

**University of Maine**  
**ECE177: Programming I: From C Foundations to Hardware Interaction**  
**Spring 2026**

**Instructor:**

Vincent Weaver

e-mail: vincent.weaver@maine.edu

Office: Barrows 203

Office Hours: Tues/Thurs 1-2pm, otherwise drop by or e-mail

**TAs:** TBA



**Course Website:**

[https://web.eece.maine.edu/~vweaver/classes/ece177\\_2026s/](https://web.eece.maine.edu/~vweaver/classes/ece177_2026s/)

**Lectures:** Monday/Wednesday/Friday 1:00pm-1:50pm, Williams Hall 120

**Labs:** Monday/Tuesday/Wednesday/Thursday 2:00pm-4:50pm, Barrows Hall 228

**Final Exam:** Wednesday, 6 May 2026, 1:30pm, Williams Hall 120

**Course Listing:**

Introduction to computer programming with emphasis on algorithms and an understanding of underlying hardware. Topics include syntax, variables, control structures, pointers, operators, functions, and input and output. (4 credits)

**Content this Semester:**

We will learn about the C programming language.

**Pre-requisites:**

Engineering or Pre-Engineering Majors or permission

**Textbook:**

None

**AI Statement:**

AI usage is not allowed for any assignments in this class (including, but not limited to, homeworks, tests, quizzes or labs).

**Lecture Notes:**

Lecture notes will be posted to the course website, generally within a few days of the lecture.

**Attendance:**

Attendance is required and will affect your grade.

Attendance will be taken via sign-in-sheet starting with the second week of classes.

If you will not be able to attend class, please notify me via e-mail before class.

If you are sick/contagious, please do not attend class. If you are sick but insist on coming to class anyway it would be polite if you wear a mask.

**Homework Assignments:**

Assignments will be announced in class and posted to the website. Assignments will be done via CodeLab and may require setting up a CodeLab account. More info on this will be given in class. Extensions will not be given for homeworks unless there are extreme extenuating circumstances.

**Quizzes:**

Quizzes will occasionally happen at the beginning of class.

**Labs:**

The Lab Location is 228 Barrows Hall

Generally there will be a lab each week, but there will be no lab the first week of classes, or weeks with a holiday (such as President's Day).

For labs you may work with a lab partner.

You signed up for a particular lab date, please only come to that lab date as there is not a lot of extra room in the labs.

You will need to bring a laptop and your lab kit to every lab (you will be given a lab kit later at one of the labs).

You will find the lab assignments on the course website.

The labs will be run by TAs

Lab submission will be via brightspace.

**Grading (note some changes were made):**

Attendance / Participation (~~40%~~) (15%)

Homework assignments/Quizzes (~~40% total~~) (15% total)

~~Quizzes (10% total)~~

2 midterm exams (15% each)

Final exam (15%)

Labs (25%)

**By the end of the course you will:**

- + Learn to program in the C language
- + Write C programs that are well commented, check for errors, and have no compiler warnings
- + Write C programs that interface with actual hardware via an embedded board
- + Understand fundamental variable data types and binary, decimal, and hexadecimal representations
- + Be able to conduct bit manipulation of variables using bitwise boolean operations
- + Be familiar with C order of operations
- + Be able to convert between decimal and binary, decimal, and hexadecimal
- + Understand how to write C functions and statements
- + Be able to use the C pre-processor
- + Understand C arrays and pointers
- + Understand C structs
- + Be able to do dynamic memory allocation with `malloc()` and `free()`
- + Be able to do input/output with `printf()` and `scanf()`
- + Be able to read and write files with the `fopen()` family
- + Be able to run code on Raspberry Pi Pico hardware, accessing various low level I/O such as PWM, GPIOs and the ADC

**Academic Honesty:**

- I take this very seriously. If you are caught, you and anyone else involved will at minimum get a 0 for the assignment. Depending on the seriousness you can possibly receive an F in the class and/or be referred to the University wide Academic Integrity office.
- Please do not submit other people's work as your own
- Do not copy, cut-and-paste or re-type code that you didn't write yourself (this includes code from classmates, the internet, or AI).

- Do not use AI when completing assignments
- Do not share copies of code, yours or otherwise. If you share your code with another student and they turn it in as their own, \*both\* you and the other student are cheating. Do not share code even if it is past the due date, as I do accept late work. It's distressingly common for cheating to happen this way, where someone "accidentally" submits code they talked a friend into sending to them.
- What can you do?
  - + You may always discuss assignments and share code with the Professor
  - + You may always discuss assignments and share code with with the TAs
  - + You may discuss assignments at a high level with classmates
  - + You may have classmates look at your code to look for obvious problems (ideally over your shoulder and not by sending them the full code)
  - + When actually writing the code the submitted code must be yours and yours alone

## **University of Maine Campus Policies**

### **Academic Honesty Statement**

Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, or generated by software or systems without the explicit approval of the instructor, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314: <https://www.maine.edu/board-of-trustees/policy-manual/section-314/>

### **Students with disabilities statement**

If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, [um.sas@maine.edu](mailto:um.sas@maine.edu), 581.2319, as early as possible in the term. Students may begin the accommodation process by submitting an accommodation request form online and uploading documentation at [https://umaine-accommodate.symplcity.com/public\\_accommodation/](https://umaine-accommodate.symplcity.com/public_accommodation/). Once students meet with SAS and eligibility has been determined, students submit an online request with SAS each semester to activate their approved accommodations. SAS creates an accessibility letter each semester which informs faculty of potential course access and approved reasonable accommodations; the letter is sent directly to the course instructor. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me (the instructor of the course) privately as soon as possible.

### **Course Schedule Disclaimer (Disruption Clause)**

In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

### **Observance of Religious Holidays/Events**

The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student's grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site.

### **Sexual Discrimination Reporting**

The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a faculty or staff member who is deemed a "responsible employee" about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members of the campus, they are required to report this information to Title IX Student Services or the Office of Equal Opportunity.

**If you want to talk in confidence** to someone about an experience of sexual discrimination, please contact these resources:

For *confidential resources on campus*: Counseling Center: 207-581-1392 or Northern Light Primary Care, University of Maine: at 207-581-4000.

For *confidential resources off campus*: Rape Response Services: 1-800-871-7741 or Partners for Peace: 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For support services *on campus*: Title IX Student Services: 207-581-1406, Office of Community Standards: 207-581-1406, University of Maine Police: 207-581-4040 or 911.

**Other resources:** The resources listed below can offer support but may have to report the incident to others who can help:

For *support services on campus*: Title IX Student Services: 207-581-1406, Office of Community Standards: 207-581-1406, University of Maine Police: 207-581-4040 or 911.

For *confidential resources on campus*: Counseling Center: 207-581-1392, Northern Light Primary Care, University of Maine: at 207-581-4000, Confidential Resource Advisor: 207-571-5372 (call or text). Or see the Confidential Resource Advisor website for a complete list of services and resources <https://www.maine.edu/confidential-resource-advisor/>

Visit the Title IX Student Services website at [umaine.edu/titleix/](http://umaine.edu/titleix/) for more information.