HUMAN-COMPUTER INTERACTION

SCHEDULE
Fall 2017
Class meets Tuesdays and Thursdays, 11:00-12:15 p.m.
Location: LI (Wells Library) 001

INSTRUCTOR
Dr. Younei Soe
Email: ysoe@indiana.edu
Indiana University Profile: http://goo.gl/zKT7wU
Office Hours: Thursday, 12:30–1:30 p.m.: LI 030A, and by appointment

BRIEF COURSE DESCRIPTION
How does the human mind understand and interact with computers and other technologies? For many reasons, we use multiple forms of information technology every day, such as cell phones, tablets, and computers. As more and more information is produced in electronic forms, the use of information technology increasingly involves human–computer interaction and interaction design issues. This course offers an introduction to the field of human–computer interaction and an overview of the interaction design process. Students will learn the relevant basics of human psychology, cognition, sociology, communication studies, and user research, as well as explore the design principles.

We will start by understanding the perceptual, psychological, cognitive, and social aspects of people and review developments in the field of human–computer interaction. Students will learn interaction design processes—understanding users, generating designs, prototyping, and evaluation—and perform related activities. We will also explore topics related to human–computer interaction from various perspectives by associating them with social, cultural, ethical, and other considerations and discuss the future of human–computer interaction. For example, we will consider cultural differences among users across the globe along with cognitive and psychological differences when designing technology for senior citizens.

PREREQUISITES
Students are not expected to have any prior knowledge about human–computer interaction. This course is open to graduate students in any social sciences, education, humanities, or cultural studies discipline or those with other academic and professional backgrounds. Graduate students in any field who are interested in the social impact of information and communication technologies are welcome to enroll.

RESOURCES
Readings are readily available through the IU Libraries or on the web. Any specialized materials will be available through Canvas.

STATEMENT REGARDING ACADEMIC INTEGRITY & INSTRUCTOR'S POLICY ON ACADEMIC DISHONESTY
All written compositions in this course must be students’ own work and composed using their own words. Otherwise, students will immediately fail the course.

Accordingly, all submitted writing assignments must be original to this course. It is the students’ responsibility to learn how to quote works of other people. If a student needs help learning how to make citations or construct references, the student must ask for the instructor’s help before submitting any written work. Thus, students must adhere carefully to the following rules in all their written work:

i. A student who uses the words of another person must always use quotation marks and indicate the source of the quote.
ii. A student who closely paraphrases another person must always indicate that he or she is doing so, including whose ideas the student is citing.
iii. A student must never submit work containing plagiarized material. To avoid plagiarism, students must always acknowledge the sources that have been used for any summarized, paraphrased, or directly quoted material.

iv. A student must never fabricate sources or quoted material.

* Recommended citation style: American Psychological Association (APA) style (http://www.apastyle.org/). Other citation styles are also accepted.

Failure to follow these rules is considered plagiarism, which is a serious form of academic misconduct that can lead to severe penalties under university regulations (see: http://www.indiana.edu/~p374/Acaddis.html). The following is an excerpt from the Code of Student Rights, Responsibilities, and Conduct (Part II: Student Responsibilities, Section G. Uphold and maintain academic and professional honesty and integrity) from http://www.indiana.edu/~code/code/responsibilities/academic/index.shtml

**PLAGIARISM**

Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source, for either written or oral use, must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.

A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.

A student must give credit to the originality of others and acknowledge indebtedness whenever:

i. directly quoting another person’s actual words, both oral and written;

ii. using another person’s ideas, opinions, or theories;

iii. paraphrasing the words, ideas, opinions, or theories of others, both oral and written;

iv. borrowing facts, statistics, or illustrative material; or

v. offering materials assembled or collected by others in the form of projects or collections without acknowledgment

**INSTRUCTOR’S POLICY ON PLAGIARISM**

All written compositions submitted in this course must be the work of the enrolled student. Work must be composed by the student and in his or her own words. Students who are found guilty of plagiarism will immediately receive a failing grade in the course.

Sanctions for plagiarism will include a grade of F for the assignment in question and for the course and must include a report to the Dean of Students. Students must also be aware of university policies concerning grades: A grade of "F" will be entered for a student found guilty of misconduct, even where an automatic "W" would otherwise be used. That is, after students have plagiarized and received an "F" in the course as a sanction, they may not simply withdraw from the course and receive a "W."

**ACADEMIC MISCONDUCT**

The issue of academic misconduct is documented here:
http://www.iu.edu/~code/bloomington/discipline/academic/index.shtml

**STATEMENT FOR STUDENTS WITH DISABILITIES**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides reasonable accommodation of their disabilities. If you believe that you have a disability requiring an accommodation, please contact IU Disability Services for Students (http://www.indiana.edu/~ada/resources_IUB.html).

