

CSCI 380 – User Interface Development

Course Syllabus

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Office Hours: MW, 2:00pm-3:00pm
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Grader: Athina Lambrinos; Office Hours: TR 3:00pm – 5:00pm; HWEA 311

Background: "For end-users, the interface is the system. So design in this domain must be interaction-focused and human-centered. Students need a different repertoire of techniques to address this than is provided elsewhere in the curriculum."
See [ACM/IEEE Computer Science Curricula 2013 \(CC 2013\)](#).

This course spans [CC 2013 HCI/Foundations \[4 Core-Tier1 hours\]](#) and [HCI/Designing Interaction \[4 Core-Tier2 hours\]](#). It also includes elements from the following [CC 2013](#) electives: *HCI/Programming Interactive Systems (Software Architecture Patterns)*, *HCI/User-Centered Design and Testing (Prototyping techniques and tools, Evaluation with and without users)*, and others (as time allows).

Course Description: Introduction to human-computer interaction and user interface development. Topics include human factors of interactive software, interactive styles, design principles and considerations, development methods and tools, interface quality, and evaluation methods. Stresses the importance of good interfaces and the relationship of user interface design to human-computer interaction.

Prerequisites/Requirements:

- CSCI 221 with a grade of C- or better.
- MATH 207 (co-requisite or prerequisite)

Textbooks:

- Debbie Stone, et al. (2005), "[User Interface Design and Evaluation](#)", Morgan Kaufmann.
- Donald A. Norman (2013), "[The Design of Everyday Things](#)", Revised and Expanded Edition, Basic Books.

References:

- JythonMusic [GUI library](#) for quick functional prototyping (and usability testing).

Additional reading materials will be provided via handouts and the class website.

Learning Outcomes:

- To understand how HCI relates to other aspects of software engineering
- To understand basic human and machine factors that influence the development of interactive computing systems
- To gain basic skills and knowledge for user interface design
- To acquire skills in integrating HCI into the system development life-cycle (analysis, design, implementation, evaluation)
- To develop an appreciation for user-centered design
- To learn at least one development methodology and one toolkit for prototyping/implementing user interfaces
- To gain awareness of other tools and methods available
- To develop at least one user interface
- To gain additional experience with team work and collaborative development efforts

Grading:

To receive a passing grade for the course, you must average a passing grade on each of the following: assignments, tests, and final exam.

Scale: A: 90-100; B+: 85-89; B: 80-84; C+: 75-79; C: 70-74; D+: 65-69; D: 60-64; F: 0-59.

Final Grade Computation: Assignments (4-6) 30%, Tests (2) 35%, Comprehensive Final Exam **or** Final Project 15%, and Class Participation 20%.

Test Policies:

- Attendance at tests is mandatory. You must complete tests with no discussion or sharing of information with other students.
- Calculators, computers, cell phones, etc. may not be used during a test, unless otherwise directed.

Classroom Policies:

- You are expected to attend all classes, and be in class on-time. **If you accumulate 4 or more absences, you may be given a 'WA' grade.**
 - If you miss class, you must fill out Absence Memo Request Form from the Absence Memo Office.
 - If you miss class, you are responsible for announcements made in class, assignment due dates, etc.
- You are expected to take good notes during lecture.
- You should **turn off all electronic devices** (e.g., cell phones, etc.).
- Use a regular notebook (pen and paper) for note-taking. Studies show that taking notes in longhand (as opposed to laptop, etc.) results in higher grades. Studies also show that use of computers in class invites multi-tasking behavior (e.g., checking email, facebook, instant messaging, etc.). Time spent in such behavior is underestimated by students; also impact of such behavior is underestimated by students - i.e., such students earn lower grades; this also affects other students who have direct view of students using laptops - they also earn lower grades. Therefore, **computers are not allowed for note taking**. You must use computers only as directed in class. Outside of class, you may use computers as you wish. Also, note-taking may involve drawing and other diagrams, which cannot be captured well by computer - only by longhand. So, use a regular notebook (pen and paper) for note-taking.

