CSCE 5150.001 — Algorithm Analysis Fall2020, 4-5:20, Tu, Th, Remote, Via Zoom

Attendance/Participation

Lectures will be given remotely as scheduled by the Registrar in real time using Zoom. You must have access to a Webcam and computer that can run Zoom and the Respondus lock-down browser with Webcam. Your grade will depend on your attendance which will be recorded by Zoom. If you are sick, let me know so you can be excused. See the Addenda to Course Syllabus at the end of the syllabus for more information on COVID-19 Impact on Attendance and Class Recordings.

Textbook


Instructor

Dr. Farhad Shahrokhi, Professor, Computer Science and Engineering, F276(DP) Farhad.Shahrokhi@unt.edu. Office Hours (Zoom):Tu, Th 6-7 PM.

Course Content

This is a first graduate course in the design and analysis of algorithms. The course will focus on theoretical aspects of algorithms and correctness proofs, standard design strategies, and the topics listed below.

Topics and Suggested Reading

Worst Case Analysis and Growth of Functions (Chapters 1, 2, 3)
  Recurrence Relations (Chapter 4)
  Divide and Conquer (Chapter 4)
  Lower Bounds (Chapter 8)

Greedy Algorithms (Chapter 16)
Dynamic Programming (Chapter 15)
Graph Algorithms and Network Flows (Chapters 23, 24, 25, 26)
Approximation Algorithms for NP hard problems, vertex cover, TSP, Set Cover (Chapter 35)

Introduction to Linear Programming (Chapter 29: tentative)
COURSE POLICIES

• Grading Policy: Exam 1(35 percent), Final(35 percent), Homework+Pop quizzes(25 percent), attendance (5 percent). The value of pop quizzes will not be more than 5 percent. If no pop quiz is given, then the Homework will be counted as 30 percent. The students should anticipate about 6 homework sets in this course. When appropriate the instructor will provide in class hints concerning some homework problems. The date for the final exam is determined by the University. The date for the first exam will be announced to students at least one week ahead of time. Late assignments will not be accepted. Recording of lectures are not allowed. The polices are subject to change in the first 3 weeks of classes, if so the students will be notified. Course contents and topics may slightly vary at the instructor’s discretion.

• Academic Integrity Standards in this course are consistent with UNT policy: STUDENT STANDARDS OF ACADEMIC INTEGRITY (18.1.16), or other related/existing polices. The work that you turn in to be graded, including any underlying ideas, must be your own individual work. Usage of unauthorized material and sources, or depending on any unauthorized assistance, to answer homework problems, tests questions, writing reports, or carrying any type of assignment, etc., without the permission of the instructor, or without complete and accurate and complete attribution/citations of the source, when applicable, is viewed as an academic misconduct. If you have any doubts if you have specific questions feel free to ask the instructor.

Disabilities Accommodation
If you believe you have a disability requiring accommodation, please contact the Office of Disability Accommodation at 940-565-4323 during the first week of class.

Acceptable Student Behavior
Student behavior that interferes with an instructor’s ability to conduct a class or other students’ opportunity to learn is unacceptable and disruptive students may be refer the student to the Center for Student Rights and Responsibilities. Academic penalties by instructor may also be applicable.

Addenda to Course Syllabus
• COVID-19 Impact on Attendance
While attendance is expected as outlined in the syllabus, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are unable to attend class because you are ill, or due to a related issue regarding COVID-19. It is important that you communicate with me prior to being absent so I can excuse you from class. If you are experiencing any symptoms of COVID-19 (https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Hotline at 844-366-5892 or COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure. While attendance is an important part of succeeding in this class, your own health, and those of others in the community, are more important.

• Class Materials for Remote Instruction
The UNT fall schedule requires this course to have fully remote instruction. Students will need access to a webcam, microphone and computer capable of running Zoom and the Respondus lockdown browser in Canvas. You should familiarize yourself with using these programs. For a resource on remote learning see https://online.unt.edu/learn.

• Server Unavailability and other Technical Difficulties
The University is committed to providing a reliable online course system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity (particularly exams), the instructor will extend the time windows and provide an appropriate accommodation based on the verified and documented situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324 and obtain a ticket number. The instructor and the UNT Student Help Desk will work with the student to resolve any issues.

- **Class Recordings and Student Likenesses**
  Synchronous (live) lectures in this course will be delivered via Zoom and selected recordings will be made available for students enrolled in this class section. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.