COP 3502C Section 1
Computer Science I - Fall 2025 Syllabus

Course Prerequisites: COP 3223 (Introduction to C Programming)

Class Time	MWF 9:30 am - 10:20 am
Class Location	CB1-104

Course Web Page: http://www.cs.ucf.edu/courses/cop3502/fall2025

Lecturer: Arup Guha
Office: HEC-240
Email: dmarino@ucf.edu
Office Hours: **Will Be Posted on the Course Web Page the first week of class.**

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

Teaching Assistant Contact Information and Office Hour Information:

Will Be Posted on the Course Web Page the first week of class.

Course Objectives

1. **Introduce known algorithms.**
2. **Provide software skills in C.**
3. **Introduce mathematical tools necessary to analyze algorithms.**
4. **Introduce the problem-solving technique of recursion.**
5. **Introduce implementing data structures from primitive constructs in C.**
6. **Introduce search and sorting techniques.**

Reference Books: Any book on data structures will do for this course. There are a detailed set of course notes and sample programs that should be sufficient in explaining the material to most students.

Most Critical Course Items

1. **COP 3502 is a very challenging class.** The average student should expect to spend 12 hours a week on the course. The upside to the course being challenging is that if you can get through this course with mastery of the skills taught in it, you are virtually guaranteed to graduate with a computer science (CS) degree from UCF, since mastering the course material will give you all the necessary skills in terms of diligence and problem solving that you'll need to properly handle future CS courses. (If you are in another major, mastering the skills in this course will allow you to handle most future coding challenges you may face.) You don't earn those skills for free. You earn them by putting in a great deal of effort. Make sure to plan a schedule that allows for this time consistently.

2. I strongly recommend that students write/edit three practice programs that are ungraded a week to make sure they understand concepts covered in lecture.

3. All of my course materials content wise (notes, sample programs, program and exam solutions, etc.) will be posted online via my course web page at:

http://www.cs.ucf.edu/courses/cop3502/fall2025

At a minimum students should visit the course web page three times every week for added materials.

4. Webcourses will be used to handle the submission of assignments and posting grades. Webcourses will contain class announcements, so it would be best to visit Webcourses three times a week as well.

Tentative Grading Procedures

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

Item	Weight
Week 1 Programming Assignment	1%
Individual Programming Assignments (6)	24% total (4% for each)
Recitation Programs (choose 2 of 4)	6% total (3% for each of these two)
Recitation Group Reports	5%
Recitation Attendance	9%
Quiz	10%
Midterm Exam	20%
Final Exam*	25%

***Also, in order to pass the class you must earn at least a 40% on the final exam. I reserve the right to either enforce or not enforce this clause, based on the individual situation.**

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. One note: This semester the exams will be common exams, and I suspect that they'll be a bit easier than the exams that I have written in the past. To this end, it's possible that the grade lines this semester will be higher than my recent historical precedent. I won't be able to see if I'll have to make adjustments until after we do the midterm exam. At that point I'll give all students an estimate of what the grade lines would be if the class ended at that point in time.

Note: This grading breakdown is subject to change. Any changes will be discussed in class and Webcourses announcements. As previously mentioned, in the past I made changes to the class syllabus based on class behavior. In some classes I changed the syllabus to include class attendance in the middle of the semester. 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.

Programming Assignments (Week 1 Assignment and Individual Assignments)

All programming assignments will be turned in over WebCourses. All programs must be done in C and **must be compatible** with the compiler on the Eustis system you will be given access to. Programs must be done individually with course staff help only. **Collaboration is not allowed on any programming assignment**. (A further explanation of academic misconduct on programming assignments is provided below.) **Official assignment due dates will be posted on WebCourses.** (Please look these up yourself instead of asking a friend.)