**LEARNING OBJECTIVES**

This course aims to introduce the field of human–computer interaction, offer an overview of the interaction design process, and encourage critical thinking about issues related to human–computer interaction from various
perspectives. The course will provide students with an analytical framework through which to develop an understanding of the following:

i. Theoretical and practical developments in the area of human–computer interaction
ii. The process of interaction design
iii. Social, cultural, and ethical issues and concerns associated with human–computer interaction

By the end of the course, students will be able to understand and apply concepts, models, and theories to technology uses; evaluate technology interfaces as they relate to users and their further uses; and critique arguments and contentions relating to human–computer interaction.

The learning outcomes will be assessed through class participation and other types of assignments.

**SCHEDULE OF CLASSES**

This schedule may change due to the progress of the class or unforeseen circumstances. Any changes will be announced in class or via Canvas. Furthermore, additional readings may be assigned or suggested. Readings should be completed before the class for which they are assigned.
<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Topics</th>
<th>Readings (Required) / In-class Work</th>
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<tbody>
<tr>
<td>1</td>
<td>8/22</td>
<td>Introduction (First day)</td>
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<tr>
<td>2</td>
<td>8/24</td>
<td>The Psychopathology of Everyday Things/The Psychology of Everyday Actions/Introduction to Human-Computer Interaction</td>
<td>Norman (D) Ch. 1</td>
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<td>3</td>
<td>8/29</td>
<td></td>
<td>Norman (D) pp. 37-73</td>
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<tr>
<td>4</td>
<td>8/31</td>
<td></td>
<td>Rogers Ch. 1, pp. 65-85 / Norman (D) pp. 113-122</td>
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<td>5</td>
<td>9/5</td>
<td></td>
<td>Lakeoff pp. 1-9 / Hannon</td>
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<tr>
<td>6</td>
<td>9/7</td>
<td>Metaphor and Interaction Design</td>
<td>Cooper (3rd Ed.) pp. 269-285</td>
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<tr>
<td>8</td>
<td>9/14</td>
<td></td>
<td>Rogers Ch. 4 / Rainie &amp; Wellman pp. 1-49 / Standage</td>
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<tr>
<td>9</td>
<td>9/19</td>
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<td>Norman (D) pp. 217-248, Rogers Ch. 9 (pp. 317-332)</td>
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<tr>
<td>10</td>
<td>9/21</td>
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<td>Cooper (3rd Ed.) pp. 49-70</td>
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<tr>
<td>11</td>
<td>9/26</td>
<td>Rogers Ch.7 &lt;focus: qualitative date gathering methods&gt;</td>
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<tr>
<td>12</td>
<td>9/28</td>
<td>Rogers pp. 269-301 &lt;focus: qualitative data analysis and grounded theory&gt;</td>
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<tr>
<td>13</td>
<td>10/3</td>
<td>Design Thinking, User Research, Generating Design, Prototyping, and Evaluation</td>
<td>Rogers Ch. 10 (pp. 354-370)</td>
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<tr>
<td>14</td>
<td>10/5</td>
<td></td>
<td>Cooper (4th Ed.) pp. 66-72</td>
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<td>15</td>
<td>10/10</td>
<td>Rogers Ch. 11 (pp. 389-427) / Mathis pp. 87-95</td>
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<td>16</td>
<td>10/12</td>
<td>Baskinger / Snyder Ch.1</td>
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<td>17</td>
<td>10/17</td>
<td>Rogers Ch. 12 &amp; 13 / Krug 1,2,9,11 / Nilsen (Usability)</td>
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<tr>
<td>18</td>
<td>10/19</td>
<td>Rogers Ch. 14 &amp; 15 / Barnum Ch. 1,3</td>
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<tr>
<td>19</td>
<td>10/24</td>
<td>In-class Work: Storyboards/Lo-fi Prototypes / Final Project Explained</td>
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<tr>
<td>20</td>
<td>10/26</td>
<td>Youth, Communication, Emotion, and Technology</td>
<td>Norman (E) Ch. 5 / Her [film]</td>
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<tr>
<td>21</td>
<td>10/31</td>
<td></td>
<td>Turkle Ch. 1 and 8</td>
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<tr>
<td>22</td>
<td>11/2</td>
<td>Issues, Considerations in HCI Part 1: Design for Older Adults and People with Disabilities, Ethics</td>
<td>Turkle Ch. (1, 8,) 9 / Growing Up Online [documentary, available on-line]</td>
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<tr>
<td>23</td>
<td>11/7</td>
<td></td>
<td>Turkle Ch. (9,) 10 / Generation Like [documentary, available on-line]</td>
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<tr>
<td>24</td>
<td>11/9</td>
<td></td>
<td>Soe (2016)</td>
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<tr>
<td>25</td>
<td>11/14</td>
<td>Prototypes of Future Technologies in Sci-Fi Movies Presentations</td>
<td>Newman/Moffatt/Huff</td>
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<tr>
<td>26</td>
<td>11/16</td>
<td></td>
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<tr>
<td>28</td>
<td>11/30</td>
<td>Peer Review of Final Project</td>
<td></td>
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<tr>
<td>29</td>
<td>12/5</td>
<td>Rainie &amp; Wellman Ch. 9 and 11 / Norman (Smart) pp. 243-253/</td>
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<tr>
<td>30</td>
<td>12/7</td>
<td>Last day of class: Presentation of the Final Project</td>
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STUDENT REQUIREMENTS & OVERVIEW OF ASSIGNMENTS

