CMSC 461: Seminar in Computer Science (3 credits)
Spring 2013

Instructor: Robert Marmorstein, 395-2185, marmorsteinrm@longwood.edu
Lecture: 2:00pm-2:50pm MWF, Ruffner 356
Office Hours: 1:00pm-2:00pm MWF, 3:00pm-4:00pm TR, Ruffner 329 or by appointment
Course Web Site: http://marmorstein.org/~robert/Spring2013/cs461.html

Course Description:
This course is the capstone experience in the computer science major. A segment on assessment will be included.

Corequisite:
Satisfaction of all other requirements for the computer science major or consent of instructor.

Course Objectives:
The student will:

* Prepare for seeking a job by developing a resume and cover letter
* Practice interview techniques
* Review fundamental data structures and algorithms of computer science
* Review elements of C++ programming and discrete mathematics
* Review selected topics from Database Theory, Networking, Systems Programming, and Programming Languages
* Demonstrate computer science proficiency on the MFAT assessment

Textbook:
There will be no required textbook for this course, but students are recommended to obtain a copy of “Programming Interviews Exposed”, by John Mongan, Noah Suojanen, and Eric Giguere, Wrox Books, ISBN: 978-0470121672

Course Requirements:
Your grade in this course will depend largely on your successful completion of written assignments. Homework will count for 50% of your grade. Presentations on course topics will count for 25% of your grade. The remaining 25% will come from successful completion of the MFAT assessment, which will count as a Final Exam for this course.

Grading Policy:
Late work will not be accepted unless you have a medical condition or family emergency which prevents you from completing the assignment on time. However, I allot three slip days at the beginning of the semester which you may use to extend the due date of one or more homework or lab assignments. In the event of a medical or family emergency, you do not need a doctor's note, but you must contact me by e-mail as soon as possible to arrange an extension. In such cases, I may, at my option, extend the due date on the project or grant you additional slip days.

Grading Scale:
Letter grades will be assigned using the following scale. Note that there is no grade of D- in this class.

	A: 91-99	A-: 90
B+: 89	B: 81-88	B-: 80
C+: 79	C: 71-78	C-: 70
D+: 69	D: 64-68	F: Below 64

Attendance:
I expect you to attend class unless you are sick or engaged in a school sponsored sports event or extra-curricular activity. I will rely on your honor to enforce the attendance policy. In accordance with Longwood policy, missing more than 10% of scheduled class time to unexcused absences may result in loss of one letter grade. Missing more than 25% of class (whether excused or unexcused absences) may, at my discretion, result in a failing grade.

Food and Drink:
I prefer that you do not eat in class (it distracts me and the other students). You may bring water or other non-alcoholic beverages to class. I occasionally make exceptions to this rule for students who would otherwise miss a meal or who have medical needs. If you feel that you need such an exception, you MUST make arrangements with me before you bring food to class. Violations of this policy will be considered an unexcused absence.

Cell Phones and Laptops:
Cell phones and laptops must be turned off and put away during lecture, unless I have specifically requested, usually by e-mail, that you bring them to class (e.g. for a lab day). Violations of this policy will be considered an unexcused absence.

Honor Code:
I take the honor code seriously in my classes. Students suspected of an honor code violation will be taken before the honor board. A student convicted of an honor offense will receive an F in the course in addition to any penalties imposed by the honor council.

All work in this class should be considered pledged, whether or not you have written the pledge on it. Tests and quizzes must be completed entirely on your own and will be taken closed-book and closed-notes. You *may* discuss homework problems and laboratory projects with other students subject to the following restrictions:

1. You must acknowledge any help you receive, including any discussion of the homework problems, by leaving a short note at the top of the assignment, or in the case of a project, placing appropriate comments in the code.

2. Your submitted work must consist entirely of *your own answers in your own words* which you have typed or written yourself. You may discuss assignments verbally with other students, but do not share code or answers electronically.

3. Do not simply copy answers from other students. You can discuss the general approach to an assignment and you can help other students find syntax errors in their code, but any block of code longer than three lines should be entirely your own work.

4. Use the Internet only as a general reference. If you find a web page which outlines the general algorithm or proof you need, you may use it as long as you cite it appropriately (make sure to give at least the complete URL) and don't simply copy and paste code off the web site. The three-line rule is a good guideline here, too.

Tentative Course Schedule:

Week 1: January 14-18	Introduction, Job Searching
January 21	**Martin Luther King Day (NO CLASS)**
January 22	**Last day of Add/Drop (by 5pm)**
Week 2: January 23-25	Resumes and Applying for a Job
Week 3: January 28-February 1	Big-O, Searching, and Sorting
Week 4: February 4-8	Linked Lists, Cover Letters, Trees and Graphs
Week 5: February 11-13	Arrays and Strings, Interviews
Feb. 12	**CAREER FAIR TRAINING CAMP**(Lankford, 3:30pm)
Feb. 14	**Career Advising at the Ruffner Stairs** (1:30-3pm)
February 18	**Pass/Fail Deadline**
	Java and Jobs(5:30-7 Bookstore, 6:30-8 Java City)
Week 6: February 18-20	Recursion
February 19	**Spring Job/Internship Fair**(Blackwell, 12:00pm)
February 22	**Student Alumni Networking Event**(Lankford, 1pm)
Week 7: February 25-27	Parallelism, Semaphores, and Concurrency
March 4-8	**SPRING BREAK : NO CLASS**
March 13	**Deadline to Withdraw (by 5pm)**
Week 8: March 11-13	Object-Oriented Programming
Week 9: March 18-20	Databases
Week 10: March 25-27	Networks
Week 11: April 1-3	Binary Arithmetic and Computer Organization
Week 12: April 8-10	Graphics, Geometry, and Discrete Mathematics
April. 10	**Career Advising at the Ruffner Stairs** (1:30-3pm)
Week 13: April 15-17	Brain Teasers
Week 14: April 22-24	MFAT Practice
Final Exam: April 30	**MFAT Exam (8:00am - 10:30am) Tuesday**