

CSCE 350: Data Structures and Algorithms

SYLLABUS

INSTRUCTOR

Name: Neema Kanapala
Office: 2219, Bert Storey Innovation Center
Office Hours: TR 11:30 am – 1:00 pm or by appointment
Email: neema@cse.sc.edu
Phone: (803) 576-6293

ACADEMIC BULLETIN DESCRIPTION:

- Techniques for representing and processing information, including the use of lists, trees, and graphs
- Analysis of algorithms
- Sorting, searching, and hashing techniques

PREREQUISITES:

- CSCE 240
- MATH 174 or MATH 374 or MATH 574
- Ability to write programs using C/C++

CLASS MEETING TIMES:

<i>Session</i>	<i>Days</i>	<i>Time</i>	<i>Location</i>
Lecture	MW	2:20 pm – 3:35 pm	HP 210

COURSE OVERVIEW:

- The course will be delivered to the students face-to-face only.
- Student-to-Instructor(S2I) Interaction:
 - Students will attend face-to-face class sessions held during class meeting times in the assigned classroom.
 - Students will interact with the instructor during class sessions, office hours and also through email.
- Student-to-Student(S2S) Interaction:
 - Students may engage in discussions during class sessions.
- Student-to-Content(S2C) Interaction:
 - Students will engage with the course content by completing assignments, tests, participation in discussion boards and other in-class participation activities.
- The instructor will respond to student queries in a reasonable amount of time; the same is expected of the students. Please allow a response time of at least 1 business day to your email. Make sure to include “*CSCE 350*” as the subject line in all your email communication.

COURSE OBJECTIVES

1. Describe formal analysis measures.
2. Describe the relevance of abstraction to problem solving.
3. Analyze and use lists, trees, and graphs.
4. Apply common algorithm design techniques such as brute force, divide-and-conquer, decrease-and-conquer, transform-and-conquer, dynamic programming, and the greedy technique.
5. Analyze algorithms.

6. Use appropriate data structures

TEXTBOOK:

- Anany V. Levitin, *Introduction to the Design and Analysis of Algorithms (3rd Edition)*, Addison Wesley, Boston, MA, 2012, ISBN-13: 9780132316811 **(Required)**

All readings/materials comply with copyright/fair use policies.

GRADES:

A (90-100%)

B+ (87-89%)

B (80-86%)

C+ (77-79%)

C (70-76%)

D+ (67-69%)

D (60-66%)

F (0-59%)

GRADE DISTRIBUTION:

Homework/ Project – 40%

Test-1 – 30%

Test-2 – 30 %

Final Exam* - 30%

**The final exam is optional and can be used to replace a lower test grade.*

Homework/ Project

- A due time will accompany each homework/project.
- Homework assignments may involve some programming questions.
- All programs must be written using C/C++ only.
- Code must be tested in the departmental Linux computers prior to submission.
- You are expected to work on the homework/project independently while peer discussion is encouraged.

Tests

- All tests including the final exam are closed to books and notes. A cheat sheet will be allowed.
- The final exam is comprehensive but optional. If you choose to take the final exam, your score on the final exam will replace your lowest test score (either Test-1 or Test-2).
- For example:
 - If you choose not to take the final exam, and your test scores are
 - Test-1: 85
 - Test-2: 79
 - Final : Not Attempted
 - Then, the exam scores used for overall course grade calculation will be Test-1 and Test-2.
 - If you choose to take the final exam, and your test scores are
 - Test-1: 85
 - Test-2: 79
 - Final Exam: 72
 - Your final exam grade(72) will replace your lowest test score[Test-2: 79]
 - Then, the exam scores used for overall course grade calculation will be Test-1 and the

Final exam.

<i>Tests</i>	<i>Tentative Dates</i>
Test-1	Wednesday, 9/29/2021
Test-2	Wednesday, 11/10/2021
Final Exam	Monday, 12/06/2021 @ 12:30 pm

ASSIGNMENT SUBMISSION:

- All materials including assignments for the course will be posted on Blackboard (<https://blackboard.sc.edu>)
- Late work is accepted until 48 hours after the due date/time with a 30% penalty. After 48 hours have passed, the assignment will not be accepted.
- All late work must be turned in via Blackboard only.
- Exceptions include assignments due on/before the week of a test, these cannot be accepted late.
- Do NOT email your homework. All emailed homework is considered as NOT submitted.
- All assignments must be turned in via Blackboard only.
- It is your responsibility to check that the correct grade is uploaded on Blackboard. If you find a discrepancy, email me immediately.

