

Computer Science 101
Introduction to Computers
1:10-2:10 MWF, Trex 364, Fall 2007

Instructor: Dr. Stephen Hughes
Office Trexler 365-C
e-mail: hughes@roanoke.edu
Phone 375-4901
Office Hours: M 2:30-4:30, W 2:30-3:30
Th 10:00-11:00 Also by appointment or open door

COURSE OBJECTIVES

This course is an introduction to the essential concepts of computer science. Students will explore some of the fundamental ideas (information representation, algorithms and logic) that power this discipline and gain insight to how these basic tools of the mind gave rise to a machine that continues to alter the human experience. Hands-on experience with personal computers will increase students' ability (and comfort) with using the computer as a problem solving tool. Areas of focus will include computer system infrastructure, the Internet and elementary programming in JavaScript.

Students who are considering a major in Computer Science or Computer Information Systems should take CPSC 120 instead of this course. Students who have received credit for CPSC 120 or higher will not receive credit for this course.

COURSE CONTENT

The study of Computer Science has strong roots in Mathematics. This course will challenge students to improve their ability to think logically and design algorithms to solve problems. This course is *not* designed to instruct students how to use the latest computer applications (i.e. the Microsoft Office Suite).

Text:

Computer Science Illuminated, 3rd edition. Nell Dale & John Lewis

Assignments

There will be several assignments that allow you apply the topics covered in class. Often, assignments will have an in-class component, which will get you started on a particular topic, and an outside section that invites you to explore the material at greater depth. Unless otherwise stated, all submissions are to be typed and submitted **both** electronically and on paper.

Quizzes & Exams

Short quizzes will be given regularly to assess your progress in the course. These are designed to ensure that you are keeping up with the class and to give you a sense of the level of mastery that is expected. Quizzes will generally be given at the beginning of Friday's class, however you should be prepared for each class. No make-up quizzes will be offered. The lowest quiz score will be dropped from your final grade.

There will be 4 exams – 3 mid-terms and a comprehensive final exam

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. A list of these conversations will be maintained on the course blackboard page.

Members of this class are invited to be involved with all of these meetings; however, participation in at least one of these sessions is mandatory. For the required session, 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.

Grading

25%	Assignments	42%	Mid-Terms (14% each)
10%	Quizzes	20%	Final Exam
3%	MCSP Conversation		

	B+ 87-90	C+ 77-80	D+ 67-70	Below 60
A 93-100	B 83-87	C 73-77	D 63-67	F
A- 90-93	B- 80-83	C- 70-73	D- 60-63	

Schedule

The following is a tentative outline of the topics that we will cover.

Topics	Textbook Reference
The Big Picture	csi: 1.1 - 1.3
Binary Values & Number Systems	csi: 2
Text Representation Intro HTML	csi: 3.3 csi: 16.2
Multimedia Representation	csi: 3.4-3.6
Logic and Gates	Supplement, csi: 4.1-4.4
Stored Program Concept Computer Parts Operating Systems	csi: 5.2, 5.1
Networking HTTP	csi: 15
Algorithms, Problem Solving Programming Languages	csi: 6.1 csi: 7.5, 8.1
JavaScript Basics & Data Storage	handouts
JavaScript Conditionals	handouts
JavaScript Loops	handouts
Security	csi: 12.4, 14.5
Limits of Computing	csi: 17

Exam Dates: Exam #1	Monday, September 24
Exam #2	Monday, October 29
Exam #3	Monday, November 19
Final Exam	Wednesday, December 12 (2:00 pm)

COURSE POLICIES

Academic Integrity

Honesty and integrity are qualities we value 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.

The Guidelines for Computer Use as stated on page 15 of the Academic Integrity Handbook are particularly relevant to this course. In the electronic age, source code is often available on the Internet or through CD-ROMs that supplement textbooks. If you use code from any other source, you are required to cite the source by adding comments to the top of your files. At no time should there be an electronic transfer of class-related code between students.

You should also be aware that much of your work will be done in a public computer lab. You are responsible for keeping your work confidential. This includes logging out of your account when you are finished working on a terminal and making sure that print-outs of your code are not left behind.

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.

Attendance Policy

Class attendance is vital to your success in this course; material covered during missed sessions is the responsibility of the student. Conversations held in class illuminate the published class materials and are subject to evaluation on subsequent tests and quizzes. Moreover, quizzes and in-class assignments are not available for make-up.

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 asking 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.

The use of any electronic device during a quiz or exam is strictly prohibited. This includes PalmPilots, Pocket PCs, and Blackberrys. Any use of such device during a quiz or exam will be considered a breach of academic integrity. Basic handheld calculators may be used on certain quizzes and exams only when announced by the instructor.

Special Services

If you are on record with the College's Special Services as having special academic or physical needs requiring accommodations, please meet with me during my regular office hours or schedule an appointment as soon as possible. We need to discuss any accommodations before they can be implemented. Also, please note that you must make arrangements for extended time on exams and testing in a semi-private setting at least one week before *every* exam.