Computer Science 303 Algorithms Summer 2024 Syllabus

Instructor

Dr. Timothy Davis McGlothlin-Street 133 Office hours: MTWTh 12:00–1:00 tadavis@wm.edu

Course Webpage http://www.cs.wm.edu/~tadavis/cs303

Class Meeting Times MTWR 10:10–12:00

Grader

Colleen Stewart csstewart@wm.edu

Textbook

Mark Allen Weiss, Data Structures and Algorithm Analysis in C++ (4th Edition), Pearson, 2014.

Prerequisites

CS 241 – Data Structures CS 243 – Discrete Structures or MATH 214

University Policy

Accommodation William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2509 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

Course Description

A systematic study of algorithms and their complexity, including searching, sorting, selecting, and algorithms for graphs. A survey of algorithm design methods, including greedy algorithms, divide-and-conquer, dynamic programming, and backtracking. An introduction to NP-complete problems, and programming in C++.

Grading

Final grades will be based on assignments, a midterm test, and a final exam with appropriate weights based on difficulty. Letter grades will be based on a 10-point scale with +/- designations awarded accordingly.

Assignments	40%	
Midterm	25%	
Final Exam	35%	Thursday, June 27

Course Policies

To be successful in this course, you must follow several guidelines, listed below.

- **Attendance** Attendance is not required, but strongly recommended. The student is responsible for acquiring class notes for any lectures missed.
- **Class Cancellation** Students are expected to wait for 15 minutes after the scheduled class starting time before if the instructor is late.
- **Technology** Use of electronic devices, including laptops, cell phones, tablets, etc., should be limited during class. Any sort of audio/video recording is forbidden, unless prior permission has been obtained from me..
- Assignments Problem assignments should be typeset using LaTex or a word processor such as Word, with multiple pages in proper order. All work must be shown; otherwise, points may be deducted. Proofs by induction must state explicitly the inductive basis, the inductive hypothesis, and what is to be proven in the inductive step. Further, problems must be completed according to methods covered in class; alternate methods that produce different results will be counted as incorrect. Points may be deducted even if your answer is correct, but your solution is more complicated than it needs to be, difficult to read or understand, not expressed in correct technical English, or incomplete.
- **Projects** All projects will be submitted through Blackboard and must run on the department's linux computers available for remote login in the lab in MS Hall. Of course, any project can be completed on your home computer or laptop, but failure to ensure that it compiles and/or runs on the department machines may result in significant point deductions.
- Independent Work You must work on written assignments and projects independently, unless explicitly stated otherwise. Cheating of any kind will not be tolerated and will result in significant penalties and/or academic integrity charges. Cheating involves any viewing, copying, or discussion of problems or code from other students, whether enrolled in this course or not. Additional clarifications on cheating may also be made during the course of the semester. Please seek help from me or the TA only.
- **Deadlines** Deadlines will be enforced, with late work accepted only under extreme circumstances. Additionally, no emailed assignments or projects will be accepted.
- **Grade Disputes** Scores for graded work will be posted in Blackboard. Any questions or disputes concerning assignments, exams, or programs, can be discussed no sooner than 24 hours, and no later than three class days, after the date the graded work is posted/returned; otherwise, all grades are final. Please note that the entire assignment, project, or exam, not just the part in question, is subject to regrading.