

Introduction to Programming in C

COS199

Fall 2025

Instructor Info

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Hours: T & TH: 2 - 5 pm

Course Meetings

Bailey 219, Gorham Campus

Tuesday & Thursday 5:30 pm - 7:15 pm



[Student Services and Policies Hub](https://mycampus.maine.edu/group/usm/student-services-and-policies-hub)¹

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1. Course Information

1A. Course Description

An introduction to systematic problem-solving through programming for students with little or no prior coding experience. Students will learn how to divide a process into manageable components, how to describe those processes in the C programming language, and how to analyze and understand the behavior of their programs. Students will learn the fundamentals of writing, compiling, debugging, and executing C programs through hands-on exercises and real-world applications. Weekly lab assignments will give students the opportunity to apply core

¹ <https://mycampus.maine.edu/group/usm/student-services-and-policies-hub>

programming concepts, such as variables, data types, operators, loops, functions, structures, pointers, memory management, and file I/O.

1B. Course Materials, Books & Technology

Required Books/Materials to Purchase

Please acquire the following books and/or materials by [date]. All other reading materials will be provided free of cost in Brightspace.

- **None!** You are not required to purchase a textbook for this course.

Supplemental Books/Materials

The following books and/or materials are not required, but you may find them useful in completing course activities.

- *C Programming: A Modern Approach (2nd Edition)* by K. N. King.
- *The C Programming Language (2nd Edition)* by Brian W. Kernighan and Dennis M. Ritchie.
- *C Programming Absolute Beginner's Guide (3rd Edition)* by Greg Perry.

Required Technology

We will use the following technologies for class assignments. Please make sure you are able to access these. Review technology guidelines and/or contact the [Technology Support Center \(Help Desk\)](#).²

- Materials will be posted on Brightspace. This is also where you will submit assignments and receive grades.
- Access to a Windows/Mac OS/Linux computer
- Visual Studio Code or CLion IDE, both are free

1C. Course Format

This is an in-person, fully synchronous course. Students are expected to attend both the lecture and the lab each week. Lectures are not recorded or streamed.

² <https://usm.maine.edu/information-technology/it-help-desk/>

1D. Course Learning Outcomes

- Develop a basic understanding of how to analyze and break down large problems in order to implement efficient solutions using the C programming language.
- Write, compile, and run clearly-documented small-to-medium sized programs that utilize fundamental data types, variables, and control structures that others can read, understand, and modify.
- Determine functionality of code written by oneself and others through reading and tracing short segments of code.
- Apply pointers effectively to manipulate arrays, strings, and dynamically allocated data.
- Employ basic file I/O techniques to read, write, and process external data.
- Use debugging and development tools (IDEs, command-line compilers, breakpoints) to identify and resolve logical and runtime errors.
- Understanding of how C's low-level features (memory management, compilation, linking) connect to broader engineering applications.

2. Coursework & Grading

2A. Grade Scale

Final letter grades will be assigned based on the overall percentage calculated using the weightings listed below. Grades will be available on Brightspace.

Grade Percentage	Letter Grade
100-93%	A
92-90%	A-
89-87%	B+
86-83%	B
82-80%	B-
79-77%	C+
76-73%	C

Grade Percentage	Letter Grade
72-70%	C-
69-60%	D
60% or lower	F

2B. Course Grade Breakdown

- Labs/Weekly Assignments: 35%
- Midterm Exam/Code Walkthrough: 20%
- Final Exam/Live Coding: 25%
- Quizzes: 10%
- Participation: 10%

2C. Final Examination/Final Project

This course will have a traditional final exam that will include both multiple choice and short answer questions. It will also include a 1-on-1 live coding session.

3. Class Schedule

The instructor will do his best to stay on schedule, but the dates listed here are an approximation. The instructor reserves the right to adjust dates as needed throughout the semester.

