

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Undergraduate Programs		UUPC Approval <u>4/21/2025</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department _____ College _____		
Current Course Prefix and Number		Current Course Title	
<i>Syllabus must be attached for ANY changes to current course details. See Template. Please consult and list departments that may be affected by the changes; attach documentation.</i>			
Change title to: Change prefix From: To: Change course number From: To: Change credits* From: To: Change grading From: To: Change WAC/Gordon Rule status** Add Remove Change General Education Requirements*** Add Remove <small>*See Definition of a Credit Hour.</small> <small>**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.</small> <small>***GE criteria must be indicated in syllabus and approval attached to this form. See Intellectual Foundations Guidelines.</small>		Change description to: Change prerequisites/minimum grades to: Change corequisites to: Change registration controls to: Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
Effective Term/Year for Changes:		Terminate course? Effective Term/Year for Termination:	
Faculty Contact/Email/Phone			
Approved by Department Chair <u>Hai Kalva</u> College Curriculum Chair <u>Galan Liu</u> College Dean <u>[Signature]</u> UUPC Chair <u>Korey Sorge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____		Date <u>3/12/2025</u> <u>4/10/25</u> <u>4/11/25</u> <u>4/21/2025</u> <u>4/21/2025</u> _____ _____	

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.



FLORIDA ATLANTIC UNIVERSITY

COP 3275C-001 15645

Systems Programming with C++

Date: Wednesday, Friday 3:30 PM - 4:50 PM

Building: Engineering East Boca **Room:** 106

3 Credit(s)

Spring 2025 - 1 Full Term

Instructor Information

Tami Sorgente

Email: tsorgent@fau.edu

Office: EE 430

Office Hours:

In person: Wednesdays: 1:00 PM – 3:00 PM and Thursdays: 11:30 AM – 1:00 PM

Online by appointment

TA Name:

Mahitha Basivi Reddy email: mbasivireddy2024@fau.edu

Samyuktha Venkataswamy Reddy email: svenkataswam2023@fau.edu

Office: will be announced on Canvas

Office Hours: will be announced on Canvas

Course Description

Systems Programming with C++

Prerequisite: (COP 2220C or COP 3035C) and CEN 3062C, all with minimum grade of "C"

Corequisite: CEN 3062C

This course builds on the foundations of programming skills, with an introduction to C++, machine characteristics and low-level data representation, memory management, modern libraries and language features, Linux system, interacting with operating-system services and introduction to concurrent programming.

Prerequisites/Corequisites

Prerequisite(s):

- COP 2220C Graduate / Undergraduate (Minimum Grade of C) **OR**
- COP 3035C Graduate / Undergraduate (Minimum Grade of C)
- AND** CEN 3062C (Minimum grade of C or better)
-

Corequisite(s):

Subject	Course Number
CEN	3062C

Instructional Method

In-Person

Traditional concept of in person. Mandatory attendance is at the discretion of the instructor.

Required Texts/Materials

N/A

Course Objectives/Student Learning Outcomes

At the end of this course, students should be able to:

- Write C/C++ code using pointers and explicit memory allocations;
- Debug C/C++ programs;

- Read and write basic Makefiles;
- Explain the process of making a system call;
- Write programs that interact with files, directories, and the network using the POSIX library;
- Write multi-threaded programs;

Faculty Rights and Responsibilities

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the Student Code of Conduct [University Regulation 4.007](#).

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Course Evaluation Method

Grading Criteria

Unless otherwise noted, all assignments, homework, projects, programs, quizzes, and exams in this course must be INDIVIDUAL effort. Late submissions will not be accepted or graded.

Modifying data and submitting it as your own is a fraudulent practice—specifically, plagiarism—and is no different than copying paragraphs of information from a book or journal article and calling it your own (make sure that you work independently and submit only your own work)

Please take the time to read the documentation. You are responsible for the information outlined in it. Please see the instructor, any teaching assistant, or Engineering Student Services tutoring for assistance. Check the Help Section on Canvas.

All assignments are due by 11:59 PM on the due date. However, it is recommended that you submit your work by 9:00 pm as no assistance will be provided after 9:00 pm should you encounter any technical difficulties. Most assignments have a grace period until 8:00 AM the following day with no penalty. See canvas for specific due dates. Assignments submitted after the final due date or submitted by email will not be accepted for grading.

