Computer Science 101B
Introduction to Computers
10:10 – 11:40 TTh, Trex 363, Fall 2006

Instructor: Dr. Anil M. Shende
Office: Trexler 365-B
e-mail: shende@roanoke.edu
Phone: 375-2341
Office Hours: WF 10:00am-11:30am;
TTh 1:00pm-2:00pm.
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 may 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:
Fluency with Information Technology 2nd edition. Lawrence Snyder

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 be unannounced.

There will be 3 comprehensive exams – 2 mid-terms and a final
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 be involved with all of these meetings; however, participation in at least one 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
30% Assignments
10% Quizzes
4% MCSP Conversation
36% Mid-Terms (18% each)
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

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

<table>
<thead>
<tr>
<th>Topic</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminology, Historical Overview</td>
<td></td>
</tr>
<tr>
<td>Information Representation: Bits &amp; Bytes</td>
<td>Chap 8</td>
</tr>
<tr>
<td>Infrastructure Fundamentals</td>
<td>Chap 1</td>
</tr>
<tr>
<td>Information Representation - HTML</td>
<td>Chap 4</td>
</tr>
<tr>
<td>Networking</td>
<td>Chap 3</td>
</tr>
<tr>
<td>Web Usage, Social Implications</td>
<td>Chap 5,</td>
</tr>
<tr>
<td>Intro JavaScript</td>
<td>Chap 18, 19</td>
</tr>
<tr>
<td>Logic, Circuits</td>
<td>Handouts</td>
</tr>
<tr>
<td>JavaScript Conditionals</td>
<td>Chap 18, 20</td>
</tr>
<tr>
<td>Base Conversion &amp; Multimedia</td>
<td>Chap 11</td>
</tr>
<tr>
<td>Representation</td>
<td></td>
</tr>
<tr>
<td>Computer Operation</td>
<td>Chap 9</td>
</tr>
<tr>
<td>JavaScript Loops</td>
<td>Chap 21</td>
</tr>
<tr>
<td>Privacy</td>
<td>Chap 12, 17</td>
</tr>
<tr>
<td>Limits of Computing</td>
<td>Chap 23</td>
</tr>
</tbody>
</table>
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.