, skills, and knowledge. Each team should develop a process or procedure for effective communication and working together. Should problems arise in working together, you should discuss them openly and immediately. I advise you to contact me as soon as possible, if you’re unable to resolve the problems. Be mindful that teamwork is about compromise. You should find ways to schedule meetings that work for all team members and set a timeline for completing the work.
Consider these factors for successful team work:

Keep in mind these factors for effective collaboration:
Communication,
Authenticity,
Compromise,
Tolerance,
Team player, and
Reliability (https://www.risebeyond.org/6-skills-needed-for-effective-collaboration/)
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
<th>In-class activity</th>
<th>DUE (besides discussion of readings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 15</td>
<td>Introductions</td>
<td>Peruse textbook TOC (if purchased by that time)</td>
<td>Discussion of experiences; think about clients/user group &amp; context for team project</td>
<td>--</td>
</tr>
<tr>
<td>2</td>
<td>Jan 22</td>
<td>What is HCI/UX Design? Interface design rules; The Wheel; Perception; Human-Centered design</td>
<td>UX (Intro., chap. 1); JI (Intro and chaps. 1-2; DN (chap. 1)</td>
<td>Think about interface to evaluate &amp; critique for Assignment 1</td>
<td>Teams and initial topic ideas for team project - no formal submission</td>
</tr>
<tr>
<td>3</td>
<td>Jan 29</td>
<td><strong>Vision: Gestalt Principle Cognition; Design concepts: Affordances, Action Cycle; System concept statement</strong></td>
<td>Krug (chap. 1) JI (chaps. 2; 6-7); UX (chaps. 3; 31-32); DN (chaps. 2-3)</td>
<td>Various</td>
<td>Teams &amp; project topics, clients/users</td>
</tr>
<tr>
<td>4</td>
<td>Feb 5</td>
<td>How we use the web? Higher cognition, Human error, Mental models; Affordances &amp; UX</td>
<td>Krug (chap. 2) JI (chaps., 8-10); DN (chaps., 4-5); UX (chap. 15; 33-36)</td>
<td>Various</td>
<td>P1.1</td>
</tr>
<tr>
<td>5</td>
<td>Feb 12</td>
<td>Understanding needs - Contextual inquiry &amp; analysis (CI &amp; A)</td>
<td>UX (chaps. 7-8)</td>
<td>CI &amp; A</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Feb 19</td>
<td>C&amp;I; Requirements and modeling</td>
<td>UX (chaps. 7-9)</td>
<td>CI &amp; A</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>7</td>
<td>Feb 26</td>
<td>Requirements and modeling cont’d.</td>
<td>UX (chaps. 7-10)</td>
<td>Requirements &amp; modeling</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>March 5</td>
<td>research methods/design solutions; Design thinking, conceptual design</td>
<td>UX (chaps. 14-15); DN (chap. 6)</td>
<td>Design – ideation – sketching</td>
<td>P1.2</td>
</tr>
<tr>
<td>9</td>
<td>March 12</td>
<td><strong>Guest speaker; Design prototyping; Design Thinking; conceptual design</strong></td>
<td>UX (chap. 20) Top 22 prototyping tools (see Syllabus for link); UX(chaps. 14-15; 17-18)</td>
<td>Use prototyping tool for team project</td>
<td>P1.2 (rev)</td>
</tr>
<tr>
<td>10</td>
<td>March 19</td>
<td>Spring break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>March 26</td>
<td>Design and emotion; Agile UX and processes</td>
<td>UX (chap29); DN (chap. 2, p. 49-)</td>
<td>Prototyping activities</td>
<td>Quiz</td>
</tr>
<tr>
<td>12</td>
<td>April 2</td>
<td>Evaluation methods and techniques</td>
<td>UX (chaps. 21-22)</td>
<td>Various</td>
<td>P1.3</td>
</tr>
<tr>
<td>13</td>
<td>April 9</td>
<td>Evaluation methods and techniques</td>
<td>UX (chaps. 23-24)</td>
<td>Various</td>
<td></td>
</tr>
</tbody>
</table>
*University policy: The instructor reserves the right to revise, alter or amend this syllabus, course schedule, due dates, and assignments as necessary. Students will be notified in class and/or on Canvas course site of any such changes. If you have any concerns about this practice, do not hesitate to talk with me.*

**April 30: P.1.5:** team project write up is due by 11:59 p.m. Class presentations of team project are scheduled on that day. Presentation slides are due by 11:59 p.m.

**Readings in course schedule**

Reading from the main textbook (Hartson & Pyla, 2018) are marked as **UX**. Other readings are marked as follows:


**Assignment/projects are posted in Canvas course site under Files.**

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</thead>
<tbody>
<tr>
<td>14</td>
<td>April 16</td>
<td>Evaluation methods and techniques</td>
<td>UX (chs. 25-27)</td>
<td>Various</td>
</tr>
<tr>
<td>15</td>
<td>April 23</td>
<td>Work on team project – no lecture</td>
<td>N/A</td>
<td>Work on team project</td>
</tr>
</tbody>
</table>

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I wish you success in this course. Remember to count on me when you’re in doubt! Always dare to ask😊