

C S 3823-002: Theory of Computation

Instructor: Dr. Lauren Grimley, **Office:** PHSC 529

Contact information: lgrimley@ou.edu

Class Time: TR 3:00-4:15 PM, **Class Location:** Sarkeys Energy Center N0202

Teaching Assistants: Xavier Williams (xkw.1602@ou.edu) and Aidan Foreman (aidan.a.foreman-1@ou.edu)

Office Hours: *Mondays from 1:00-2:30 PM* with Xavier Williams in DEH 245

Tuesdays from 12:30-2:30 PM with Lauren Grimley in PHSC 529

Wednesdays from 1:00-2:30 PM with Xavier Williams in DEH 245

Fridays from 10:00-12:00 AM with Aidan Foreman in DEH 115

COURSE DESCRIPTION AND PREREQUISITES: Prerequisite: CS 2413 and CS 2813 or MATH 2513 or CS 5005 or DSA 5005. Introduction to abstract machine theory and formal language theory. Topics include Turing machines, finite/pushdown automata, deterministic versus nondeterministic computations, context-free grammars, and mathematical properties of these systems.

REQUIRED AND RECOMMENDED TEXTS: "Automata, Computability, and Complexity" by Elaine Rich which is available for free [here](#)

GRADING: Grades are determined by two exams (40%), homework (25%), quizzes (15%), and a cumulative final exam (20%). The *minimum* grade you need in order to attain each letter grades is:

A	B	C	D	F
90	80	70	60	0

Any estimated final grade calculated by Canvas are not to be considered official grades. Except where otherwise noted, no late work will be accepted nor will any exams, homework, or quiz grades be dropped.

ATTENDANCE: It is important to attend class regularly and engage in the material.

HOMEWORK: Homework will be assigned each week. Assignments will be posted on Canvas. *Students are allowed to discuss problems with others, however all submitted work must be in your own words, as you understand it.*

QUIZZES: Quizzes will be administered during most class days, without prior notice. Students should be prepared to provide definitions, examples, counterexamples, or

short proofs on these quizzes based upon material discussed in class and/or requested readings.

EXAMS: There will be two exams during the semester, taken during regular class time, in addition to a cumulative final exam. The following is the approximate schedule of the exams. Should we need to deviate from this schedule to better serve the goals of the course, students will be notified in advance.

Exam 1: Thursday, February 29

Exam 2: Tuesday, April 9

The cumulative final exam will be, as officially scheduled, May 7 from 4:30-6:30 PM.

ACADEMIC INTEGRITY: Unless there are explicit instructions to the contrary, all homework, quizzes, presentations, and exams will be entirely your own work. The use of work done by others without giving credit or having permission is considered plagiarism. A violation of these policies is an immediate and serious breach of the academic integrity policies of the University

Cheating is strictly prohibited at OU. It is the instructor's professional obligation to report academic misconduct. Sanctions for academic misconduct can include expulsion from the University and an F in this course. Typically, all work on exams and quizzes must be yours and yours alone without any outside help. It is your responsibility to know and follow the rules set by the instructor.

ACCESSIBILITY AND DISABILITY ACCOMMODATIONS: Students requiring academic accommodation should contact the Accessibility and Disability Resource Center for assistance at (405)325-3852 or TDD: (405)325-4173. If you have accommodations in place, please contact your instructor within the first week of classes (or within the first week of accommodations being approved for you) in order to discuss the relevant details for implementing your accommodations. Note that depending on the specific accommodations requested and the structure of the course, you may need to be referred to the course coordinator to make appropriate arrangements for accommodations for uniform exams and/or quizzes.

DISCRIMINATION, BIAS, HARASSMENT: In light of incidents on other campuses and to further enhance responsiveness, the OU has established a 24-hour Reporting Hotline. The hotline will serve as an added protection for OU students, handling reports of bias, discrimination, physical or mental harassment or misconduct by OU community members. The 24-hour Reporting Hotline can be accessed by calling 844-428-6531 or going online to www.ou.ethicspoint.com.

EMERGENCY PROCEDURES: During an emergency, there are official university procedures that will maximize your safety. There are also severe weather refuge sites on campus.

LAND ACKNOWLEDGEMENT: Long before the University of Oklahoma was established, the land on which the University now resides was the traditional home of the Hasinai Caddo Nation and Kirikir?i:s Wichita & Aliated Tribes. We acknowledge this territory once also served as a hunting ground, trade exchange point, and migration route for the Apache, Comanche, Kiowa and Osage nations. Today, 39 tribal nations dwell in the state of Oklahoma as a result of settler and colonial policies that were designed to assimilate Native people. The University of Oklahoma recognizes the historical connection our university has with its indigenous community. We acknowledge, honor and respect the diverse Indigenous peoples connected to this land. We fully recognize, support and advocate for the sovereign rights of all of Oklahoma's 39 tribal nations. This acknowledgement is aligned with our university's core value of creating a diverse and inclusive community. It is an institutional responsibility to recognize and acknowledge the people, culture and history that make up our entire OU Community.

MENTAL HEALTH SUPPORT SERVICES: If you are experiencing any mental health issues that are impacting your academic performance, counseling is available at the University Counseling Center located on the second floor of the Goddard Health Center at 620 Elm, Rm. 201. To schedule an appointment call (405)325-2911.

PREGNANCY/CHILDBIRTH ACCOMMODATIONS: Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact your professor as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability.

RELIGIOUS HOLIDAYS: OU policy excuses missed classwork due to absences of students that result from religious observances without penalty. For more, see Faculty Handbook section 3.15.2.

SEXUAL MISCONDUCT AND DISCRIMINATION (TITLE IX RESOURCES): For any concerns regarding gender-based discrimination, sexual harassment, sexual assault, dating/domestic violence, or stalking, OU offers a variety of resources. To learn more or to report an incident, please contact the Sexual Misconduct Office at (405)325-2215 (8am-5pm, M-F) or smo@ou.edu. Incidents can also be reported confidentially to OU Advocates at (405)615-0013 (phones are answered 24 hours a day, 7 days a week). Be advised that a professor/GA/TA is required to report instances of sexual harassment, sexual assault, or discrimination to the Sexual Misconduct Office. Inquiries regarding

non-discrimination policies can be directed to either a Title IX Coordinator or University Equal Opportunity Officer (405)325-3546 or smo@ou.edu.