

General Information

Department: Computer Science

Course Name: Procedural programming

Course Number: CSCI 235

Credit Hours: 4

Major/Minor Credit: Computer Science, Cybersecurity, Computer and Information Sciences

LAC Requirement: Computer and Information Sciences

Prerequisites: CSCI 215/217 or instructor's permission, and MATH 110 or higher

Instructors: Prof. Julie Henderson and Dr. Sean Hayes

Course Description

In this course, we will study the concepts of computer science using the C++ language. This will include problem-solving techniques, developing algorithms, program design, and testing. Additional topics include the history of computing and ethical issues in computing. Programming constructs include control, repetition, functions, arrays, data types, and file handling. While C++ is an object-oriented language, for this introductory course we will focus on the procedural aspects of the language only.

Course Materials

Required Materials

Malik, D. S. (2018). *C++ Programming: Program Design Including Data Structures*. 8th edition. Stamford, CT: Course Technology. ISBN: 978-1-337-11756-2. URL: <https://www.cengage.com/c/c-programming-program-design-including-data-structures-8e-malik/9781337117562PF/?filterBy=Student>. You may also choose to purchase the cheaper 7th edition for this course.

Topic materials are expected to be read by students before the in-class discussions. See the Tentative Course Schedule.

Free Resources

Allen B. Downey (2012). *How to think like a computer scientist: C++ Version*. Green Tea Press. URL: <https://www.greenteapress.com/thinkcpp/>.

Wikibooks (2012). *C++ Programming - Wikibooks, The Free Textbook Project*. Wikibooks. URL: https://en.wikibooks.org/wiki/C%2B%2B_Programming.

Busbee, Kenneth (2013). *Programming Fundamentals - A Modular Structured Approach using C++*. 1.22th ed. OpenStax CNX. URL: <https://open.umn.edu/opentextbooks/textbooks/144>.

Course Objectives

By the conclusion of this course, students will be able to:

- Define an algorithm.
- Develop algorithms for basic computing functions involving iteration, control-flow, files, and functions.
- Analyze a problem description and to refine a solution into an algorithm.
- Take a large problem, break it down into smaller parts, solve it, and code it using C++.
- Understand the basic imperative syntax and semantics of C++.
- Translate an algorithm into C++.
- Demonstrate basic debugging capabilities.
- Express the issues involved in an ethical situation involving computing.

ABET Student Outcomes

The following student outcomes shall be supported by this course:

1. An ability to analyze a problem and identify and define the computing requirements appropriate to its solution.
2. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
2. An ability to use current techniques, skills, and tools necessary for computing practice.
3. An ability to communicate effectively with a range of audiences.
4. An understanding of professional, ethical, legal, security, and social issues and responsibilities.
4. An ability to analyze the local and global impact of computing on individuals, organizations, and society.
5. An ability to function effectively on teams to accomplish a common goal.
6. An ability to apply knowledge of computing and mathematics appropriate to the discipline.

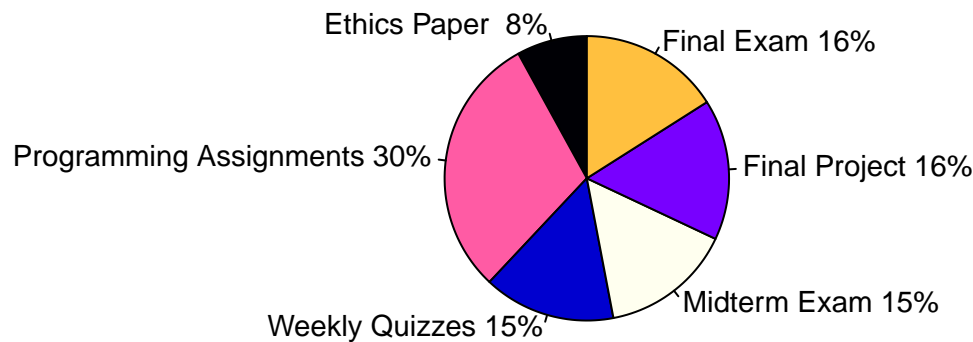
Tentative Course Schedule

The weekly schedule is subject to change.