GRADE APPEALS:

- Grade appeals for any assessment must be requested via email within 1 week of my posting the assignment grade to Blackboard.
- While I will always answer your questions on the grading of an assessment, your score on the assignment will not be changed unless you request a grade review during the 1-week grade appeal time period.
- If you want to make a case for re-grading your work based on another student's grade on the same

assignment, I will review and then re-grade your work as well as the other student's work entirely from scratch.

COVID-19 Safety Guidelines:

- Face coverings protect you and your classmates in case that the wearer is unknowingly infected but does not have symptoms.
 - All students are required to wear face masks/coverings for the duration of the lecture session.
 - Face coverings should cover your nose and mouth in a community setting.
 - In alignment with the tenets of the Carolinian Creed – including integrity, honesty, and respect for others – and in an effort to keep our campus safe, faculty, staff, and students are required to wear a face mask in campus buildings.
- USC strongly encourages Covid-19 vaccination. Please see [UofSC's Garnet and Vaxxed](#) campaign for more details.
- The University Health Services pursues contact tracing as part of our OSHA requirement to do a reasonable and good faith inquiry to determine workplace transmission and to limit the spread on campus and to the community.
 - To enable contact tracing, University Health Services requires classroom seating to be assigned.
 - If you need a seating accommodation, please contact your instructor immediately.
- In case you need to disinfect any surfaces, you may use the cleaning supplies available at the front of the classroom.
- If you have been diagnosed with COVID-19 or have been exposed and require quarantining, you should complete the [COVID-19 Student Report Form](#)
- In case you have questions about whether you should quarantine or believe that you have been in close contact with an infected individual, please reach out to the COVID Phone Bank (803-576-

ATTENDANCE:

- Class attendance is required as claimed in University policy and a student is responsible for all the material covered in the course.
- Attendance is required for all classes, unless special permission is given by the instructor.
- Not knowing changes to class policy/homework/etc. is NOT an acceptable reason for non-compliance.
- You are expected to attend all class sessions and attendance will be recorded.
- If you expect to miss class for any reason you should contact the instructor by email as soon as possible.
- You are responsible for all material covered in lectures whether you are present or not.
- If you don't ask questions, then I will assume that you understand the material.
- If there is a topic you do not understand, it is your responsibility to seek clarification from me during lectures or during office hours, or from other students.
- If you miss a lecture, it is your responsibility to get notes and announcements from a classmate.
- Missed tests can be made up only with a medical excuse(with proper documentation).

CODE OF CONDUCT & ACADEMIC INTEGRITY

- Students are expected to follow the Code of Student Academic Responsibility.
- We have a no cell phone policy in this class.
- All assignments and examinations are expected to be the sole effort of the student submitting the work.
- Lectures and course materials (which is inclusive of my presentations, tests, exams, outlines,

and lecture notes) are protected by United States Copyright Law.

- You are encouraged to take notes and utilize course materials for your own educational purpose. However, you are not to reproduce or distribute this content without my expressed written permission. This includes sharing course materials to online social study sites like CourseHero and other services.
- Students who publicly reproduce, distribute or modify course content may be in violation of the University's Honor Code's Complicity policy, which states: sharing academic work with another student (either in person or electronically) without the permission of the instructor is in violation of the honor code.
- Some examples of Honor code violations are:
 - Uploading exam content and/or lecture recordings/materials to social study sites
 - Uploading class assignments to social study sites
 - Taking information from social study sites to add to your notes for use on an exam
 - Using GroupMe to post exam information or answers to any graded classroom assignments.
- Prohibited behaviors also include plagiarism, cheating, falsification, and complicity.
- All potential Honor Code violations will be reported to the Office of Student Conduct and Academic Integrity
- Academic penalties for Honor Code violations: For the first offense, the student will receive a grade of 0 for the assignment and be reduced by one full letter grade. Multiple offenses result in a grade of F for the course in addition to whatever disciplinary sanctions are applied.
- Do NOT cheat. Plagiarism will not be tolerated.
- As a member of the Carolina community, you are obligated to the [Carolinian Creed](#).

ACCOMMODATIONS

- The University of South Carolina is committed to providing access to programs and services for qualified students with disabilities.
- If you are a student with a disability and require accommodation to participate and complete requirements for this class, notify me immediately and contact the Office of Student Disability Services (<http://www.sa.sc.edu/sds>, 1705 College Street, Close-Hipp, Suite 102, 803-777-6142, sadrc@mailbox.sc.edu) for verification of eligibility and determination of specific accommodations.
- In addition, please provide me the required accommodation letter from the Office of Student Disability Services.