Computer Science 120
Fundamentals of Computer Science I
10:50 – 11:50 MWF, Trex 363, Fall 2007
2:50 – 5:50 TH Trex 263

Instructor:	Dr. Stephen Hughes
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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 the first in a three course sequence designed to introduce students to the fundamental concepts of computer science including the underlying foundations from discrete mathematics. The course focuses on the design of algorithms to solve problems, the basics of mathematical logic, and the implementation of the algorithms in the programming language Java. Students will learn the basic control structures and data structures provided by the Java language, the concepts of objects, classes and methods, and will gain experience in the use of objects (Java classes) in programming and problem-solving. Students will gain familiarity with the UNIX operating system as they develop programs on systems running Linux, a version of UNIX for personal computers.

COURSE CONTENT

Text
Java Software Solutions: Foundations of Program Design, 5th Edition, by John Lewis and William Loftus, Addison-Wesley, 2006.

Prerequisites
There are no formal prerequisites for this course; however, a strong aptitude for logic usually predicts success in the course. Prior experience with programming or with Linux is **not** necessary.

Lab
This course has a required three-hour lab every Thursday afternoon from 2:50 until 5:50. The purpose of the lab is to give the student a structured experience in software design, implementation, and testing, and to increase the student's ability to use and understand the tools available for software development in the Linux environment. For most labs, there will be a *pre-lab assignment* designed to prepare the student for lab. The assignment must be handed in at the beginning of lab. *Unless otherwise specified, the lab itself must be done during the lab session and turned in before leaving.*

Programming Assignments
Programming assignments are designed to give the student the opportunity to put into practice the problem solving and programming skills they have learned. There will be approximately six

programming assignments during the semester to be handed in for a grade. You are encouraged to start on these immediately when assigned and get help from the instructor as needed.

Important: Programming assignments are to be done ***individually***. You may ask class members, lab assistants, and others for help with system questions (e.g., "How do I save a file in Eclipse?", "How do I run my Java program?") or general information about a topic covered in class (e.g. "What is the symbol for boolean AND?") provided you can do so without divulging or receiving information specific to the solution of the programming assignment. *You may not discuss any aspect of the design or coding of a programming assignment with anyone except me***.** This policy will be strictly enforced; see the section on Academic Integrity below.

Quizzes & Exams

Short quizzes will be given weekly to assess your progress in the course. These are designed to ensure that you are keeping up with the pace of 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 three midterm exams 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 web page.

Members of this class are invited 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.

Grading

The course grade assigned based on the following weights:

30%	Exams	10%	Quizzes
12%	Lab	3%	MCSP Conversation
25%	Assignments	20%	Final Exam

	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	

Test Dates:	Test #1	Monday, September 24
	Test #2	Monday, October 29
	Test #3	Monday, November 19
	Final Exam	Tuesday, December 11 (8:30 am)

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. 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

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.