

CIS 123

Computer Science I: C++

Spelman College Computer & Information Sciences Fall 2026

COURSE ADMINISTRATION

Instructor: Dr. Ebuka Oguchi

Office Hours: Friday 3:00-5:00, Room: SC 316

Course Lecture Hours: Monday, Wednesday, and Friday 10:00-10:50, Tapley 227

Course Lab Hours: Wednesday 3:00 - 4:15, Tapley 227

COURSE INFORMATION Course Description

This course provides students with a foundation in programming by developing their knowledge, skills, and proficiency using the C++ programming language. The course covers the following concepts: data types, input/output, control structures (selection), control structures (repetition), functions (built-in and user defined), arrays, strings, classes and data abstraction, object-oriented programming, inheritance, polymorphism, pointers, and basic exception handling. This course will also introduce GitHub, a version control management system, and expose students to basic functionality such as tracking changes, repository storage and project collaboration.

Learning Objectives

Upon completing the course, a student will be able to:

- Analyze computational problems and design clear, logically structured algorithms using pseudocode.
- Map algorithms/pseudocode to C++ code to solve moderate to complex computational problems.
- Build, execute, and debug simple C++ programs using an IDE or compiler. ○ Explain the difference between syntax, logic, and runtime errors.
- Demonstrate correct use of built-in data types, variables, and expressions.
- Use cin, cout, and formatting tools to validate responses and interact with users.
- Apply selection and repetition constructs to control program flow effectively.
- Demonstrate understanding of modularity by writing functions to organize programs and integrate them into larger programs.
- Understand the principles of object-oriented programming and write object-oriented code.
 - Demonstrate encapsulation, abstraction, and method design through instantiation and manipulation of objects.

- Use arrays and strings to store, process, and manage collections of data.
- Recognize simple class definitions and distinguish basic OOP principles from procedural approaches.
- Create and manage GitHub repositories, track changes, and collaborate on software projects using version control best practices.

Prerequisites:

CIS111 or CIS 113

Course Credits: 4

Computer Resources:

- CS students are strongly encouraged to procure a personal laptop computer to provide mobility while working. Your computer should meet the following [System Requirements](#).

Technology Requirements (in case of switch to virtual instruction):

- A wired Internet connection (DSL, LAN, or cable connection is desirable with Bandwidth of 512Kbps for connecting to SpeleLearn (Canvas) course management system is recommended).

Technology Service Desk

Contact the Spelman Technology Services (STS) Service Desk for technology related questions or issues by phone at (404) 270-5400 or via email at stservedesk@spelman.edu

IT professionals staff the Service Desk Monday through Friday from 8 AM through 11 PM; Saturday, 10:00 AM – 1:00 PM, and Sunday, 1:00 PM - 4:00 PM. Service Desk staff provide phone support for college enterprise applications, including the MySpelman portal, SpeleLearn (Canvas) Learning Management System, and Microsoft Office 365.

Tutorial Services

CIS Department Tutors (schedule TBA), Milligan Success Center (2nd Floor)

Required Textbooks:

- Zybooks: Computer Science I: C++ ([Programming in C++ by Frank Vahid et al.](#)) ISBN 9798203300416
 1. Click any zyBooks assignment link in your learning management system (Do not go to the zyBooks website and create a new account)
 2. Subscribe
- Starting Out with C++: From Control Structures through Objects 10th Edition
Tony Gaddis
ISBN-13: 9780137450626

Do not purchase a paper version. Instructions will be given for acquiring the textbook and interactive exercises by the instructor.

Expectations:

Students are expected to:

- Use their Spelman email address when emailing the instructor and fellow students
- Interact respectfully in-person or online with instructor/s and peers
- Review and follow the course calendar
- Submit assignments by the corresponding deadline *The instructor will:*
- Respond to emails/messages within 72 hours (excluding weekends and holidays)

Method of Instruction:

This course will be delivered **in-person**, through the course management system SpeleLearn (Canvas). If conditions dictate, online class sessions will be hosted via Zoom or Microsoft Teams. Log-in to your SpeleLearn (Canvas) account from the [MySpelman Portal](https://spelmancollege.sharepoint.com/) (<https://spelmancollege.sharepoint.com/>) to access the course materials, activities, assessments, and resources. The SpeleLearn (Canvas) course will house links to other Internet-based technologies (i.e., Office 365, Google Apps, Virtual Meetings, etc).

Instruction will consist of classroom lectures, discussions, programming and reading exercises, laboratories, videos, C++ programming assignments, and exams.

