COP 3502 Computer Science I – Spring 2016 Syllabus

Course Prerequisites: COP 3223 (Introduction to C Programming)
Class Time: TR 3:00 - 4:15 pm
Class Location: CB2-106
Course Web Page: http://www.cs.ucf.edu/courses/cop3502/spr2016

Lecturer: Arup Guha
Office: HEC – 240 **Email:** dmarino@cs.ucf.edu
Phone Number: 407-823-1062
Office Hours: MWR 10 am - 11 am, TR 1:30 - 2:30 pm (note these may be changed if I need to schedule other meetings during the semester. The changes will be on my web page.)

Teaching Assistant	Knights Email
Vildan Atalay	vatalay
Fatemeh Elyasi	elyasi.f
Sandesh Sharma	tsandesh23
Melissa Holguin	mellorine
Ruben Vasquez	vazquezr
Neela Balkaran	pbalkaran

I do NOT check my WebCourses email. Please email me at dmarino@cs.ucf.edu to contact me.

TA Office Hours and Location: Will be posted on the course web page by January 19th, 2016. (Note: Also at least one other teaching assistants will be added to the course. This information will be available on the course website.)

Course Objectives

1) Introduce known algorithms and general problem solving techniques.
2) Provide software skills in C.
3) Introduce elementary data structures.
4) Introduce searching and sorting techniques.

Reference Books: Any book on data structures will do for this course. The following book is available in the bookstore: Data structures, algorithms & software principles in C, Thomas B. Standish, Addison – Wesley (ISBN – 0-201-59118-9)

***Tentative* Grading Procedures**

The final letter grade will be based upon the five items listed below**. Plus/minus grades will be issued, when deemed appropriate.**

Item	Weight
Birthday Activity or 1st Day Lab Attendance	1%
Quiz	10%
Recitation Programs	4% each (2 will be graded for each student)
Recitation Attendance	6%
Exam #1	10%
Exam #2	15%
Final Exam	25%
Homework Assignments	(25% total - 2%, 3%, 3%, 4%, 4%, 4%, 5%)

In addition to this grading breakdown, in order to pass the course with a C or higher, you must earn a 40% or higher on the final exam. Details of the Sparta exercises will be discussed in class. (Thus, if you have a 75% in the course but earn a 30% on the final, you still get a C- in the course even though your percentage may qualify for a B.) Rather than use a "strict" 90 – 100 grading scale, I adjust my grade lines to account for difficult exams. My webpage discusses this process in detail: http://www.cs.ucf.edu/~dmarino/ucf/transparency/.

Note: This grading breakdown is subject to change. Any changes will be discussed in class. (Note: Changes may not be posted online, so it's important to attend class.) In the past I made changes to the class syllabus based on class behavior. For example, in past classes where I ascertained that too many students were skipping class, I would make class attendance part of the grade, but only announce this in class. Examples of other changes I have made to syllabi include: extra pop quizzes and required group work. I reserve the right to make any of these changes or any other changes if I feel that the class will benefit from. In classes where I've had a vast majority of responsible students, I have not needed to make any changes to the class grading system.

Recitation Programs

On designated weeks you will be asked to bring a laptop to recitation. On these weeks you will pair up with someone to discuss possible ways to attack the problem, but then code the solution separately. For the 50 minutes in lab, everyone must be engaged working on the problem. Each individual must submit one lab program out of the first four and one lab program out of the last four given via WebCourses by the deadline. Each will count towards 4% of the course grade. Please do **NOT** submit more than one out of the first four or last four lab programs, submit **EXACTLY** one of each set. If you submit more than one, only the first one you submit will be graded and the others will be ignored as if they weren't submitted.

Recitation Attendance

Since attendance strongly correlates with success in this course, recitation attendance will count for 6% of the course grade. You will be allowed to miss two days without penalty to your grade. If you have work/family/medical issues that prevent you from attending recitation, please contact me and I'll attempt to make an alternate arrangement for the attendance grade. Please attempt to contact me as soon as possible and not after the fact. On days that you don't have a recitation program, you will either review for an exam or cover other common material for the course.

Programming Assignments

All programming assignments will be turned in over WebCourses. All programs must be done in C. Programs must be done individually. **Collaboration is not allowed on any homework assignment.** Specifically, you can't look at or copy 3 or more lines of code from another student or website, or view a copy of another solution to the problem or a very similar problem, or post the assignment as a job on any website. **When in doubt, come see the TAs or me for help!!!**

You will be allowed to turn in an assignment up to 24 hours late for partial credit. In particular, for all assignments turned in late, but within 24 hours of the due date&time, the grade recorded will be the actual grade earned times .85, rounded to the nearest percent.