Week 1 - Class Overview, Introduction to Programming, and Hello World

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, September 2, 2025	Introduction To The Course <ul style="list-style-type: none"> • This is the first class meeting. You only need to show up. 	Read or Watch the Following: <ul style="list-style-type: none"> • Read the syllabus Assignments: <ul style="list-style-type: none"> • Take the academic honesty quiz

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Thursday, September 4	The Second Class of This Week <ul style="list-style-type: none"> Our first lab. You will be writing your first program today. 	Assignments: <ul style="list-style-type: none"> Have your Windows or Mac developer environments set up with gcc or clang compilers. Make sure Hello World program is working and submitted Take the academic honesty quiz

Week 2 - Introduction to C, Flow Charts, Data Types, Variables, and I/O

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, September 9,	The First Class of This Week <ul style="list-style-type: none"> Come to class having read the syllabus and completed the academic honesty quiz. 	Assignments: <ul style="list-style-type: none"> Make sure Hello World program is working and submitted
Thursday, September 11	The Second Class of This Week <ul style="list-style-type: none"> Make sure Hello World program and report is submitted before class 	Assignments: <ul style="list-style-type: none"> Coffee shop lab Reflection report

Week 3 - Quiz Prep + Conditionals, Operators, and Expressions

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, September 16	The First Class of This Week <ul style="list-style-type: none"> Come to class with questions as we prepare for the first quiz. 	Assignments: <ul style="list-style-type: none"> Study for Quiz 1
Thursday, September 18	The Second Class of This Week <ul style="list-style-type: none"> Our first quiz on data types, variables, constants, printf, and scanf. We will also continue working on the coffee_shop.c lab. 	Assignments: <ul style="list-style-type: none"> Coffee shop lab Reflection report

Week 4 - Quiz Result Discussion + Debugging Basics and Control Flow

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, September 23	The First Class of This Week <ul style="list-style-type: none">• We will discuss debugging and if-else statements and switch statements.	Assignments: <ul style="list-style-type: none">•
Thursday, September 25	The Second Class of This Week <ul style="list-style-type: none">• We will introduce a new lab with conditionals.	Assignments: <ul style="list-style-type: none">• Conditional lab• Reflection paper

Week 5 - Functions, Scope, Call Stack, and Loops (While/Do-While)

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, September 30	<ul style="list-style-type: none">• We will discuss functions, scope, the concept of the call stack, and if time, start looking at loops.	Assignments: <ul style="list-style-type: none">• Conditional Lab• Reflection paper
Thursday, October 2	The Second Class of This Week <ul style="list-style-type: none">• Make sure to have handed in your conditionals lab and reflection paper before class.• Introduction to the loop lab	Assignments: <ul style="list-style-type: none">• Loop lab• Reflection paper

Week 6 - Quiz Prep + While Recap and For Loops

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, October 7	The First Class of This Week <ul style="list-style-type: none">• We will continue our discussion on iteration.	Assignments: <ul style="list-style-type: none">• Study for the quiz
Thursday, October 9	The Second Class of This Week <ul style="list-style-type: none">• Quiz 2 on control flow, conditionals (if/switch), functions, scope, call stack, and loops.	Assignments: <ul style="list-style-type: none">• Loop lab• Reflection paper

Week 7 - Midterm Recap

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, October 14	The First Class of This Week <ul style="list-style-type: none">• No class - Fall break	Assignments: <ul style="list-style-type: none">• Guessing game lab• Reflection paper
Thursday, October 16	The Second Class of This Week <ul style="list-style-type: none">• Make sure to have handed in your loop lab and reflection paper before class.• We will also do a recap for the midterm.	Assignments: <ul style="list-style-type: none">• Study for the midterm.

