



# Introduction to Programming - ECE 118

Syllabus and Schedule of Classes  
Autumn 2024 - Dr. Murrell

Credit and contact hours: 3 credits, 75 minutes twice per week.

Prerequisite knowledge:

Instructor:	Dr. Murrell	Term:	Autumn 2024
Teaching Assistant:	To be announced on rabbit web page.		
Office:	EB 516	Class Meeting Days and Time:	Tue and Thur, 2:00 to 3:15 pm
Office Hours:	As needed. Send me an email with your free times and I'll fit in.	Class Location:	MM 200
E-Mail:	Instructor Email: s.murrell@miami.edu	Lab Location:	EB 304

## Welcome!

I hope you have an enjoyable semester

## Course Description & Objectives

### Bulletin Description

Introduction to computing, problem solving, program design, C++ language fundamentals, and software engineering principles. Software design projects are included.

## Learning Objectives

Specific outcomes of instruction: The student will:

1. Understand the fundamental concepts of computer systems.
2. Know and understand the fundamentals of programming, algorithms, data, and software engineering.
3. Be able to program in C++.
4. Have hands-on experience in problem solving and software design.

## Diversity & Inclusion Statement

The College of Engineering embraces a notion of intellectual community enriched and enhanced by diversity along a number of dimensions, including race, ethnicity and national origins, gender



and gender identity, sexuality, class and religion. In order to create a learning environment for my students that supports a diversity of thoughts, perspectives and experiences:

- If you have a name and/or set of pronouns that differ from those that appear in your official UM records, please let me know!
- If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you. You can also notify me of the issue through another source such as your academic advisor, a trusted faculty member, or a peer. If for any reason you do not feel comfortable discussing the issue directly with me, I encourage you to seek out another, more comfortable avenue to address the issue.
- I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it.

## Required Texts, Materials, and/or Resources

"C++ programming: program design including data structures"  
by D. S. Malik, Course Technology inc., any recent edition.

## Teaching Strategies

This is an in-person class, meaning you are required to attend the class on campus.

Attendance will be taken on random dates and will count towards your final grade.

## Topical Course Outline

1. Graphical programming in a windowing environment
2. Text-mode programming in a unix environment
3. C++: Functions, constants, local declarations, recursive design
4. C++: Strings, arrays, objects
5. C++: Variables and loops
6. C++: Input and output - graphical, iostreams, files
7. Structured design: blocks, locality, pure functions
8. Modular design: abstraction, independence
9. Data visualization, interactive graphics
10. Simulation and modelling
11. Searching and sorting, managing data collections



12. Algorithms and specifications
13. Timing: function and algorithm speed estimation and analysis
14. Data representation, types, declarations, scope

## Major Assignments & Projects

See <http://rabbit.eng.miami.edu/class/een118/251index.html>

## Grading/Evaluation

### Examinations:

- All examinations will be in person, in our regular classroom.
- There will be two mid-term examinations, one near the middle of the semester, and one nearing the end. Dates will be announced.

### Final Grade Calculation:

Assessment	Percentage of grade
Assignments	50
Examinations	50
Total	100

## Course Policies: Coursework & Assignments

### Attendance and Late Work Policy:

- Physical attendance in the classroom is required as scheduled. If at some point in the semester you cannot physically attend class sessions due to illness, injury, or other approved absence, you must contact the instructor for permission to temporarily attend the course online. Unexcused absences from the classroom may affect your grade or lead to failing the course.
- You are adults and responsible for your own lives, I would like to be informed of any absences, and you must make up for anything you missed, and I'm not going to go over a whole class for someone who overslept or just didn't turn up. Missing a class is not an excuse for being late with an assignment.

**Extra Credit Policy:** Assignment descriptions will tell you if and where extra credit is available.

**Grades of "Incomplete":** Incompletes are only allowed under exceptional circumstances. Something outside your control must have happened to make you unable to complete the course material.

### Group Work Policy:



- Studying in groups is very beneficial, and is strongly encouraged.
- All assignments and projects are strictly individual effort unless explicitly stated otherwise.
- Do not confuse those two points. With any programming assignments, once you get to making a detailed design, and well before you do any coding, it is time to stop working in a group. If a program starts off similar to someone else's, it is just about impossible to make it individual again, and that really shows up strongly in grading. No credit will be given for work you didn't do yourself.

## Course Policies: Technology & Media

**Email:** You may communicate with me and/or the teaching assistant(s) whenever you need to. We will try to be available at all reasonable times.

**Laptop Usage:** You will need a P.C./windows laptop computer for the assignments / lab work. You may also use one for taking notes in class.

**Classroom Devices:** Calculators are forbidden in all examinations. The University explicitly forbids students from making recordings of classes.

## Course Policies: Student Expectations

### Attendance Policy:

- Physical attendance in the classroom is required as scheduled. If at some point in the semester you cannot physically attend class sessions due to illness, injury, or other approved absence, you must contact the instructor for permission to temporarily attend the course online. Unexcused absences from the classroom may affect your grade or lead to failing the course.
- You are adults and responsible for your own lives, I should be informed of any absences, and you must make up for anything you missed, and I'm not going to go over a whole class for someone who overslept or just didn't turn up. Missing a class is not an excuse for being late with an assignment.