THE ONLY VALID DUE DATES ARE THOSE POSTED ON WEBCOURSES.

My personal advice is to submit all assignments **AT LEAST THREE HOURS BEFORE THE POSTED DEADLINE**. Too often, students wait till the last minute only to miss the deadline due to network issues. In these cases, I will definitively assess the .85 multiplying factor to the final grade. **IN CASES WHERE A SUBMISSION IS MORE THAN 24 HOURS LATE (EVEN BY A SECOND), A GRADE OF 0 WILL BE GIVEN TO THE SUBMISSION.**

Community Service Opportunity

In lieu of the last assignment (program 7), you may perform 5 hours (or more) of community service with a ***registered 501(c)(3) organization.*** If you take this option, then you will automatically get a 100 for program 7. In order to get this credit, you must complete the community service and turn in the requisite form signed by **April 7, 2016, in class.**

There are no exceptions to this rule. If you do your community service and submit the form to me after class, on 4/7/16, then no credit will be given and you'll have to do program #7. This happened to two students the last time I taught this class. This is why I am warning you....You may submit the form early in the semester and I encourage you to do so. All grades for the community service will be posted under the column P7 a week before P7 is due.

Quiz and Sparta

We have received extra funding from the state in an effort to improve retention in this course. The funding has been used on extra TA support. To this end, we will give a quiz in class at the beginning of the third week in an effort to identify struggling students. No aids will be allowed for the quiz. Students who score below an 80% on this quiz will have to write programs to submit on an automatic grading system called Sparta. All students who correctly complete the Sparta exercises will improve their quiz grade to an 80%. All students who do not get an 80% or higher on Exam #1 will be required to do a different set of Sparta exercises. Completing these correctly will raise students' Exam 1 grade to an 80%. (If only some are completed correctly, a student's grade will be increased proportionally. For example, if a student got a 60% on Exam 1 and completed 4 out of 5 Sparta exercises correctly, they have a total of 20% that could be added to their grade, so 20%/5 = 4% added per correct response and their Exam 1 grade would be improved to a 60% + 4 x 4% = 76%.)

Exams

Students will be allowed one page of notes for the first two exams and three pages of notes for the final exam. However, calculators will NOT be allowed for any of the exams.

Alternate Dates for Homework/Exams

If a student is unable to complete an assignment on time or take an exam on time due to a serious family, medical or work situation, he or she must contact the instructor **BEFORE** the due date and ask for an extension. Extensions will be granted in situations the instructor deems reasonable. If an emergency occurs that prevents contacting the instructor before the due date, then the student should contact the instructor as soon as possible and reasonable accommodations will be made.

Tentative **Schedule and Assignments**

Week	Lab(All Days)	Tuesday	Thursday	Programs
Jan 11	Testing programs	intro, array problem	malloc	
Jan 19	LP1 - Prime Sum	calloc, realloc examples	binary search, base conversion	**P#1 DUE**
Jan 25	LP2 - Genetics	Mathematical Tools, **Quiz**	Big-Oh, Use of sums	
Feb 1	LP3 - Game of Gold	Recursion	Recursion, Rec. Rel.	**P#2 DUE**
Feb 8	Exam #1 Review	Recursion	n^2 sorts, Merge Sort	
Feb 15	LP4 - Vacation	Quick Sort, Quick Select	**Exam #1**	**P#3 DUE**
Feb 22	Debugging Tutorial	Linked Lists	Linked List Variants	
Feb 29	LP5 - Birthday	Linked Lists	Linked List Variants	**P#4 DUE**
	SPRING	**BREAK**		
Mar 14	LP6 - Duck	Stacks	Queues	
Mar 21	intro to GitHub	Bin Trees	Bin Trees	**P#5 DUE**
Mar 28	Exam Review	AVL Trees	Tries	
Apr 4	LP 7 - AVLTreeHeist	Binary Search Applications	**Exam #2**	**P#6 DUE**
Apr 11	Final Exam Review	Heaps	Hash Tables	
Apr 18	LP 8 - AddAll	**COMSERV**	Bitwise Operators	**P#7 DUE**
Apr 25	No lab	Final Exam Review	**FINAL EXAM 1 - 4 PM**	

This schedule is tentative. The only items guaranteed to be on the listed dates are the quiz and three exams. All other items may be shifted based on how the class actually runs. These details will generally only be discussed in class verbally.

Note: All program and recitation program due date/times will ONLY be posted on Webcourses. Please go there to find when each of these assignments is due.