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 CASES WHERE A SUBMISSION IS LATE (EVEN BY A SECOND), A GRADE OF ZERO WILL BE GIVEN TO THE SUBMISSION.**

Regarding resource usage,

- You **MAY** use any resources provided through webcourses along with any notes you or I make in class.
- You **MAY** use any resources provided through the SI or SARC leader, or office hours (either my own or my TA's).
- You **MAY NOT** use any code provided to you outside the above sources.
- **DO NOT** use another student's code.
- **DO NOT** even look at your friend's code.
- You **MAY** however discuss a solution idea at a high level with another student (e.g. "I sorted the values using a merge sort and then found the index of value x."). If you feel uncomfortable about sharing information, you can ask me through email or in person.
- **DO NOT** use code from third party resource, including generative AI (online or offline).

If you are caught using unauthorized resources, I will award you a -100% on the assignment for the first offense and a -200% on the second, doubling each time. Note this does not mean a 100% turns into 0%; you will receive a -100%. Anyone that knowingly assists someone in using unauthorized resources or cheating will also earn a -100% on the assignment.

Community Service Opportunity

If you would like to get automatic full credit for Program 6, you can do 5 hours of community service with a registered 501(c)(3) organization **BY November 2, 2025**, and turn in the required signed form and activity summary (more details on the course web page) by the **9:30 am on November 3, 2025, in my hand.** Note, you will only get full credit if I receive the signed form and write up by 9:30 am on that day. If I receive it at 9:40 am on November 3rd, then you'll have to turn in Program 6. Every semester, a couple students are just a couple minutes late and I don't count their forms. **Please do the community service early and submit the forms to me way in advance, so that this doesn't happen to you.**

Recitation - Programs and Group Write Ups

Each recitation meeting will consist of one of the following formats:

(a) You'll be asked to work on a programming problem from the website open.kattis.com.

(b) You'll be asked to work on some practice problems (similar to past exam questions) on paper.

(c) Quiz/Exam Review – Format upto TA

(a) On four weeks of recitation, a programming problem will be given. Each of these is on the website open.kattis.com, but students may be required to turn in more than their source code. Directions will be given in recitation. (In addition, further restrictions may be given on the method of solution and the efficiency of the solution beyond getting an accepted status on Kattis.) Students are expected to submit two out of four of these via Webcourses for credit. (The lowest two grades will be dropped.)

(b) On most of the other weeks of recitation, practice problems (posted online) will be given for students to work on. After quiz #1, I will put the students into groups (making sure each group has at least one student who did well on the first quiz). From that point on, you should always work on the practice problems in recitation with these groups. These groups will be entered into Webcourses and encouraged to study together outside of recitation. **To that end, each group will be required to submit notes about the details of their group meetings, both in and out of recitation.** Five percent of the course grade will be based on the summaries of these meetings. Each group will be required to submit two sets of summaries. Further details of this summaries and what notes should be taken during each meeting will be given in lecture.

(d) For each quiz/exam review, I allow the TAs to plan a review for their students as they see fit!

Quiz/Midterm Exam/Final Exam

One quiz will be given in class on September 3rd. Both exams will be given on Saturdays concurrently with all four sections of the course. This is the first semester we are running common exams between all four sections. I expect there to be some kinks, but hopefully this will provide greater consistency between sections of the course.

MIDTERM EXAM DATE/TIME: Saturday October 11, 2025 10 am – 12:20 pm (Location is TBA and will be discussed in class and posted on Webcourses)

FINAL EXAM DATE/TIME: Saturday, December 6, 2025 1 pm – 3:50 pm (Location is TBA and will be discussed in class and posted on Webcourses)

Limited aids may be provided by the instructor (list of C library functions and formulas) for these as necessary. **No calculators or electronic aids will be allowed for the quiz or exams.**

A scale will be given in a Webcourses announcement detailing how the recitation attendance grade will be calculated. Attending all recitations will ensure full credit (9% of the course grade).

Correcting Incorrectly Posted Grades/ Regrades

Students have one week after a grade is posted on WebCourses to ask for a regrade on an assignment or quiz. Due to the short time frame, there are no regrades on the final exam. **ONLY the course instructor can regrade assignments, quizzes or exams. Do NOT ask teaching assistants to do so.**

If a grade is entered incorrectly, students have until December 4, 2025 at 5 pm, to request that the grade get fixed. In this case, either a teaching assistant or course instructor can make the change.

