FLORIDA POLYTECHNIC UNIVERSITY

Syllabus: COP 2271: Introduction to Computation and Programming

Spring semester 2026

Welcome to COP 2271: Introduction to Computation and Programming

This course is part of the STEM core, a set of six critical and foundational courses consisting of mathematics, chemistry, physics, programming, and STEM applications. These courses build the skills and conceptual understanding you need to succeed in all degree programs. Completing these courses early in your university education builds the foundation for academic success in FL Poly's STEM degrees and creates a smooth path to degree completion.

The STEM core courses share many of the same course policies. Moreover, the courses strive to set consistent expectations of what it means to take responsibility for your own out of class learning and honing your skills to do university-level work. They are challenging, so make these STEM Core courses a priority!

Course Information

- **Course Number and Title:** COP 2271-Introduction to Computation and Programming, section 06
- **Meeting time:** TR 8 AM-9:15 AM in IST-1032
- **Credit Hours**: 3
- **Current Academic Term**: Spring 2026

Instructor Information

- **Instructor:** Dr. Arijet Sarker (https://arijetsarker.github.io/)
- **Office Location**: BARC-1188
- **Email:** asarker@floridapoly.edu

- **Office Hours:**
  - MTR 4 PM – 5 PM
  - or by appointment

Course Details

- **Official Catalog Course Description:** This course is an introduction to computational thinking and the art of computer programming using the C programming language. Students will learn fundamental programming concepts and systematic design techniques. They will use them to write programs that computationally solve and reduce problems. At the end of the course, students will be able to use a programming language without focusing on the language specifics. No prior programming background is required, and a working knowledge of high school level algebra is expected.
- **Delivery Mode:** Face-to-face learning experience with class meetings three times a week in the class meeting location specified above. Please check the Canvas course website for all information, including announcements, discussions, and any supplementary material for topics covered in this course.
- **Gordon Rule** (6A-10.030): No

- **Prerequisites:** MAC1147GEMTH (Precalculus Algebra/ Trigonometry) or equivalent, e.g. Aleks score
- **Required Text:** Deitel & Deitel, "C How to Program", 9th Edition, Pearson, ISBN: ISBN-13 978-1292437071.
- **Course Objectives:** To begin a journey on programming in high-level programming languages and advance into intermediate programming concepts.
- **Course Learning Outcomes**:

Course Learning Outcome	Learning Level*	ABET CAC student outcomes	ABET EAC student outcomes
1. Identify and describe basic programming concepts.	Knowledge (1)	1	1
2. Write small programs employing basic programming constructs, such as primitive data types and literals, operations, expressions and statements, logical decisions, and loops.	Comprehension (2)	1	1
3. Solve computational problems by reducing them into multiple steps using fundamental design techniques, such as structured programming and program decomposition.	Application (3)	2	2
4. Compare different algorithms that solve the same problem.	Analysis (4)	2	2
5. Develop a systematic approach to organize, write, and test a computer program.	Synthesis (5)	2	6

* Learning level as described in Bloom's taxonomy and Anderson and Krathwohl's taxonomy.

ABET CAC:

1) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2) Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3) Communicate effectively in a variety of professional contexts.
4) Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6) Apply computer science theory and software development fundamentals to produce computing-based solutions.

ABET EAC:

1) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2) An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3) An ability to communicate effectively with a range of audiences

4) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Academic Support Resources

- **Library**: Students can access the Florida Polytechnic University Library through the University website and Canvas, on and off campus. Students may direct questions to library@floridapoly.edu.
- **Peer Learning Strategists**: Are specially trained student leaders who help their peers strategize approaches to course content and work through solution methods. PLS work in collaboration with the courses they support so the content and methods are aligned with your instructors' expectations. Students can meet with a PLS in The Learning Center, which is located on the first floor of the Innovation, Science and Technology (IST) building in room 1019.
- **Academic Success Coaches**: All students at Florida Poly are assigned an Academic Success Coach. Your Academic Success Coach can assist you with academic success strategies. Please visit the Student Success Center on the second floor of the IST building to meet with an Academic Success Coach.
- **Writing Center**: Located on the second floor of the IST (2059/2061), the Writing Center helps students to develop their writing and presentation skills. Consultations are available in person and virtually. For more detail, visit floridapoly.edu/writingcenter.