Student requirements and all assignments will be discussed in detail on the first day of class.

Your final grade will be calculated according to the following formula:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>% of Final Grade</th>
<th>Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needfinding Project (or) Critical Essay</td>
<td>30</td>
<td>Submission: 5:00 p.m. 10/23/17 (Submission guidelines will be provided in class.)</td>
</tr>
<tr>
<td>Participation</td>
<td>20</td>
<td>Throughout the semester</td>
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<tr>
<td>Group work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prototypes of Future Technologies in Sci-Fi Movies</td>
<td>10</td>
<td>Submission: 5:00 p.m. 11/13/17</td>
</tr>
<tr>
<td>Evaluation Project</td>
<td>40</td>
<td>Submission: 5:00 p.m. 12/11/17</td>
</tr>
</tbody>
</table>

Participation

This course is a graduate-level course. You are expected to complete all of the readings prior to class and be prepared to discuss them in class. Moreover, all students should be prepared to respond to the following general types of questions: What is interesting and useful about the assigned readings? What questions do the readings raise, and what questions do they answer? Constructive comments along these lines are acceptable. You should actively participate in class discussions and debate vigorously, yet respectfully. Your participation should reflect a sound grasp of the readings, and you should contribute to the class by adding informed opinions to the discussion. For each day’s class session, you are expected to prepare at least one key question you would like to discuss with the class. Participation will be determined by (1) contributions to discussions, (2) attendance, and (3) in-class activities.

Needfinding Project

Needfinding is one of the activities that will help you understand user needs and breakdowns, as well as discover new design opportunities. You will select individuals to observe and interview, followed by writing a report.

- Length: This report will be 6-8 pages in length, double-spaced (no more than 10 pages). Further guidelines will be provided in class.

Critical Essay

This assignment includes the following three tasks: (1) select and critically review two readings (a book chapter or an article) assigned between session 2 and session 12. Then discuss the most interesting concepts/models or theories/arguments suggested in the readings, and examine why they are interesting to you. (2) Find two articles of your choice outside of class readings (e.g., book chapters, academic journal articles, magazine articles, or newspaper columns), and briefly explain the main points of those two articles; then relate the points of these articles to those of the two class readings. (3) Explain how all four readings, collectively, consider the larger point, which is related to your own research interest, and then further discuss how you might be able to relate them to your own research, work, or everyday life in the future.

- Length: Write a total of 6-8 pages, double-spaced (no more than 10 pages). Further guidelines will be provided in class.

Prototypes of Future Technologies in Sci-Fi Movies

(1) Read: Marcus, A. (2013). The history of the future: Sci-fi movies and HCI. interactions, 20(4), 64–67. doi: 10.1145/2486227.2486240. (2) Watch one of the sci-fi movies discussed in the article (or any other sci-fi movie that you think is relevant for this assignment). (3) Be prepared to share how you think the scenes in the selected movie represent prototypes of future technologies. The article will guide you.
Presentation: In your presentation, your team will (1) introduce the movie briefly, (2) show the class 7 minutes of video clips or 5-10 still photos that you selected from the movie, and (3) explain the prototypes of future technologies you found in the movie.

Submission: (1) Send me an email that includes the title of the movie, describes the prototypes of future technologies you found, and explains how you think they might represent prototypes of future technologies. Write a total of 1-2 pages. In the subject line of your email, type your name and the name of the assignment: for example, “Youniei Soe, Prototypes of Future Technologies in Sci-Fi Movies.” (2) Additionally, to save time (transition time between presenters) during the class session, email me the video (or photo) files before your presentation.

Presentations will be on 11/14 and 11/16, but ALL teams must submit their work—including the (1) description and (2) the video (or photos) files—by 5:00 p.m. 11/13/17. Further guidelines will be provided in class.