| # | Week Days | Lecture Topics | Textbook |
|-------|------------------------|--|----------|
| 1 | 01/11 – 01/15 | Syllabus, Schedule, etc.; Overview of Computers and Programming Languages; Introduction to Flowcharts and the Command Line | CH 1 |
| 2 | 01/18 – 01/22 | Basic Elements of C++ | CH 2 |
| 3 | 01/25 – 01/29 | Input / Output | CH 3 |
| 4 | 02/01 – 02/05 | Boolean Expressions and Conditionals (Branching) | CH 4 |
| 5 | 02/08 – 02/12 | Repetition (Looping) | CH 5 |
| 6 | 02/16 | Midterm Exam (<i>tentative date</i>) | CH 1-5 |
| 6–7 | 02/17 – 02/26 | User-Defined Functions | CH 6 |
| 8 | 03/01 – 03/05 | User-Defined Simple Data Types and Namespaces | CH 7 |
| 9 | 03/08 – 03/12 | The String Type | CH 7 |
| 10–11 | 03/15 – 03/26 | Arrays | CH 8 |
| 12 | 03/29 – 04/02 | Records | CH 9 |
| 13–14 | 04/05 – 04/14 | Review / Work on Final Project | |
| 15 | April 22 nd | Final Exam | CH 1-9 |

Grading

Weights



Grading Scale for Letter Grade

Letter grades will be calculated from the following ranges.



Late Work

Deadlines are an inevitable part of life. Meeting deadlines is an important part of becoming a professional computer scientist. To further instill this within each of you, I am making a concerted effort to stick to all deadlines for programming exercises. *I will **not** grade late homework.*

The lowest assignment problem's grade will be dropped at the end of the semester. Therefore, if you are a conscientious student and turn in all homework, you will benefit by dropping the lowest score. If you miss one deadline, that grade of zero will be dropped. If you miss multiple deadlines, your grade will be affected. I will look at your late work and let you know how you did if you bring it to me; however, *any late work will receive a grade of zero.*

Teamwork

Teamwork is a highly valued skill in the workplace and society as a whole. For team projects, the professor will use his/her discretion as to the team members and will direct each team to produce a single solution. The goal is to develop an understanding of what makes teams successful and to be able to be an effective teammate.

Academic Integrity and the Honor Code

All students are expected to adhere to [Charleston Southern University's Academic Integrity Policy](#). **All assignments** are individual assignments unless explicitly specified by the professor. Do not collaborate, search for posted solutions, or post code online. **Make sure that you write every line of your own code.** You should not use **ANY** outside sources of code for this class. Using or referencing code written by someone else or sharing your code with others (online or in-person) is considered a violation of the academic integrity policy and will result in a report to the registrar's office. **Posting code relating to assignments on the Internet is prohibited** (e.g., **don't** post to discussion boards, forums, blogs, public repositories, **chegg.com**, etc.). Do NOT look at your neighbor's screen for hints or ask, "how did you do that?", unless you talk to me **beforehand**.

- **NEVER** look at someone else's code in person or online (chegg.com, forums, email, etc.).
Do ask your professor if you have questions or get stuck.
- **NEVER** search online for assignment solutions.
Do reference code from the book, code given to you by the instructor, and online documentation on the C++ language.
- **NEVER** exchange code in any manner or you tell someone what code they need.
You may talk to your classmates about C++ or assignments as long as you are not sharing ideas for assignment solutions.

A Community of Honor

As a liberal arts university committed to the Christian faith, Charleston Southern University seeks to develop ethical men and women of disciplined, creative minds and lives that focus on leadership, service, and learning. The Honor System of Charleston Southern University is designed to provide an academic community of trust in which students can enjoy the opportunity to grow both intellectually and personally. For these purposes, the following rules and guidelines will be applied.

"Academic Dishonesty" is the transfer, receipt, or use of academic information, or the attempted transfer, receipt, or use of academic information in a manner not authorized by the instructor or by university rules. It includes, but is not limited to, cheating and plagiarism as well as aiding or encouraging another to commit academic dishonesty.

"Cheating" is defined as wrongfully giving, taking, or presenting any information or material borrowed from another source - including the Internet by a student with the intent of aiding himself or another on academic work. This includes, but is not limited to a test, examination, presentation, experiment, or any written assignment, which is considered in any way in the determination of the final grade.