Course Schedule (tentative)

Week	Topics	Chapter/Sections
1	**Syllabus**, **Introduction to Computers and C:** Reading tasks - Hardware and Software, Data Hierarchy, Machine Languages, Assembly Languages and High-Level Languages, The C Programming Language, The C Standard library	1.1-1.4, 1.6, 1.7
2	**Introduction to Computers and C (cont'd):** Typical C Program-Development Environment **Introduction to C Programming:** Simple C Program: Printing a Line of Text, Printing Escape Sequences, Another Simple C Program: Adding Two Integers, Arithmetic in C Assignment 1: Basics of Computers and how they work	1.9, 2.1-2.3, 2.5
3	**Introduction to C Programming (cont'd):** Decision Making: Equality and Relational Operators **Formatted Input/Output:** Streams, Formatting Output with printf, printing Integers, Printing Floating-Point Numbers, Printing with Field Widths and Precision, printf Format Flags Assignment 2: Intro to C Programming	2.6, 9.1-9.6, 9.8-9.9
4	**Structured Program Development:** Algorithms, Pseudocode, Control Structures, The if Selection Statement, The if…else Selection Statement, The while Iteration Statement Assignment 3: Input and Outputs	3.1-3.7

5	**Structured Program Development(cont'd):** Assignment Operators, Increment and Decrement Operators **Program Control:** Iteration Essentials, Counter-Controlled Iteration, For Iteration Statement, do...while Iteration Statement Assignment 4: While/If/If…else statements **1st Exam: (1.1 – 1.4, 1.6- 1.10, 2.1 – 2.3, 2.5, 2.6)**	3.11-3.12, 4.1-4.5, 4.7
6	**Program Control (cont'd):** Switch Multiple-Selection Statement, Break and Continue Statements, Logical Operators, Confusing Equality and Assignment Operators, Structured Programming Assignment 5: Iteration statements	4.6, 4.8-4.11
7	**Program Control (cont'd):** Nested Loops **Functions:** Modularizing Programs in C, Math Library Functions, Random Number Generation	5.1 - 5.3, 5.10
8	**Functions (cont'd):** Functions, Function Definitions, Function Prototypes, Function-Call Stack and Stack Frames, Headers Assignment 6: Random Number Generation and Math Library Functions	5.4 - 5.6, 5.8
9	**Spring Break**	
10	**Functions (cont'd):** Scope Rules, Pointers, File Processing Assignment 7: File Processing **2nd Exam: (9.1 – 9.9, 3.1-3.7, 3.11, 3.12, 4.1-4.11)**	5.12 - 5.16, 7.1-7.4, 11.3, 11.4, 11.7
11	**Arrays:** Arrays, Defining Arrays, Array Examples	6.1 - 6.4
12	**Arrays (cont'd):** Static Local Arrays and Automatic Local Arrays, Passing Arrays to Functions Assignment 8: Arrays (part 1)	6.6, 6.7
13	**Arrays (cont'd):** Sorting Arrays, Searching Arrays, Multidimensional Arrays	6.8 - 6.11
14	**Arrays (cont'd):** Multidimensional Arrays Assignment 9: Arrays (part 2)	6.11
15	**Character and Strings:** Fundamentals of String and Characters, Character Handling Library, Standard Input/Output Library Functions Assignment 10: Multidimensional Arrays, Characters and Strings	8.1-8.3, 8.5
16	**Character and Strings:** String-Manipulation Functions, Comparison Functions	8.6 – 8.7
17	**Final Exam**	

Students are encouraged to read the rest of the topics in the textbook on their own.

Course Policies

Attendance

- Students in face-to-face courses are expected to attend all of their scheduled University classes and to satisfy all academic objectives as defined by the instructor. (University Policy, FPU-5.0010AP) (see also University Policy).
- *A+ Attendance* will be used to track attendance.
- Exceptions to any attendance requirements may be made on a case-by-case basis.

- Note: Falsifying attendance for yourself or for another student is an act of academic

dishonesty and is considered a violation of the university's academic integrity policy.

Late Work/Make-up work

Make-up exams will be given only in extreme circumstances with a documented excuse. If you will miss an exam because you are participating in a college-sponsored activity, inform your instructor at least 72 hours before the exam and provide them with documentation. Late homework will receive a 20% penalty if received up to one day late. Homework received more than one day after the due date will not receive credit.

Grading Scale

Grade	A	B+	B	B-	C+	C	D	F
Percentage	90%	87%	83%	80%	77%	70%	60%	< 60%
GPA	4.0	3.33	3.0	2.67	2.33	2.0	1.0	0.0

Assignment/Evaluation Methods

Assignments (out of class)	12.5%
Assignments (in-class)	12.5%
Attendance	2%
Class Participation	8%
Exams	40%
Final Exam	25% *
Total	100%

*The final exam grade may replace the lowest midterm exam grade if it benefits the overall grade in the course. Note: All the 3 midterms are required. The final will NOT replace a 0 from a missed exam.

