

CS/DSA 4413 Algorithm Analysis

Fall 2022 SYLLABUS

Instructor: Qi Cheng (DEH254, qcheng@ou.edu)

Office Hours: TR 2-3:30, Zoom

Class Meetings: 10:30 AM - 11:45 AM (TR), Dale Hall (DAH 0206)

Course Website: Access through <https://canvas.ou.edu>

Required Text: Introduction to Algorithms, Third Edition By Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, MIT press.

Required Work: The final grade consists of

Quiz	30%
Homeworks	20%
Midterm	20%
Final Examination	30%

Students are expected to study the chapter before a lecture. Please submit your homework at <https://canvas.ou.edu>. One homework of your choice can be turned in after its due time, for which you can earn up to 90% of credit. No other late homework will be accepted. Your lowest homework grade will be dropped, and your least two quiz scores will be dropped. These benefits are provided for you to take care of personal emergencies and other irregularities. No make-up quiz can be provided. In this course, all quizzes are open-book, open-notes, unless otherwise specified. We will post quiz solutions on the course website, which sometimes are scans/screenshots of student work with name and ID# removed. If you are against posting of your work, please let me know.

Learning Goals and Plan: This course introduces various algorithm design strategies: divide and conquer, greedy principle and dynamic programming to solve a variety of problems such as sorting, computer algebra, numerical computing, graph algorithms and computational geometry etc. Before the midterm, we cover Chapter 1, 2, 3, 4, 6, 7, 9 and 8 in the textbook. After the midterm, we cover Section 15.2, 16.3, Chapter 22, 23, 24, 26, 34 and Section 35.2.

University Policies

Masking Policy for In-Person Classes Masking is welcome on the OU Norman campus. People may choose to mask at any time or for any purpose.

Academic Integrity Student's Guide to Academic Integrity can be found at http://integrity.ou.edu/students_guide.html

Religious Observance It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty.

Reasonable Accommodation Policy Students requiring academic accommodation should contact the Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website <http://www.ou.edu/drc/home.html>. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

Adjustments for Pregnancy/Childbirth Related Issues Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. Please see www.ou.edu/content/eoo/faqs/pregnancy-faqs.html for commonly asked questions.

Title IX Resources For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on-call 24.7, counseling services, mutual no contact orders, scheduling adjustments and disciplinary sanctions against the perpetrator. Please contact the Sexual Misconduct Office 405-325-2215 (8-5, M-F) or OU Advocates 405-615-0013 (24.7) to learn more or to report an incident.

Final Exam Preparation Period Pre-finals week will be defined as the seven calendar days before the first day of finals. Faculty may cover new course material throughout this week. For specific provisions of the policy please refer to OU's Final Exam Preparation Period policy (<https://apps.hr.ou.edu/FacultyHandbook#4.10>).

Emergency Protocol During an emergency, there are official university procedures that will maximize your safety.

Severe Weather: If you receive an OU Alert to seek refuge or hear a tornado siren that signals severe weather 1. **LOOK** for severe weather refuge location maps located inside most OU buildings near the entrances 2. **SEEK** refuge inside a building. Do not leave one building to seek shelter in another building that you deem safer. If outside, get into the nearest building. 3. **GO** to the building's severe weather refuge location. If you do not know where that is, go to the lowest level possible and seek refuge in an innermost room. Avoid outside doors and windows. 4. **GET IN, GET DOWN, COVER UP.** 5. **WAIT** for official notice to resume normal activities.

Armed Subject/Campus Intruder: If you receive an OU Alert to shelter-in-place due to an active shooter or armed intruder situation or you hear what you perceive to be gunshots: 1. **GET OUT:** If you believe you can get out of the area **WITHOUT** encountering the armed individual, move quickly towards the nearest building exit, move away from the building, and call 911. 2. **HIDE OUT:** If you cannot flee, move to an area that can be locked or barricaded, turn off lights, silence devices, spread out, and formulate a plan of attack if the shooter enters the room. 3. **TAKE OUT:** As a last resort fight to defend yourself. For more information, visit <http://www.ou.edu/emergencypreparedness.html>

Fire Alarm/General Emergency: If you receive an OU Alert that there is danger inside or near the building, or the fire alarm inside the building activates: 1. **LEAVE** the building. Do not use the elevators. 2. **KNOW** at least two building exits 3. **ASSIST** those that may need help 4. **PROCEED**

to the emergency assembly area 5 ONCE safely outside, NOTIFY first responders of anyone that may still be inside building due to mobility issues. 6. WAIT for official notice before attempting to re-enter the building.