Assignments

There will be assignments based on readings, lectures, homework, and class discussions

Quizzes

There will be Module quizzes based on readings, lectures, homework, and class discussions

Course Examinations

- Examinations will be based on readings, lectures, homework, and class discussions.
- The exams may include multiple choice, true/ false, and/or short answer questions.
- Answers will be evaluated based on content in terms of accuracy of information and ability to analyze the issues. Good answers will demonstrate that you have read and understood the chapters, and actively participated in classroom discussions.
- Exams will be taken in class.
- No make-up exams are given

Your grade in the class will be broken into the following components:

- Homework and quizzes: 60%
- Midterm Exam: 20%
- Final Exam: 20%

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Attendance Policy Statement

Students are expected to attend all their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations, or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Religious Accommodation Policy Statement

In accordance with the rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. University Regulation 2.007, Religious Observances, sets forth this policy for FAU and may be accessed on the FAU website at www.fau.edu/regulations.

Any student who feels aggrieved regarding religious accommodations may present a grievance to the executive director of The Office of Civil Rights and Title IX. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

Time Commitment Per Credit Hour

For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

Course Grading Scale

Letter Grade	Percentage
A	100 - 93%
A-	< 93 - 90%
B+	< 90 - 87%

Letter Grade	Percentage
B	< 87 - 83%
B-	< 83 - 80%
C+	< 80 - 77%
C	< 77 - 70%
D+	< 70 - 67%
D	< 67 - 63%
D-	< 63 - 60%
F	< 60 - 0%

Grade Appeal Process

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[University Regulation 4.002](#) of the University Regulations contains information on the grade appeals process

Policy on Make-up Tests, Late work, and Incompletes

Late submissions will not be accepted or graded. No makeup exams will be offered.

Throughout the semester, multiple homework assignments will be posted via Canvas. For each homework assignment, you will have about a week to complete and submit your solution via Canvas. Allow enough time to submit your work since once the system is closed there will not be other possibilities to submit (don't send your work via email). Please note that the due date for homework assignments will not be updated after the assignment is posted.

Late work is not acceptable. All projects will have a Final due date, assignments will be posted well in advance and students may submit assignments early.

- All assignments are posted on Canvas well ahead of the due dates.
- Assignment deadlines are final on Canvas.

- Students should not wait until the last minute to submit assignments, canvas may not accept submissions at the last minute.
- Late assignments or assignment documents sent by email will not be accepted for grading.
- Canvas will allow multiple submissions for each assignment until the final due date

Make-up Policy for Tests

Makeup tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student from participating in the exam. Late assignments will not be accepted. All assignments are posted well ahead of the due date with multiple submissions. Requests for makeup exams must occur either prior to missing the exam, or no later than 24 hours after the occurrence of the incident.

Makeup exams should be administered and proctored by department personnel unless there are other pre-approved arrangements. If unable to meet the make-up deadline, other accommodations may be made on a case-by-case basis.

Examples of Unexcused Absences for a Test (These excuses are not permissible excuses for a makeup exam.)

1. Forgetting to take the test
2. Plans to take trip on test day because of prior reservations
3. Training/Orientation for a new job during test
4. Work
5. Other tests on the same day

Incomplete Grade Policy

The University policy states that a student who is passing a course but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor but is allowed only if the student is passing the course.

Special Course Requirements

Communication Policy

Expectations for Students

Announcements

You are responsible for reading all announcements posted by the instructor. Check the course announcements each time you log in.

Email/Video Conferencing

You are responsible for reading all of your course email and responding in a timely manner.

Course-Related Questions

Post course-related questions to the FAQ discussion board. This allows other participants with the same question to benefit from the responses. Also, make sure you review this forum prior to posting a question. Someone may have already asked and answered the question in previous posts.

Instructor's Plan for Classroom Response Time & Feedback

Email/Video Conferencing Policy

Except for weekends and holidays, the instructor will typically respond to email (Canvas inbox or FAU email) within 48 hours. You should ask course-related questions in the FAQ discussion board. If you have questions of a personal nature, you should email the instructor.

Assignment Feedback Policy

The instructor will provide feedback on submitted assignments within one week of the submission date. Some assignments may require a longer review period, during which the instructor will communicate to you.

Course-Related Questions Policy

Except weekends and holidays, the instructor will generally answer questions within 48 hours.