Week 8 - Code Walkthrough and Midterm Exam

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, October 21	The First Class of This Week <ul style="list-style-type: none">• Part one of midterm: Code walkthrough	Assignments: <ul style="list-style-type: none">• None
Thursday, October 23	The Second Class of This Week <ul style="list-style-type: none">• Part two of midterm: Exam	Assignments: <ul style="list-style-type: none">• None

Week 9 - Strings and Arrays

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, October 28	The First Class of This Week <ul style="list-style-type: none">• We will introduce strings and arrays.	Assignments: <ul style="list-style-type: none">•
Thursday, October 30	The Second Class of This Week <ul style="list-style-type: none">• Introduction of an array lab	Assignments: <ul style="list-style-type: none">• Array lab• Reflection paper

Week 10 - Recap: Strings and Arrays + Intro to Structs, Enums, Typedef

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, November 4	The First Class of This Week <ul style="list-style-type: none">• We will recap what we learned about arrays and strings.• Introduction to structs, enums, and typedef in C.	Assignments: <ul style="list-style-type: none">• None
Thursday, November 6	The Second Class of This Week <ul style="list-style-type: none">• Hand in array/string lab.• Short quiz prep session	Assignments: <ul style="list-style-type: none">• Arrays/Structs lab• Reflection paper

Week 11 - Quiz 3

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, November 11	The First Class of This Week <ul style="list-style-type: none">• Veterans Day (no classes)	Assignments:
Thursday, November 13	The Second Class of This Week <ul style="list-style-type: none">• Quiz 3	Assignments: <ul style="list-style-type: none">•

Week 12 - File I/O

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, November 18	The First Class of This Week <ul style="list-style-type: none">• An introduction to file I/O in C.	Assignments:
Thursday, November 20	The Second Class of This Week <ul style="list-style-type: none">• Introduction to file I/O lab	Assignments: <ul style="list-style-type: none">• File I/O lab

Week 13 - Pointers + Stack, Heap, Dynamic Memory Allocation

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, November 25	The First Class of This Week <ul style="list-style-type: none">• Introduction to pointers and dynamic memory allocation	Assignments: <ul style="list-style-type: none">• None
Thursday, November 27	The Second Class of This Week <ul style="list-style-type: none">• No class – Thanksgiving Break	Assignments: <ul style="list-style-type: none">•

Week 14 - Recap Dynamic Memory Allocation + 2D Arrays

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, December 2	The First Class of This Week <ul style="list-style-type: none">• An introduction to dynamic memory allocation, malloc, calloc, and free.	Assignments: <ul style="list-style-type: none">• File I/O lab• Reflection paper• Study for quiz
Thursday, December 4	The Second Class of This Week <ul style="list-style-type: none">• Introduction to pointer/memory lab• Quiz 4	Assignments: <ul style="list-style-type: none">• Pointer/memory lab• Reflection paper

Week 15 - Recursion basics, Makefiles, Object files, Libraries, etc...

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Tuesday, December 9	The First Class of This Week <ul style="list-style-type: none">• Introduction to recursion	Assignments: <ul style="list-style-type: none">• TBD
Thursday, December 11	The Second Class of This Week <ul style="list-style-type: none">• Final recap session before final	Assignments: <ul style="list-style-type: none">• Study for the final

4. Course-Specific Policies

4A. Attendance

Students are expected to attend both the weekly lecture and lab. You are all adults and will be treated as such. I will not be taking attendance, however since participation is part of your overall grade and lecture presentations will only be shared at the instructor's discretion, it behooves the student to attend.

4B. Late Work

Projects will generally have deadlines a week after they are assigned; having the discipline to do some work throughout each week will make a huge difference to your workload. The time commitment will vary from person-to-person and assignment-to-assignment. Be sure to budget your time to ensure completion of your work.

Late assignments will automatically have their grades reduced by 10% every 24 hours for a maximum of five (5) days. At that point, the assignment will receive a grade of 0%. You are still expected to submit an assignment, even if you are not present in class.

During the semester, you have five no fault time travel days to use as you see fit. You may use your time travel days to hand in a lab up to three days after a deadline as though you had handed it in by the deadline. Note that you can use at most three days for any single lab, and the time travel days are considered integers (no partial days).

4C. Revision Policy

All submitted work is considered final. Do not expect a re-do or the chance to fix the work after the fact. The instructor has the ability to change this policy due to an extenuating circumstance,

4D. Class Cancellation

The instructor reserves the right to postpone any class due to inclement weather or other incidents. Notification will be made as soon as possible through email.