Here is the relevant research (**read the first two articles**):

- Cindi May, "Students are Better Off without a Laptop in the Classroom", Scientific American, Jul. 2017.
- Cindi May, "A Learning Secret: Don't Take Notes with a Laptop", Scientific American, Jun. 2014.
- Pam A. Mueller and Daniel M. Oppenheimer, "The Pen Is Mightier Than the Keyboard: Advantages of Longhand Over Laptop Note Taking", Psychological Science, vol. 25(6), pp. 1159-1168, 2014.
- Susan Payne Carter, Kyle Greenberg, Michael Walker, "The Impact of Computer Usage on Academic Performance: Evidence from a Randomized Trial at the United States Military Academy", SEII Discussion Paper #2016.02, May 2016.
- Susan M. Ravizza, Mitchell G. Uitvlugt, Kimberly M. Fenn, "Logged In and Zoned Out", Psychological Science, vol. 28(2), pp. 171-180, Dec. 2016.
- Gloria Mark, Shamsi T. Iqbal, Mary Czerwinski, and Paul Johns, "Bored Mondays and Focused Afternoons: The Rhythm of Attention and Online Activity in the Workplace", Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '14), ACM, New York, NY, USA, pp. 3025–3034, 2014.

- Dennis E. Clayson, Debra A. Haley, "An Introduction to Multitasking and Texting - Prevalence and Impact on Grades and GPA", Journal of Marketing Education, vol. 35(1), pp. 26-40, Dec. 2012.
- James M. Kraushaar and David Novak, "Examining the Effects of Student Multitasking with Laptops during the Lecture", Journal of Information Systems Education, Vol. 21(2), pp. 241-251, Jul. 2010.
- Tracii Ryan, Andrea Chester, John Reece, and Sophia Xenos, "The uses and abuses of Facebook: A review of Facebook addiction", Journal of Behavioral Addictions, vol. 3(3), pp. 133-148, 2014.
- Faria Sana, Tina Weston, Nicholas J. Cepeda, "Laptop multitasking hinders classroom learning for both users and nearby peers", Computers & Education, vol. 62, pp. 24-31, Mar. 2013.
- You are expected to participate in class with questions and invited discussion.
- You are expected to do your own work during class activities, exercises, and assignments.
- Any student who feels he or she may need an accommodation based on the impact of a disability should contact me individually to discuss your specific needs. Also, please contact the Center for Disability Services for additional help.
- In summary, you should contribute positively to the classroom learning experience, and respect your classmates right to learn (see College of Charleston Student Handbook, section on *Classroom Code of Conduct* (p. 58)).

Assignment Policies:

- Assignment grades will be based on creative inspiration, design, style, and correctness of result.
- Assignments may NOT be submitted via email.
- Submission instructions will be provided for each assignment.

Honor Code:

- **You must do your assignments alone** (or with your teammates, for group assignments).
- You are not allowed to discuss assignments and possible solutions with any person other than the instructor (or with your teammates, for group assignments). Any violation of these rules is an honor offense.
- On assignments you will be asked to identify the person(s) you received help from, if any.
- Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the [Student Handbook](#).

Late Policy:

- You have **four "late" days** for the whole semester. You may use these days as you wish for assignment submission. If you use them up, no late assignments will be accepted.
- **If you submit everything on time** (i.e., use no late days), you will earn an additional **2.5 bonus points** on your course grade.

Test Dates

- **Test 1:** Friday, Oct 12, 2018
- **Test 2:** Monday, Dec 3, 2018
- **Final:**
 - Section 1: 8:00 – 11:00, Wednesday, Dec 12, 2018
 - Section 2: 12:00pm - 3:00pm, Friday, Dec 7, 2018

Special thanks to Bill Manaris who shared all of his teaching materials; including this syllabus!