Electronic Communication Policy

In addition to the University's policy, please consider the following:

- Privacy, confidentiality, and security in all electronic communications.
- All electronic communication resources must be used for the course and in alignment with to the University mission.
- Prohibited use of false identity, false identity pseudonyms, or anonymous (sender's name or electronic identification is hidden).
- Access without consent.
- Disruption of services including introducing computer contaminants (viruses).
- Harassment of any kind.

Please see the Office of Information Technology's policies on Cyber Security Awareness.

Hardware & Software Requirements

Hardware

- Laptop computer
- Dependable computer
- Computer speakers
- Headset with microphone
- Webcam
- Scanner / Camera

Software

- Microsoft 365 Suite
- Reliable web browser (recommended Chrome or Firefox)
- Canvas mobile app: Download instructions for iOS device or Android device
- Adobe Reader

Internet Connection

- Recommended: Broadband Internet connection with a speed of 4 Mbps or higher.
- To function properly, Canvas requires a high-speed Internet connection (cable modem, DSL, satellite broadband, T1, etc.). The minimum Internet connection speed to access Canvas is a consistent 1.5 Mbps (megabits per second) or higher.

Other technologies

Computer Requirements

Basic Computer Specifications for Canvas

- Operating system: Windows 10 or macOS Sierra (or higher).
- Specifications
- A backup option should be available to minimize the loss of work. This can be an external hard drive, a USB drive, cloud storage, or your folder on the FAU servers.
- Once logged in to Canvas make sure your Internet browser is compatible.
- Other software may be required for specific learning modules. If so, the necessary links to download and install will be provided within the applicable module.

Minimum Technical Skills Requirements

The general and course-specific technical skills you must have to succeed in the course include but are not limited to:

- Accessing Internet.
- Using Canvas (including taking tests, attaching documents, etc.).
- Using email with attachments.
- Creating and submitting files in commonly used word processing program formats such as Microsoft Office Tools.
- Copying and pasting functions.
- Downloading and installing software.
- Using presentation, graphics, and other programs.
- Posting and commenting in an online discussion.
- Searching the FAU library and websites.
- Scan a document
- Upload a document to a computer

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Artificial Intelligence Preamble

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work.

FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [\[Policy 12.16 Artificial Intelligence\]](#)

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is.

If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the [Florida Atlantic Code of Academic Integrity, Regulation 4.001.](#)

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit <https://fau.edu/ai/citation>

AI Language Specific To This Course

- AI Prohibited: The use of AI to assist in any work assigned in this specific course is prohibited.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual therapy, group therapy, and crisis services, to name a few - offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Student Support Services and Online Resources

- [Center for Learning and Student Success \(CLASS\)](#)
- [Counseling and Psychological Services \(CAPS\)](#)
- [FAU Libraries](#)

- [Math Learning Center](#)
- [Office of Information Technology Helpdesk](#)
- [Center for Global Engagement](#)
- [Office of Undergraduate Research and Inquiry \(OURI\)](#)
- [Science Learning Center](#)
- [Speaking Center](#)
- [Student Accessibility Services](#)
- [Student Athlete Success Center \(SASC\)](#)
- [Testing and Certification](#)
- [Test Preparation](#)
- [University Academic Advising Services](#)
- [University Center for Excellence in Writing \(UCEW\)](#)
- [Writing Across the Curriculum \(WAC\)](#)

Course Topical Outline

1. VMs, Ubuntu, Unix Basics
2. C+ basics, formatting, syntax, flow of control
3. Compiling C++ Files/ Declarations, functions, simple classes
4. Reference, pointers, and arrays
5. Class design and implementation
6. Dynamic memory management
7. Inheritance
8. Templates
9. Standard Libraries
10. Tools for compiling, debugging, building, and performance evaluation
11. Multi-threading
12. Memory management and system interface
13. Linux and systems calls
14. File I/O
15. Concurrency, asynchronous I/O

Title IX Statement

In any case involving allegations of sexual misconduct, you are encouraged to report the matter to the University Title IX Coordinator in the Office of Civil Rights and Title IX (OCR9). If University faculty become aware of an allegation of sexual misconduct, they are expected to report it to OCR9. If a report is made, someone from OCR9 and/or Campus Victim Services will contact you to make you aware of available resources including support services, supportive measures, and the University's grievance procedures. More information, including contact information for OCR9, is available at <https://www.fau.edu/ocr9/title-ix/>. You may also contact Victim Services at victimservices@fau.edu or 561-297-0500 (ask to speak to an Advocate) or schedule an appointment with a counselor at Counseling and Psychological Services (CAPS) by calling 561-297-CAPS.