4E. Inclement Weather Contingencies

The instructor reserves the right to hold virtual lectures and assign work (i.e readings or labs) remotely in the event of inclement weather.

4F. Personal Device Usage in the Classroom

We are all expected to act professionally and respectfully in the classroom. It is OK for students to use laptops for taking notes as we are simulating real-world, professional environments. However, just as we are simulating real-world professional environments, you should remain attentive; do not lose sight of our discussions because you are typing. Smartphones should remain in your pocket.

Failure to adhere to these guidelines will jeopardize a student's class participation grade.

4G. Use of Artificial Intelligence (AI) in Coursework

Everybody is aware of the vast amount of knowledge that is available on the Internet. This includes AI chatbots and other services. While every assignment in this class is designed to be solvable using the methods we have discussed in class, your instructor recognizes that every student will end up using the Internet at some point or another.

In general, web searches and AI queries should be limited to how to do small tasks in C. As a student, your job is to be honest and forthright with your efforts. It is of utmost importance to your learning that you never just cut and paste a solution to a homework problem; instead, make the effort to understand the solution well enough to put it into your own words and be sure to cite your sources.

The best use of AI is to utilize it to better understand and master the concepts that are being

taught. “Explain to me [topic] in a simple way” or “Provide me with examples of how [topic] works”.

To that end, I take academic integrity very seriously and expect appropriate citations and references in all of your written work. All code should be written by you. You should never copy and paste an assignment into an AI chatbot. Submitting AI work will be considered cheating. You are not protected by ignorance. If you do not know or understand the policy and accidentally submit work that is not your own as if it were, you are still held just as accountable.

4H. Faculty Response Time

If you contact the instructor between 9:00 AM-7:00 PM EST on Monday-Thursday, expect a response within 24-48 hours. If you contact the instructor outside of those times, expect a response at the instructor’s convenience or the next business day (whichever is first).

Feedback on weekly assignments will generally be provided within one week from the due date. This does not apply to midterm and final projects/exams, which will take longer for me to go through and grade.

4I. Additional Instructor Notes

I expect that this course may be your first exposure to computer science and programming. This can be scary and intimidating, however I believe that anyone can program, if they want to. Despite the many stereotypes about computer science, it is not a solitary field and the ability to discuss problems and potential solutions is an essential skill that you should be working to develop. To that end, I expect that you will discuss your problems in the class with your fellow students and myself, especially if you are frustrated and/or lost.

Do not be intimidated. This is a judgement free zone. Reach out if you are feeling stuck, stressed, or just need someone to talk/vent to.

5. Academic Services & Policies

5A. Accessibility and Accommodations

The university is committed to providing students with documented disabilities equal access to all university programs and services. If you already have approved accommodations through the USM Disability Services Center, please fill out a Semester Request Form on Accommodate to share your accommodations letter with me.

If you need to request accommodations based on a disability, please submit a [Student Accommodations Request](#) through the Disability Services Center. Timely notification is essential. The [Disability Services Center](#) can be reached at 207-780-4706 or dsc-usm@maine.edu.

5B. Other Academic Services & Policies

Below you'll find a brief list highlighting some of the most crucial student services and supports.

- **Request disability accommodations** | (207) 780-4706 | dsc-usm@maine.edu
- **Report Interpersonal violence** | (207) 780-5767 | usm.titleix@maine.edu
- **Report on-campus emergencies and safety concerns** | (207) 780-5211 or your local police agency.
- **Get academic help** | mycampus.maine.edu/group/usm/learning-commons1
- **Get technology help** | usm.maine.edu/computing/helpdesk
- **Meet with an academic advisor** | usm.maine.edu/advising

For USM's most complete and current information on services available to students, as well as academic policies, use the QR Code to go to the [Student Services and Policies Hub webpage](#)³ (UMS login required).

³ <https://mycampus.maine.edu/group/usm/student-services-and-policies-hub>

**Services &
Policies that
Support You**