- **Assigned Readings:** All readings should be completed before class to aid understanding of the material.
- **Homework and Classwork Assignments:** You are expected to complete homework problem sets as given. These problems may or may not be found within the textbook, and most problems will require the use of a computer to complete.
 - Programs for this course will be developed using C++. Students are strongly encouraged to work on their personal laptops. [VS Code](#) (for MacOS [VS Code download](#)) will be used as the IDE (Integrated Development Environment) in course instruction.
- **Lab Assignments:** You are expected to begin lab assignments during the lab period. For some labs, you will need to complete the assignment on your own time. Unless otherwise specified, you are expected to code your lab assignments individually, even if you collaborate with a lab partner in developing the algorithm of the solution.

- **Quizzes:** Quizzes will be given weekly and work to reinforce concepts learned from previous weeks.
- **Exams:** Three exams will be administered in addition to a two-hour final exam (for a total of 4 exams). Exams are in-person and written.

Modifications to Syllabus:

I reserve the right to modify the syllabus based upon students' progress, instructor evaluation of students' performance and/or unforeseen acts of nature that impact progression of course content and rubric. I will provide written notification at the time of modification for record keeping purposes.

COURSE GRADING INFORMATION

Evaluation Summary:

Exams (3)	40%
Quizzes	10%
Final Exam	20%
Homework	20%
Lab	10%
Total:	100%

Grading Scale:

Numeric	Letter	Numeric	Letter
94 - 100	A	77 - 79	C+
90 - 93	A-	73 - 76	C
87 - 89	B+	70 - 72	C-
83 - 86	B	60 - 69	D
80 - 82	B-	< 59	F

Late Assignment

Every assignment and project will have a published or announced deadline consisting of both a date and time. All submissions to Canvas are date and time stamped.

- All students are given **three “oopsies” or grace periods**. Each oopsie gives a student a three-day extension on the deadline for a homework or lab assignment. Grace periods cannot be aggregated, nor can they be partially applied. No other late assignments will be accepted. **Notification must be submitted in writing via email before the deadline**. Your email subject should contain the word “Oopsie: AssignmentName”.

Should you encounter an unanticipated or uncontrollable event that may prevent you from meeting a deadline, contact the instructor immediately to request an extension. Extensions are not automatic or guaranteed.

The professor has the option to drop the assignment if accepting the assignment late will affect the integrity of the assignment.

Extra Credit:

In general, no extra credit is given. Exceptions will be additional program features included with the assignment. Any extra credit opportunity will be made available to the entire class, not as an individual assignment.

Grade changes:

Once grades have been administered for any assignment, you have **seven (7) days** from the date you received the grade to appeal the assignment in question. Any student wishing to appeal any given score must write a statement explaining the grounds for the appeal. Any work submitted for regrading may be graded in its entirety.

Feedback:

Feedback will be provided regularly by your instructor -- as quickly as possible. Every instructor has multiple responsibilities beyond his/her courses. Each instructor has a unique way of providing feedback, if you believe you are not getting enough feedback, you are encouraged to contact your instructor and ask for more.

COURSE SCHEDULE AND IMPORTANT DATES Tentative weekly course of instruction

The instructor retains the right to change the schedule of study as needed. This is an approximation, some topics may take more or less time. Updates to assignments will be given in class and via Canvas.

Week	Assignments	Readings
1	Introduction to C++	Chapter 1

08/19 08/20 Late Reg. Opens	Lab: --No Lab--	
2 08/24 08/28 Late Reg. Ends	Variables/Assignments	Chapter 2
	Lab: Course Supplement	
	Finishing: Variables/Assignments Starting: Branches	Chapter 3
3 08/31	Lab: Course supplement	
4 09/07 09/07 Labor Day (NC)	Branches	Chapter 3
	Lab:	
	Finishing: Branches Starting: Loops	Chapter 4
5 09/14	Lab: Exam 1 (Ch. 1 – 3)	
6 09/21 09/24-25 Midterms	Loops	Chapter 4
	Lab: Course supplement	
	Finishing: Loops Starting: Arrays/Vectors	Chapter 5
7 09/28	Lab:	
8 10/05 10/05-06 Fall Break 10/09 Midterm grades due	Arrays/Vectors	Chapter 5
	Lab: Exam 2 (Ch. 1 – 4)	
9 10/12 10/12 Last Day to Withdrawl	Finishing: Arrays/Vectors	Chapter 5

	Lab: Course Supplement	
10 10/19	User-Defined Functions	Chapter 6
	Lab: Course Supplement	
11 10/26	User-Defined Functions	Chapter 6
	Lab: Exam 3 (Ch. 5 – 6)	
12 11/02 11/02 Spring Reg. Opens	User-Defined Functions	Chapter 6
	Lab: Course Supplement	
13 11/09	Structured Data	Section 16.11-16.14
	Lab: Course Supplement	
14 11/16	Finishing: Structured Data Starting: Objects and Classes	Chapter 7
	Lab: Lab Final (all programming)	
15 11/23 11/25-27 Holiday (NC)	Objects and Classes	Chapter 7
	Lab: --No Lab--	
16 11/30 12/02 Last Day of Classes	Final Review	
	Lab: --No Lab--	

17 12/07 Finals Week		
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COURSE POLICIES General Course Administration Policy

The course syllabus is not a contract. It is a guideline on how the course will be conducted. The instructor retains sole discretion over all aspects of the course including its administration, syllabus, grading, policies, etc. The instructor retains the right to modify any part of the syllabus as necessary to ensure a productive and effective course. Any such changes will be preceded by adequate notice.