Official Email Address

Florida Polytechnic University email is the official method of communication for the University. Students are required to check their email frequently. The subject of your emails must start with "COP2271" followed by the topic. Any email received from an address other than the one with floridapoly.edu domain will not be replied to.

Midterm Exams

Midterm exam dates will be finalized early in the semester and those dates/times will be posted to our Canvas course site once available. Exam dates are subject to change and you should refer to the Academic Calendar website for the most up-to-date exam schedules. Exam dates will also be announced in class at least one week prior to the scheduled event.

Important Dates

- January 20th: Martin Luther King Jr. Holiday – **No classes**
- February 11th: Career Day – **No classes**
- March 1st - March 9th: Spring Break – **No classes**
- March 3rd: Midterm Grades Due
- April 23th: Last Day of Classes
- April 24th- April 25th: Reading Days
- April 26th - May 1st: Final Exams
- May 5th: Final Grades Available

University Policies

Reasonable Accommodations

The University is committed to ensuring equal access to all educational opportunities. The University, through the Office of Disability Services (ODS), facilitates reasonable accommodations for students with disabilities and documented eligibility. It is the student's responsibility to self-identify as a student with disabilities and register with ODS to request accommodations.

If you have already registered with ODS, please ensure that you have requested an accommodation letter for this course through the ODS student portal and communicate with your instructor about your approved accommodations as soon as possible. Arrangements for testing accommodations must be made in advance. Accommodations are not retroactive.

If you are not registered with ODS but believe you have a temporary health condition or permanent disability requiring an accommodation, please contact ODS as soon as possible.

The Office of Disability Services (ODS):

DisabilityServices@floridapoly.edu

(863) 874-8770

The Access Point

ODS website

Accommodations for Religious Observances, Practices and Beliefs

The University will reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. (See University Policy.)

Academic Integrity

The faculty and administration take academic integrity very seriously. Violations of academic integrity regulation include actions such as cheating, plagiarism, use of unauthorized resources (including but not limited to use of Artificial Intelligence tools), illegal use of intellectual property, and inappropriately aiding other students. Such actions undermine the central mission of the university and negatively impact the value of your Florida Poly degree. Suspected violations will be fully investigated, possibly resulting in an academic integrity hearing and sanctions against the accused student if found in violation. Sanctions range from receiving a zero on the exam or assignment, to expulsion from the university. Repeat offenders are subject to more severe sanctions and penalties.

Title IX

Florida Polytechnic University is committed to ensuring a safe, productive learning environment on our campus that prohibits sex discrimination and sexual misconduct, including sexual harassment, sexual assault, dating violence, domestic violence and stalking. Resources are available if you or someone you know needs assistance. You may speak to your professor, but your professors have an obligation to report the incident to the Title IX Coordinator. Please know, however, that your information will be kept private to the greatest extent possible. You will not be required to share your experience. If you want to speak to someone who is permitted to keep your disclosure confidential, please seek assistance from the Florida Polytechnic University Ombuds Office, BayCare's Student Assistance Program, 1-800-878-5470 and locally within the community at Peace River Center, 863-413-2707 (24-hour hotline) or 863-413-2708 to schedule an appointment. The Title IX Coordinator is available for any questions to discussion resources and options available.

Student Record of Lectures

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal educational use.

Recordings may not be used as a substitute for class participation or class attendance. Recordings may not be published or shared in any way, either intentionally or accidently, without the written consent of the faculty member. Failure to adhere to these requirements is a violation of state law (subject to civil penalty) and the student code of conduct (subject to disciplinary action).

Recording class activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion (except when incidental to and incorporated within a class lecture), and invited guest speakers ***is prohibited****.*

Sample Rubric for Homework and Lab Assignments

Programming assignments will be evaluated using rubrics similar to the one included below.

0%	**25%**	**50%**	**75%**	**100%**
Source code files were not provided. Problem solution was not submitted.	Significant assignment requirement ignored or violated. Program doesn't compile.	Output of the program was not shown. Lack of comments. Pour code readability (inconsistent indentation, variable naming, general organization)	Code uses a poorly chosen approach in at least one place, for example, hardcoding something that could be implemented through a for loop. Minor details of the program specification are violated.	Program works correctly and meet the requirements of the assignment. Code is clean, well-organized, and well commented.

- ### Disclaimer:

  This syllabus is tentative and may be subject to change. Everything in the syllabus might change except for 1) Course Description; 2) Textbook; and 3) Grading Scale.