"Plagiarism" is the taking or attempted taking of an idea, writing, graphic, music composition, art, or datum of another without giving proper credit and presenting or attempting to present it as one's own. It is also taking written materials of one's own that have been used for a previous course assignment and using it without reference to it in its original form. Students are encouraged to ask their instructor(s) for clarification regarding their academic dishonesty standards.

Violations of this policy will result in academic discipline, up to and including expulsion from the University.

For more information on procedures and violation appeals, refer to the [Student Handbook](#).

Department and University Policies

LockDown Browser + Webcam Requirement

This course requires the use of LockDown Browser and a webcam for online quizzes and exams. The webcam can be the type that's built into your computer or one that plugs in with a USB cable.

Watch [this brief video](#) to get a basic understanding of LockDown Browser and the webcam feature.

Instructions

1. [Download and install LockDown Browser](#).
2. Once installed, start LockDown Browser
3. Log into Blackboard Learn
4. Navigate to the test

Note: You won't be able to access tests with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the test to continue.

Guidelines

When taking an online test, follow these guidelines:

- Ensure you're in a location where you won't be interrupted.
- Turn off all other devices (e.g., tablets, phones, other computers) and place them out of reach.
- Ensure that you've allotted sufficient time to complete the test before starting.
- Clear your workspace of all unpermitted external materials – books, papers, other devices
- Remain at your computer for the duration of the test
- Run the "Webcam Check" and "System & Network Check" before beginning a test on a different computer, Wi-Fi network, or location.
- To produce a good webcam video, do the following:
 - Avoid wearing baseball caps or hats with brims
 - Ensure your computer or device is on a firm surface (a desk or table). Do NOT have the computer on your lap, a bed, or other surfaces where the device is likely to move.
 - If using a built-in webcam, avoid readjusting the screen's tilt after the webcam setup.
 - Have a well-lit room, but avoid backlighting (e.g., having your back to a window)
- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

Getting Help

Several resources are available if you encounter problems with LockDown Browser:

- The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues. If a test requires you to use a webcam, also run the "Webcam Check" from this area
- You may Chat with [CSU Tech Help](#) 24/7 about any issues you run into.
- Respondus has a Knowledge Base available from support.respondus.com. Select the "Knowledge Base" link and then select "Respondus LockDown Browser" as the product. If your problem is with a webcam, select "Respondus Monitor" as your product
- If you're still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it.

Weather & Campus Emergencies

In case of adverse weather or other campus emergencies, critical information will be posted on the CSU homepage and pushed to email addresses and phone numbers of those people who have updated their contact information within the BUC Alert System and Blackboard announcements. If you have not yet updated your contact information, or set up course notifications within Blackboard, you should do so immediately.

Continuity of Instruction

During a pandemic or catastrophic event, and after all face-to-face instruction has been suspended, communication for our class will continue to take place through BUC mail and Blackboard. In the event of such an emergency, check your BUC mail account and Blackboards course announcements page for instructions. Students are required to use their BUC mail account to officially communicate with faculty members and university offices regarding coursework and grades.

Attendance

Student participation is crucial for academic success. Students are also expected to check their BUCmail daily and review Blackboard for course announcements.

There will be a class announcement at the beginning of each week detailing the week's work. Stay up to date on these assignments; the more behind you get the less likely it becomes that you will pass the course. Email me as soon as you hit a problem; I am more than happy to help you.

On-Ground

Students are expected to attend course meetings and complete assignments.

Any student who has missed 25% of course meetings will be awarded a grade of FA (Failure due to Absences). In this course, **FA is awarded after missing 7 class meetings**. Three (3) instances of tardiness or leaving class early are equal to one absence. For more information, please see the [CSU Excessive Absence Policy](#). If you arrive after the roll is called, check in with the professor directly after class so that you will be recorded as tardy instead of absent.

Online

Student participation is crucial in an online course. Students are expected to log in to their course(s) daily and complete readings and assignments. Students are also expected to check their BUCmail daily.

Any student who does not **participate** in this course's academic activities for 28 consecutive days will be awarded a grade of FA (Failure due to Absences). Academic activities include completing assignments, quizzes, and exams (simply logging in does not count as attendance). For more information, please see the [CSU's Excessive Absences policy](#).