The purpose of this rule is to avoid situations where students approach me after grades have been turned in with incorrectly recorded grades from a long time ago. Changing these grades is difficult and time consuming and it's in everyone's best interests if grades are corrected as soon as possible.

In addition, in many cases, students try to do this after the fact, if they see they are close to the next letter grade after the class is completed. This kind of behavior should be discouraged. Rather, regrade requests ought to occur very shortly after a grade is posted.

I am hoping that adding this policy will ***encourage*** students to step forward immediately in situations where a grade is recorded incorrectly or a student genuinely believes that a grading error has occurred. Taking care of these cases early is ideal for all students AND staff.

Keep in mind that in many instances, a grade won't be changed simply because of the grading criteria that was applied. One may think that a particular response is worth some number of points and that may not be consistent with the grading criteria. In these cases (many of the cases presented to me), I don't change a student's grade.

AI Tool Policy (Please read it carefully)

Your first resource for solving problems should always be the class notes, in-class examples, and lecture materials. The primary purpose of assignments in this course is to encourage you to revisit and dig into these resources, applying the concepts to solve problems on your own.

AI tools (such as ChatGPT, GitHub Copilot, or similar) may be used for general learning purposes—for example, to explore concepts, review examples, or clarify doubts. However, they are strictly prohibited for completing any part of assignments, projects, or exams. **My initial data indicates that AI is WORSE for learning than previous methods. This is contrary to what students think, which I believe is dangerous.**

Following this rule is essential for your learning because assignments are designed to give you hands-on practice, strengthen your problem-solving skills, and build a deep understanding of C programming and data structures. If you skip this process by relying on AI-generated answers, you will miss the opportunity to develop the skills needed to succeed in this and future courses, as well as in your career. **Using AI to produce solutions for any part of an assignment or project will be considered academic misconduct and will be handled according to cheating policy.**

Tentative Schedule – Section 1

Week	Monday	Wednesday	Friday	Sat	Recitation
Aug 18-22	Intro	DMA	DMA		**CANCELED**
Aug 25-29	DMA	Recursion	Recursion/Base Conv		Quiz Review
Sept 2-5	**LABOR DAY**	**QUIZ**	Recursion		Kattis Program #1
Sept 8-12	Recursion	Recursion	Linked Lists		Rec Problems
Sept 15-19	Linked Lists	Linked Lists	Stacks		LL Problems
Sept 22-26	Stacks/Queues	Queues	SLMP + Binary Search		Kattis Program #2
Sept 29-Oct 3	Big-Oh Notation	Exp. Run Time	Sums, Loop Code Analysis		Alg. Analysis Probs
Oct 6-10	Recurrences	Recurrences	Alg Analysis Probs	**EXAM**	Midterm Review
Oct 13-17	n^2 sorts	Merge Sort	Quick Sort		Sorting Traces
Oct 20-24	Binary Trees	Binary Trees	Binary Trees		Kattis Program #3
Oct 27-31	AVL Trees	AVL Trees	Heaps		AVL/Heap Probs
Nov 3-7	Tries	Tries	Hash Tables		Tries/Hash Table Probs
Nov 10-14	Bitwise Ops	Bitwise Ops	Backtracking		Kattis Program #4
Nov 17-21	FE Info Day	Binary Search	Binary Search		Final Exam Review
Nov 24-25	Final Exam Review	**T-GIVING**	**T-GIVING**		**NO LAB**
Dec 1-5				**EXAM**	

Tentative Programming Assignment Topics and Due Dates:

Program	Topic	Tentative Due Date
0	Strings **(Financial Aid Assignment)**	8/24/2025 (late 8/27/2025)
1	Dynamic Memory Allocation	9/7/2025
2	Recursion	9/21/2025
3	LL/Stack/Queues	10/5/2025
4	Sorting	10/26/2025
5	Binary Trees	11/9/2025
6	Hash Tables	11/25/2025

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

- **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.**