

CMPS 3233-201: Theory of Computation

Spring 2023

Instructor: Tina Johnson, Bolin 126F, (940) 397-6201, tina.johnson@msutexas.edu

Course Prerequisite: CMPS 2433 with a grade of C or better

Text: Intro to Formal Languages & Automata (w/CD) Edition: 6th, Linz, ISBN 978-1284077247, Digital ISBN 978-1284077254

Software: [JFLAP](#), open-source.

Catalog Description: Study of the fundamental mathematical properties of hardware, software, and their applications. Emphasis is on the capabilities and limitation of computers, including finite automata, push-down automata, and Turing machines.

Course Grades

Exams (3)	60% (20% each)
Quizzes/Homework	40%

Tentative Agenda

Week	Date	Material Covered
1	Jan 17, 19	Course Information, Ch 1: Intro, Sets, Proofs
2	Jan 24, 26	Ch 1, Ch 2: Finite Automata
3	Jan 31, Feb 2	Ch 2
4	Feb 7, 9	Ch 3: Reg. Expressions/Grammars
5	Feb 14, 16	Ch 3, Review
6	Feb 21, 23	Test 1: Ch 1-3.2 , Ch 4: Reg. Languages
7	Feb 28, Mar 2	Ch 3.3, Ch 4
8	Mar 7, 9	Ch 4
	March 13-18	Spring Break, No Classes, ENJOY!!
9	Mar 21, 23	Ch 4, Ch 5: CFL/Grammars (CFL/CFG)
10	Mar 28, 30	Ch 5, 6: Simplification of CFG, Normal Forms
11	Apr 4, 6	Ch 6, Holiday Break, No Classes Thurs, Apr 5
12	Apr 11, 13	Review, Test 2: Ch 3.3-6
13	Apr 18, 20	Ch 7: Pushdown Automata
14	Apr 25, 27	Ch 7, Ch 9: Turing Machines
15	May 2, 4	Ch 9, Review
	Tues, May 9, 1-3pm	Test 3 (Final): Ch 7 & 9

Electronic Devices: The use of electronic devices is discouraged in this class. Students who intend to use a laptop or tablet should sit in the back row(s) of the class to avoid distracting other students.

Recording of Class Lectures: Permission must be requested in writing and obtained from the instructor before recording of class lectures. If permission is granted, the recording may only be used by the student making the recording. Recordings (or any class materials) may NOT be posted on any

internet source without written permission of the instructor. Failure to adhere to the policy may result in removal from the course with a grade of F or other appropriate punishment.

Late Work: Late homework will be accepted with a penalty of 5 points per day late and will be accepted only until homework is returned (usually class after due date). Quizzes cannot be made up, but one quiz/homework grade will be dropped.

Academic Misconduct Policy & Procedures: Cheating, collusion, and plagiarism (the act of using source material of other persons or generators, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given). The Department of Computer Science has adopted the following policy related to cheating (academic misconduct). The policy will be applied to all instances of cheating on assignments and exams as determined by the instructor of the course. (See below for link to MSU definitions.)

- 1st instance of cheating in a course: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. *If the final grade in the course, does not result in a one letter grade reduction, the student will receive a one letter grade reduction in course.*
- 2nd instance of cheating in a course: The student will receive a grade of F in course & immediately be removed from course.
- All instances of cheating will be reported to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

Note: Letting a student look at your work is collusion and is academic misconduct!

See Also: [MSU Student Handbook](#): Appendix E: Academic Misconduct Policy & Procedures <https://msutexas.edu/student-life/assets/files/handbook.pdf>.

Disability Policy: In accordance with the law, MSU provides academic accommodations to students with documented disabilities. Students with disabilities must be registered with Disability Support Services before classroom accommodations can be provided. The DSS office is located in Clark Student Center, Room 168, phone 397-4140.

Policy on Concealed Handguns on Campus: Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage on [Campus Carry](#) at <https://msutexas.edu/police/policies-laws/index.php>. If you have questions or concerns, please contact Interim MSU Chief of Police at steven.callarman@msutexas.edu

Counseling Center: MSU offers personal, group, career, and academic counseling. Students are encouraged to take advantage of these **free** services by contacting the Counseling Center: Room 108 Clark Student Center, 397-4618, counseling@mwsu.edu.

Important Links: MSU Registrar's [Important Dates](#) Helpful information for students: [Student Resources](#).