### Late Policies:

**Class:** Be on time! If you miss something through being late, you will be responsible for making it up. I will not give recaps. If you miss attendance being taken, you may be counted as absent.

**Assignments:** All assignments are due by midnight on the specified date. Every day or part of a day it is late loses a point, all the way down to zero after ten days. No exceptions. If something is coming up that might delay you, start the assignment early. There is no benefit to waiting for the last minute. You will always have at least a week to complete any assignment.

**Phone Usage:** Phones should not be used in class.



**Academic Ethics:** Academic dishonesty in any form will not be tolerated. The instructor of this course supports the [University of Miami Honor Code](#). Cheating, plagiarism, or other forms of academic dishonesty in this course is subject to the provisions of the Honor Code.

**Class Recordings:** Students are expressly prohibited from recording any part of this course. Meetings of this course might be recorded by the University. Any recordings will be available to students registered for this class as they are intended to supplement the classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Recordings may not be reproduced, shared with those not in the class, or uploaded to other online environments. If the instructor or a University of Miami office plans any other uses for the recordings, beyond this class, students identifiable in the recordings will be notified to request consent prior to such use.

## Resources

**Disability Access:** Students in need of academic accommodations for a disability may consult with Office of Disability Services (ODS) to arrange appropriate accommodations. Students are required to give reasonable notice prior to requesting an accommodation.

The Office of Disability Services (ODS) is located in the Camner Center for Academic Resources in Whitten University Center 2400. ODS staff can be reached at 305-284-2374 (Voice) or 305-284-1999 (Fax). Office hours are 8:30 am to 5:00 pm, Monday through Friday. Individuals may email the office staff for quick responses to questions.

**Sexual Misconduct/Sexual Harassment Reporting:** The University of Miami seeks to maintain a safe learning, living, and working environment free from all types of sex-based and gender-based discrimination prohibited by state and federal laws, including Title IX and Title VII, and in keeping with the University's culture of belonging, DIRECCT values and expected behaviors.

The University's [\*Sexual Misconduct Policy\*](#) applies to all members of the University community, including students, faculty, staff, and visitors. The procedures for investigation and adjudication of complaints is determined by the status of the individual who is alleged to have engaged in sexual misconduct ("Respondent").

**Free Tutoring at University of Miami:** On-campus tutoring and writing assistance is available for students at University of Miami. The Learning Commons supports learning at the University of Miami through the co-location, coordination and enhancement of existing academic services. The University of Miami Libraries' Learning Commons is the result of collaboration with campus partners including the [Camner Center for Academic Resources](#), [Academic Technologies](#), [Writing Center](#), and [Math Lab](#). To learn more at the Learning Commons, please visit the Richter Library, call 305-284-4722, or e-mail [learningcommons@miami.edu](mailto:learningcommons@miami.edu).

## Important Dates to Remember

All the dates and assignments are tentative, and may be changed if a need arises.



**Drop/Add Deadline:**

Last day to add: 28th August.

Last day to drop without a 'W': 4<sup>th</sup> September

Last day to drop: 8<sup>th</sup> November

**Final Examination:** Friday 6<sup>th</sup> December at 5 p.m..

**Religious Observances:** All students have a right to expect that the University of Miami will reasonably accommodate their religious observances, practices and beliefs. If you observe religious holidays, you should plan your allowed absences to include those dates. Students are expected to notify their instructor **in advance** if they intend to miss class to observe a holy day of their religious faith. [Religious Holy Day Policy and Calendar](#).



### ***SAMPLE* Student Consent for Class Recording**

I, (the undersigned), understand that I am attending class sessions or events that may be audio or video recorded. I was informed or made aware of this by the instructor before the start of the event. I hereby permit the University of Miami to release education records that consist of my voice or likeness as I participate in these classes or events. I am consenting to allow these materials to be used for educational purposes, including for institutional review of instruction and for the education of other students. I understand that I will receive no money or remuneration of any kind from the University related to this consent and release, or the materials covered by this consent or release. I acknowledge that I do not have the right to approve any materials developed by the university as authorized.

I understand that my consent here is independent of and separate from any other directive or consent I may have given to the University with regard to the release of my voice or likeness (such as for the release of Directory Information).

I understand my consent and release are voluntary and not a condition or requirement of my participation in this class or event.

\_\_\_\_ I agree to the above terms

\_\_\_\_ I do not agree to the above terms

Course Number and Title \_\_\_\_\_

Semester and Year \_\_\_\_\_

Course Instructor \_\_\_\_\_

Student name (please print) \_\_\_\_\_

Student signature \_\_\_\_\_ Date \_\_\_\_\_

Parent/guardian name if under 18 (please print) \_\_\_\_\_ Date \_\_\_\_\_

Parent/guardian signature if under 18 \_\_\_\_\_ Date \_\_\_\_\_