Attendance and Tardiness Policy

Students are strongly encouraged to be present and on time for each class and are responsible for all material covered in class whether they are present or absent. Students are expected to keep pace with the announced schedule for the course. This includes the submission of assignments that are factored into the final course grade. ***The instructor may withdraw students with excessive unexcused absences.*** When given, quizzes will be administered at the beginning of class. **No makeup quizzes will be given;** missed quizzes due to excused absences will not count against you. Students who miss a test must consult with the instructor to determine if a re-test is possible. While attendance is not a part of the course grade, any assignments (bonus quizzes, in class assignments, etc) missed because of being absent are the responsibility of the student. No extensions will be given without an excused absence.

Planned and Unexpected Absences

Students should report planned absences (e.g., interviews, employment site visits, extra-curricular activities) to the instructor **before class meets**. Email messages should suffice. Students are still responsible for discovery of missed content, assignments, and announcements. Do not schedule any event, interview, or plan a trip in conflict with any examination for this course. *Such an absence will not be approved or excused.*

Excused absences fall into five categories:

College-sponsored activities:

A College function is one that occurs under the sponsorship of any College academic, administrative or athletic unit. The function should offer a forum for the development of students' academic or leadership skills, provide an educational opportunity, provide a venue in which the College's reputation will be enhanced, or be an officially sanctioned athletic event. Examples include the following:

- a. Academic activities including, but not limited to, performing arts (i.e., Glee Club, theatre performances, etc.), debate and mock trial, honors classes, ROTC, scholarly conferences, and departmental functions.
- b. Athletics: Official athletic events sponsored by the Athletic Department.
- c. Other College activities including student government and student organizations' leadership or development conferences. The activity must have a clear educational mission and be closely linked to academic pursuits or to other official College functions.

Student Illness or Critical Illness/Death in the Immediate Family:

"Immediate Family" is defined as a spouse, child, parent, legal guardian, sibling, grandparent or aunt/uncle.

- a. **Student Illness or injury:** Absences will be excused only for illnesses or injuries that prohibit students from participating in class or if the absence results from a directive received from health services.
- b. **Critical Illness of an Immediate Family Member:** Absences will be excused if the student documents that he or she had to provide needed care and/or support for a critically ill immediate family member.
- c. **Death of an Immediate Family Member**

Short-Term Military Obligation:

This stipulation is defined as an absence resulting from military orders for a short-term period.

Jury Duty or Subpoena for Court Appearance: This stipulation applies to an absence that is a result of an official request from a court of law.

Religious Holidays: This applies to major religious holidays for students who actively practice the religion.

Process for Completing Missed Work

After the absence has been excused, the student must request an opportunity to make up work *within a week of the absence*. The instructor will schedule the missed work or activities, or if rescheduling of an activity is not practical or possible, the instructor will determine a fair alternative for arriving at the grade for the missed work. Instructors should not penalize students who present an official College excused absence. Each instructor should inform the student of the deadline for completion of the missed assignment, work, etc. An instructor

may appropriately respond if the student who has been granted an excused absence fails to satisfactorily complete the missed work by the deadline provided by the instructor.

In the Event of Campus Emergencies

Students are encouraged to sign up for email and text message notifications of college emergencies. See the Spelman Public Safety home page and go to the Spelman Alert tab to sign up.

In the event a campus emergency notification is issued during a classroom meeting, please review and follow the directions posted for your building and room.

In the Event of Disruptions to the College Calendar

If classes are suspended, students and instructors are not to report to the classroom. However, any assignments that are due should be submitted electronically when possible. Students should monitor e-mail, pre-designated Web sites and Canvas for assignments or direction from the faculty concerning instruction or assignments.

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course Canvas website or can be obtained by contacting the instructor via email. You are expected to read your @spelman.edu email on a frequent basis.

Class Cancellation Policy

If for any reason a class is not held at the assigned time, all work scheduled for that day is automatically rescheduled for the next scheduled class period. Any projects, assignments, or homework due on a missed day become due at the next scheduled class period. Similarly, any tests scheduled for a class period which is not held at the assigned time will be given at the next scheduled class period.

COLLEGE POLICIES Student Access Statement

Spelman College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or think you may have a disability) and, as a result, need a reasonable accommodation to participate in class, complete course requirements, or benefit from the College's programs or services, you should contact [Student Access Center \(SAC\)](#) as soon as possible. The Student Access Center works with students confidentially and does not disclose

any disability-related information without their permission. Contact the Student Access Center at 404-270-5289 for additional information.

