

Computer Science 350

Human Computer Interaction

Instructor: Dr. Stephen Hughes
Office: Trexler 365-C
e-mail: hughes@roanoke.edu
Phone: 375-4901
Office Hours: Mon: 2:30 – 4:30
Tue: 10:00 – 11:00
Wed: 3:30 – 4:30
Appointment or Open Door

COURSE OBJECTIVES

To be truly successful in Computer Science, practitioners must have a good understanding of not only the core technology, but also its users and how they interact with the technology. Human computer interaction (HCI) is a discipline concerned with the design, evaluation and implementation of interactive computing systems. This course seeks to impress on students the importance of understanding human constraints and how these human factors can drive the success or failure of technological solutions.

The goal of this course is to lay the foundations for the design of interactive systems by exploring several key aspects of HCI. Topics include human cognition and ergonomics, principles of design and evaluation methodology, and emerging interface technology.

COURSE CONTENT

Text

Human-Computer Interaction 3rd Edition by Dix, Finlay, Abowd and Beale
The Design of Everyday Things by Donald Norman

Grading

25% Assignments – There will be several practice-based assignments that will be given over the course of the semester. These will often involve either a minor programming task or a brief written composition.

10% Design Journal – You will keep a design journal in which you record observations about several distinct objects or devices that have design flaws. After observing how various people interact with the device, you should provide a formal characterization of the design flaws and suggestions as to how a redesign could remedy the problems.

30% Research Paper – You will prepare a significant research paper on an emerging topic in Human Computer Interaction. This will require that you read and synthesize current journal articles into a coherent written and oral presentation of your chosen topic.

30% Final Project – You will work in groups to experience the entire design process on a complete software project. This will require your group to identify a user need and perform a task analysis, design a prototype, evaluate and revise the prototype and present the final design to the class during the final exam period.

5% MCSP Conversations – The Math, Computer Science and Physics department offers a series of discussions that appeal to a broad range of interests related to these fields of study. These co-curricular sessions will engage the community to think about ongoing research, novel applications and other issues that face our discipline. Members of this class are invited to be involved with all of these meetings; however, participation in at least **two** of these sessions is mandatory. For each of the required sessions, students will submit a one-page paper reflecting on the discussion within one week. This should *not* simply be a regurgitation of the content, but rather a personal contemplation of the experience.

Participation – Oral communication is a vital skill for interface designers. One must be in constant communication with the user base to ensure that needs are being met and that design decisions are acceptable. You will regularly be asked to explain your designs to the class, solicit feedback and accept criticism.

	$87 \leq B+ < 90$	$77 \leq C+ < 80$	$67 \leq D+ < 70$	
$93 \leq A$	$83 \leq B < 87$	$73 \leq C < 77$	$63 \leq D < 67$	F < 60
$90 \leq A- < 93$	$80 \leq B- < 83$	$70 \leq C- < 73$	$60 \leq D- < 63$	

COURSE POLICIES

Academic Integrity

Honesty and integrity are qualities we respect in ourselves and in others. Therefore, you are expected to be fully aware of your responsibility to maintain the highest degree of integrity in all of your work. It is accepted that you have read and understood the standards for academic integrity at Roanoke College.

Collaboration on course assignments is strictly forbidden unless explicitly stated on the assignment sheet. By submitting work under your name, you are indicating that **you** have completed the assignment. This means that you should be able to completely explain all the details of your work, i.e. every line of code in computer programs. Failure to be able to account for your decisions (to my satisfaction) will result in referral to the Academic Integrity Council.

All students must abide by the Guidelines for Computer Use as stated on page 15 of the Academic Integrity Handbook. Failure to do so will result in involuntary withdrawal from the course

Late Assignments

I understand that circumstances conspire against us all, and occasionally, deadlines cannot be met. If you need to hand in an assignment late, you must contact me via e-mail 24 hours in advance of the due date to *negotiate* a new submission date. Any late submission without prior approval will be penalized 10% per day. Electronic “glitches” do not waive your responsibility to submit your work in a timely manner.

Office Hours

Office hours are an opportunity for you to clarify details you may have missed in class. If you come to office hours with a problem on the assignment, you should come prepared to answer questions, as well as ask them. Additionally, you need to make sure that you have access to an electronic version of your work.

Electronic Devices

Cell phones and pagers must be *turned off* prior to entering the classroom or lab.

End of Course

This course officially ends with the scheduled Final Exam period. No work for this class will be accepted beyond that point.