Hybrid

Students enrolled in hybrid (blended) courses will be subject to BOTH (on-ground and online) FA policies. That is, if a student misses 25% of the mandated on-ground meetings OR does not participate within the prescribed number of days (see online FA policy above), then that student will receive an FA.

Course Evaluations

To pursue our mission of *Academic Excellence in a Christian Environment*, we must receive feedback from students. The student-feedback survey is online and will be available to students in the second half of the semester. Students are strongly encouraged to complete the short evaluation survey, which is anonymous. Your professor will let you know when the survey is available. The survey will be available through your MyCSU account. We greatly value your opinion!

Student Representatives

These are students who are designated by letter to represent the University on official business (e.g., athletic, music, and similar events). If officially scheduled absences cause these students to miss tests, assignments, and/or other similar academic activities, University policy allows these to be made up without penalty. Following this policy, Student Representatives may opt to either make-up tests *before* departure or supplanting missed tests with the final exam grade. Final exams must always be taken *before* departure to avoid an Incomplete for the course. Scheduled assignments remain subject to the lateness policy and must be turned in before departure to avoid lateness penalties. Student Representatives are responsible to inform the instructor of official absences and to make all appropriate arrangements.

Internet Etiquette

Charleston Southern University (CSU) holds students, faculty, and staff to the highest standards of conduct and expects all to demonstrate courteous behaviors and practices in online communications. This policy includes guidelines and recommendations for online communications. Being respectful, thoughtful, meaningful, and ethical are fundamental to good netiquette.

CSU's basic netiquette rules are:

- Course communications are for internal use only and considered confidential. Do not forward or quote discussion posts, emails, or other course communications to outside parties.
- Never share personal login usernames, IDs, or passwords.
- Do not type in all capital letters. It is perceived online as shouting.
- Use proper capitalization, grammar, spelling, and punctuation conventions for professional communications.
- Avoid texting jargon or abbreviations without explanation.
 - Incorrect: "CSU is a wonderful university."
 - Correct: "Charleston Southern University (CSU) is a wonderful university."
- Be mindful of sending emails. Ensure that content is relevant and pay attention to *Reply* versus *Reply All*.
- BucMail is the only email allowed for course communications. Other platforms (Yahoo, Gmail, etc.) are prohibited.
- In video conferencing, mute your microphone when not speaking.
- Differing views are natural and welcome in discussion boards. Be respectful in your comments-even if you disagree or dislike someone's position on a topic.
- Respect the time and availability of students, faculty, and staff. Emails should be addressed within 24 hours of receipt. Keep in mind that traditional faculty work hours are 8 a.m. - 5 p.m. EST.

Disability Services

Any student who may need accommodations should review the requirements/procedures on the [Disability Services website](#). Once approved to receive accommodations through Disability Services, the student will need to contact the instructor.

Remote-Location Accommodation

Students enrolled in this on-campus class have the option to request permission to complete all course requirements from a remote location. Upon receiving this permission, the student accepts full responsibility for regularly accessing all on-line materials and completing all on-line assignments in a timely manner. Should you decide to seek this accommodation, please contact the instructor about the next step in the process. The approval process for the virtual learning accommodation may involve intervention by the CSU Student Success Center. **PLEASE** do not come to class if you are sick. Choose to stay safe and watch the recorded version of the class delivery until you are feeling better.

If the virtual accommodation is granted, the student is obligated to pursue their studies remotely for the remainder of the semester without regard to any change in personal, campus community, or other circumstances. This caveat can be waived by the instructor (particularly if we are able to transition back to more hybrid or face-to-face deliveries).

Nondiscrimination Policy and Student Rights

Charleston Southern University does not illegally discriminate based on race, color, national or ethnic origin, sex, disability, age, religion, genetic information, veteran or military status, or any other basis. Inquiries regarding the non-discrimination policies should be directed to Latitia R. Adams, Title IX Coordinator, 843-863-7374, ladams@csuniv.edu. Students should refer to the [CSU Student Handbook](#) to be fully informed of their rights and remedies.

See all course, department, and university policies located in Blackboard and the [CSU Student Handbook](#).