Evaluation Project (Final Project)
This is a group project. I will assign you to a group—you will not choose your group members. For this group project, every group member will receive the same grade. Within the paper, the roles of each group member will be described. Further guidelines will be provided in class.

Submission: One group member will email me the paper. The due date is 5:00 p.m. 12/11/17. In the subject line of your email, type the group name and the name of the assignment: for example, “Group Name, Evaluation Project.”

HANDLING OF LATE SUBMISSIONS
All assignments must be submitted or completed on the dates specified in this syllabus. Late submissions will not be accepted. If you miss a submission deadline, you will fail the assignment.

In the unfortunate event that you cannot submit an assignment or cannot deliver a presentation on its due date, it is your responsibility to discuss the situation with the instructor in advance. There will be a penalty for work turned in after the assigned date, and this will be applied at the discretion of the instructor.

Borderline grades—both for the assignment and the course—will be decided (up or down) on the basis of class contributions and participation throughout the semester.

HANDLING OF ABSENCES
You are expected to attend all class sessions. In the event that you cannot attend class (e.g., hospitalization due to illness), it is your responsibility to discuss the situation with the instructor in advance or, in emergencies, as soon as the situation allows.

Regardless of the reason, absence(s) will negatively affect your final grade. However, a makeup opportunity may be given at the discretion of the instructor, if the instructor believes such an opportunity is warranted. In the event that you want a makeup opportunity for a missed session due to an unexpected situation, it is your responsibility to ask for a makeup opportunity. Unexpected absences with no effort to make up for the missed session will negatively affect your final grade.

If you miss more than ¼ of the class sessions, you will fail the course, regardless of your performance in the course. (This means an "F" will be given.)

GENERAL GRADING RUBRIC FOR WRITING ASSIGNMENTS
All submitted writing assignments must be original to this course.

A (A+, A, A-): Responds to each assigned task fully with clear, developed ideas; appropriate use of relevant resources; well-organized

B: Responds with ideas that need further examination or development (reasonable explanation, but not as clear or fully stated/organized as it could be); appropriate use of relevant resources
C: Responses suggest rushed or last-minute effort; poorly stated; inadequate use of sources; poor organization
D/F: Does not respond to the required tasks (off topic); incomplete

GRADES
Grades will be assigned by the instructor based on a combination of student performance measures developed for the course (see the formula on page 5).

DEFINITION OF LETTER GRADES
Letter grades have been defined as follows by student and faculty members of the Curriculum Steering Committee. The grading system has been approved by the faculty as an aid in the evaluation of academic performance and to assist students by giving them an understanding of the grading standards of the Department of Information and Library Science.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Outstanding achievement. Student performance demonstrates full command of the course materials and evinces a high level of originality and/or creativity that far surpasses course expectations.</td>
</tr>
<tr>
<td>A−</td>
<td>Excellent achievement. Student performance demonstrates thorough knowledge of the course materials and exceeds course expectations by completing all requirements in a superior manner.</td>
</tr>
<tr>
<td>B+</td>
<td>Very good work. Student performance demonstrates above-average comprehension of the course materials and exceeds course expectations on all tasks as defined in the course syllabus.</td>
</tr>
<tr>
<td>B</td>
<td>Student performance meets designated course expectations and demonstrates understanding of the course materials at an acceptable level.</td>
</tr>
<tr>
<td>B−</td>
<td>Marginal work. Student performance demonstrates an incomplete understanding of course materials.</td>
</tr>
<tr>
<td>C+/C</td>
<td>Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course materials.</td>
</tr>
<tr>
<td>C−/D−</td>
<td>Unacceptable work. Coursework performed at this level will not count toward the MLS or MIS degree. For the course to count toward the degree, the student must repeat the course with a passing grade.</td>
</tr>
<tr>
<td>F</td>
<td>Failing. Student may continue in program only with permission of the Dean.</td>
</tr>
</tbody>
</table>

HOW TO CONTACT ME OUTSIDE OF CLASS
Send an email to ysoe@indiana.edu. I will check my email frequently and will respond to messages when I read them.
REFERENCES (REQUIRED & RECOMMENDED READINGS)


Soe, Y. (2016). *Understanding Politics More Thoroughly: How Highly Engaged Young Citizens Use the Internet for Civic Knowledge Integration* (manuscript)


**REFERENCES (REQUIRED & RECOMMENDED VIDEOS)**

We will also watch scenes or parts from films in class sessions when discussing topics related to psychological, emotional, and social aspects of human use of technologies. Films will include:


Spike Jonze. (Director). (2013). *Her* [Drama/Romance].