Academic Integrity Policy

Students caught cheating will receive a grade of zero on the assignment in question and, at the sole discretion of the instructor, may receive a grade of “F” for the course. At the heart of Spelman College’s mission is academic excellence, along with the development of intellectual, ethical and leadership qualities. These goals can only flourish in an institutional environment where every member of the College affirms honesty, trust, and mutual respect. All members of the academic community of Spelman College are expected to understand and follow the basic standards of honesty and integrity, upholding a commitment to high ethical standards. Students are expected to read and abide by the Spelman College Code of Conduct (see the current Spelman College Student Handbook) and are expected to behave as mature and responsible members of the Spelman College academic community. Students are expected to follow ethical standards in their personal conduct and in their behavior towards other members of the community. They are expected to observe basic honesty in their work, words, ideas, and actions. Failure to do so is a violation of the Spelman College Academic Integrity Policy. Violators will be subject to the sanctions outlined in the Spelman College Bulletin.

Common integrity violations:

- a. **Cheating:** Using or attempting to use unauthorized assistance, material, or study aids in examinations or other academic work, or preventing or attempting to prevent another from using authorized assistance, material, or study aids. (Examples: using unauthorized Artificial Intelligence (AI) Technology; using a paid or subscription service to complete assignments/exams or to answer specific questions on an exam or assignment; using a cheat sheet in a quiz or exam; programming a calculator or other electronic device with information for an exam, test, or quiz; soliciting information regarding an exam or test from another student; altering a graded exam and resubmitting it for a better grade, etc.)
- b. **Plagiarism:** Using the ideas, data, or language of another without specific and proper acknowledgment. Likewise, students may not use Internet source material, in whole or part, without careful and specific reference to the source. All use of the Internet must be thoroughly documented. Examples: misrepresenting another’s work, (i.e., paper, lab report, article, or computer code) as one’s own original creation and submitting it for an assignment; using someone else’s ideas without attribution to source; failing to cite a reference or to use quotation marks where appropriate, etc.). Internet plagiarism includes but is not limited to submitting downloaded and or purchased term papers or parts of term papers or articles, paraphrasing or copying information from the

internet without citing the source, and “cutting and pasting” from various sources without proper attribution to source.

- c. **Fabrication:** Submitting contrived or altered information in any academic exercise. Examples: making up data for an experiment; “fudging” data; citing nonexistent or irrelevant articles; presenting fraudulent excuses, lies, letters of recommendations.
- d. **Misrepresentation or falsification of academic records:** Misrepresenting or tampering with or attempting to tamper with any portion of a student’s transcripts or academic record, either before or after enrolling at Spelman College. Examples: forging a registration form or a change of grade form; forging signatures of advisors; falsifying information on an official document such as drop/add form, ID card or other college documents; tampering with computer records, etc.
- e. **Facilitating academic dishonesty:** Knowingly helping or attempting to help another violate any provision of this code. Example: working together on a take-home exam or other individual assignments, discussing an exam with a student who has yet to take it, giving tests or papers to another student, etc.
- f. **Unfair advantage:** Attempting to gain unauthorized advantage over fellow students in an academic exercise. Examples: gaining or providing unauthorized access to examination materials (either past or present); obstructing or interfering with another student’s efforts in an academic exercise; lying about a need for an extension for an exam or paper; continuing to write even when time is up during an exam; destroying, hiding, removing, or keeping library materials, etc.
- g. **GenAI usage:** Submitting work containing any content generated by artificial intelligence (AI) when not explicitly directed to do so by the instructor will be considered a violation of the Academic Integrity Policy.

Excused Absence Policy

Note about granting extensions:

While a request may come from the Office of Undergraduate Studies based on information from Health and Counseling Services and/or a verified excused absence, it is the faculty member who determines the length of the extension. It is expected that the faculty member will make reasonable accommodation for the student, who, for circumstances beyond her control, must miss a test or cannot meet the deadline for an assignment.

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Incomplete Policy

An Incomplete (IP) is assigned to a student when extenuating circumstances (e.g., illness, death of an immediate family member, or family emergency) prevent a student who is passing a course from completing the final examination or final assignment(s) by the end of the semester. Students must have a passing grade in order for an incomplete to be considered. In consultation with an Academic Dean, the faculty member determines if an Incomplete is appropriate and completes the necessary paperwork. The faculty member determines the date for completion of all work. An incompleteness must be changed by the deadline specified on the College academic calendar. A student who cannot complete the Incomplete by the specified deadline must request an extension from the professor, who will notify the Office of the Dean of the extension. If the required work is not completed by the established deadline or the student is not given an extension, the IP will automatically be changed to

