EECS 330: Data Structures and Algorithms Syllabus Spring 2023

A first course in abstract data structures and algorithmic design making use of these structures. Topics include asymptotic analysis, trees, dictionaries, heaps, disjoint set structures; divide and conquer, greedy, and dynamic programming algorithms. Special emphasis will be placed on the implementations of these structures and their performance tradeoffs. Both asymptotic complexity analysis and experimental profiling techniques will be introduced. Labs will be used to provide students with hands-on experience in the implementations of various abstract data types and to perform experimental performance analysis.

Class Meetings:
MWF, 10-10:50am, LEEP2 2415
Backup Zoom section:
Meeting ID: 921 7229 8462
Passcode: 701883

Labs:

- Section 1: M, 8-9:50am, Eaton 1005D, hosted by Smriti Pranjal (before Spring Break) and Sirisha Thippabhotla (after Spring Break)
- Section 2: M, 1-2:50pm, Eaton 1005B, hosted by Smriti Pranjal (before Spring Break) and Sirisha Thippabhotla (after Spring Break)
- Section 3: Tu, 8-9:50pm, Eaton 1005D, hosted by Smriti Pranjal (before Spring Break) and Sirisha Thippabhotla (after Spring Break)
- Section 4: Tu, 11am-12:50pm, Eaton 1005C, hosted by Ruturaj Kiran (before Spring Break) and Prashanthi Mallojula (after Spring Break)
- Section 5: Tu, 2:30-4:20pm, Eaton 1005C, hosted by Ruturaj Kiran (before Spring Break) and Prashanthi Mallojula (after Spring Break)
- Section 6: Tr, 11am-12:50pm, Eaton 1005C, hosted by Ruturaj Kiran (before Spring Break) and Prashanthi Mallojula (after Spring Break)
- Section 7: F, 8-9:50am, Eaton 1005D, hosted by Smriti Pranjal (before Spring Break) and Sirisha Thippabhotla (after Spring Break)
- Section 8: F, 2-3:50pm, Eaton 1005D, hosted by Ruturaj Kiran (before Spring Break) and Prashanthi Mallojula (after Spring Break)

Instructor:
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Graduate Teaching Assistants:
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Office Hours:
Cuncong Zhong, MW 9am-10am, Eaton Hall 2026

Textbook (required):
Data Structures and Algorithm Analysis, Fourth Edition, by Mark Allen Weiss, Pearson- Education, 2014.

Major Course Materials:

The primary course website is Canvas. You are responsible for all information we post on Canvas, including any possible changes to assignments after they are assigned.

Labs and Exams:

Labs will be announced every Monday and due on the Friday of the same week. For these labs, you will implement data structures using C++ under Linux (Ubuntu 20.04 LTS). Ubuntu 20.04 can be download freely online at https://releases.ubuntu.com/20.04/
Links to an external site.
. If you are using Windows or Mac machine, you can install a virtual machine to run Ubuntu. VirtualBox is freely available from https://www.virtualbox.org/
Links to an external site.
. Lab submissions will also be through Canvas. No late submission will be accepted, unless in cases of uncontrollable emergency events. Questions dealing with labs and laboratory assignments must be directed to the GTAs. If you still have difficulty after talking with the GTA, see the instructor for help.

There will be one midterm exam and one final exam, both comprehensive. The dates for the exams will be announced at least two weeks ahead. Please reserve these dates on your calendar. The exams will be closed notes and closed book. No electronic is allowed during the exam except calculator. A make-up midterm or final exam will be given to any student who is absent from an exam for a compelling reason and gets permission from the instructor. Unless otherwise stated, all material from lectures and laboratories, homework assignments, the underlying concepts, and information posted on Canvas are fair game for exams.

Grading:

Attendance: 2%*5=10%. (2% each successful sign-in, which is randomly taken throughout the whole semester)
Ten homework assignments: 5%*10=50%. (5% each homework)
Midterm exam 15%.
Final exam 25%.

Your final grade in the class will then be computed by using the weighted average given above, the lab attendance policy above, and the following scale:
A: [92%-100%]; A- [90%-92%)
B+: [88%-90%); B: [82%-88%); B- [80%-82%)
C+: [78%-80%); C: [72%-78%); C- [70%-72%)
D+: [68%-70%); D: [60%-68%)
F: [0%-60%).

This course will utilize +/- grading as indicated above. Depending on overall student performance in the course, I reserve the right to curve the grade. However, this is not something you should count on. Also, no curving will be applied to students who fail to take the majority of the sign-ins (three out of the five times).

Grading Rebuttal:

Occasionally you may not understand why points have been deducted from your homework assignment, laboratory, or exam. If so, you should come to see us. We will re-grade your whole lab submission or exam if, and only if, you contact us within 5 business days after it has been returned. No homework assignment, laboratory, or exam, will be re-graded after it has been returned for more than 5 business days.

Academic Integrity Policy:

All submitted work must be strictly your own individual effort. Sharing your work, copying, or submitting work that is not all yours, independent of your source, is considered cheating. It is your responsibility not to let anyone copy your work. A first-time cheating will result in a 0 on the lab or exam; a second incident will result in an F grade for the course. These penalties will be received by all parties involved, following a hearing with the instructor. In all cases, reports of academic misconduct will also be made to the Dean's office where further disciplinary action may be taken in accordance with School of Engineering and University of Kansas guidelines.

Academic Achievement and Access:

If you face challenges to fully participating at any time during the semester, please let me know, and please contact me if you expect to miss class. I am available and ready to support your success. Additionally, if you need to report an extended illness or serious accident, please contact Student Support and Case Management at course-adapt@ku.edu or 785-864-4060. A case manager will send email notifications to your instructor(s) on your behalf. When you are able, you will need to follow up with your professors to coordinate a temporary arrangement regarding missed instruction and coursework. The Academic Achievement & Access Center (AAAC) coordinates accommodations and services for all KU students who are eligible. If you have a disability for which you wish to request accommodations and have not contacted the AAAC, please do so as soon as possible. Their office is located in 22 Strong Hall; their phone number is (785) 864-4064 (V/TTY). Information about their services can be found at http://www.achievement.ku.edu/. Please contact the instructor privately in regard to your needs in this course.

If you are having any difficulties meeting the requirements for the course and are thinking about dropping, please reach out to me. I would like to have the chance to hear about what you are struggling with to see if there is a way to help you meet the outcomes of the course.

Diversity and Inclusion:

The University of Kansas supports an inclusive learning environment in which diversity and individual differences are understood, respected, and appreciated. We believe that all students benefit from training and experiences that will help them to learn, lead, and serve in an increasingly diverse society. All members of our campus community must accept the responsibility to demonstrate civility and respect for the dignity of others. Expressions or actions that disparage a person's or group's race, ethnicity, nationality, culture, gender, gender identity / expression, religion, sexual orientation, age, veteran status, or disability are contrary to the mission of the University. We expect that KU students, faculty, and staff will promote an atmosphere of respect for all members of our KU community. This is an inclusive classroom. At KU, administrators, faculty, and staff are committed to the creation and maintenance of "inclusive learning" spaces. These are classrooms, labs, and other places of learning where you will be treated with respect and dignity and where all individuals a