SYLLABUS
CMPS 5313: Automata Theory

Catalog Description: The study of deterministic and non-deterministic automata. Formal languages and grammars including Chomsky's Hierarchy, regular and context free grammars, pushdown automata, Turing machines, and computability.

Instructor:	Dr. Catherine V. Stringfellow
Office:	Bolin Science Hall, Room 126A
Office phone:	397-4578
E-mail:	*catherine.stringfellow@msutexas.edu*
Office Hours:	M 1-2pm, WF 9-10am, TR 1:30-3pm & by Appt / Zoom Office by Appt

Credits: 3 (3 hour lecture)

Textbook and Materials:
- Formal Languages and Automata, 6th ed., Linz (REQUIRED)
- JFLAP: An Interactive Formal Languages and Automata Package, by Rodger and Finley (RECOMMENDED: Go to JFLAP.org)
- NOTEBOOK/FOLDER for homework submissions

General Objectives
1) To familiarize students with the foundations and principles of computer science
2) To strengthen students' ability to carry out formal and rigorous mathematical arguments.

Specific Objectives: Upon completion of the course students should be able:
1) to understand formal languages and grammars and the machines that recognize them, as wells as the Chomsky hierarchy
2) to convert between equivalent structures, such as regular expressions to FA, NDFAs to DFAs, etc.
3) to understand/create Turing machines
4) to understand the concept of computability

Instructional Method: Primarily lecture and class participation.

Course Assignments and Evaluation: Homework assignments will be assigned and submitted in a notebook/folder every few weeks. These will consist of problems provided by the instructor. Every student will be required to present (on the board) assigned problems to the class. The problems may be additional problems or may come from the homework assignments. There will be several quizzes, one midterm and one final.

Final grades will be based on the following criteria.

Activity	percentage of grade
Board work and participation	15%
Homework (Notebook collected 3x)	15%
Quizzes	10%
Midterm	30%
Final	30%

Grades may be determined according to this scale (approximate):

A	90% - 100%	B	80% - 89%
C	70% - 79%	D	60% - 69%

Course and Department Policies

Attendance Policy
Student attendance is not calculated into the grade. However, if a student is absent more than 2 classes without an excuse and is not performing well in class, a report will be submitted to the Graduate Dean and the student may be dropped from the class.

Behavior in the classroom
Students are to assist in maintaining a classroom environment that is conducive to learning. This means that electronic devices are not to be seen, heard, or implied, ever. Questions are encouraged and discussion is acceptable, provided it is pertinent and does not distract from the lesson.

Make Up Exams: There is one midterm and one final exam. The only acceptable reason for missing an exam is with a valid university excuse (e.g., excuse from the doctor, death in the immediate family, etc.) A makeup exam will only be given to those students who have a valid excuse.

- For planned excused absences: Exam may be taken early by prior arrangement.
- For unplanned excused absences: Student must make up a missed exam within 4 working days. All other missed exams will receive a zero.

Late Work: *No late work will be accepted without a valid university excuse.*

Policy on Testing Process

The Department of Computer Science has adopted the following policy related to testing.

- All bags, purses, electronics (turned off), books, etc. will be placed in the front of the room during exams, or in an area designated by the instructor.
- Unless otherwise announced by the instructor, nothing is allowed on the desk but pen/pencil/eraser and test papers.
- A student who leaves the room during an exam must turn in the test and will not be allowed to return.

Academic Misconduct Policy & Procedures

Cheating, *collusion*, and *plagiarism* is defined as the act of using source material of other persons, 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 or exam. *If this doesn't result in a 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.

University Policies and Procedures

Covid Precautions
I encourage all those who wish to wear a mask to do so. Any vulnerable or unvaccinated person should wear an N95 or equivalent, if they want to protect themselves from others. I will also meet with students via Zoom by appointment. Covid vaccinations are provided free of charge – and may be obtained on campus on designated vaccine clinic days or by appointment at the Vinson Health Center, or by local pharmacies.

Student with Disabilities
Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible. Students should present appropriate verification from Disability Support Office during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification has been provided. For additional information, contact the Disability Support Office in Clark Student Center 168 - Phone: (940) 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. Please note, open carry of handguns, whether licensed or not, and the carrying of all other firearms, whether open or concealed, are prohibited on campus. 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 at MSU Campus Carry Policy *https://msutexas.edu/campus-carry/rules-policies*. If you have questions or concerns, please contact MSU Chief of Police Patrick Coggins at **patrick.coggins@msutexas.edu**.

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.

Midterm Progress Report
In order to help students keep track of their progress toward course objectives, the instructor for this class will provide a Midterm Progress Report for all students in the course through each student's WebWorld account. Midterm grades will not be reported on the students' transcript; nor will they be calculated in the cumulative GPA. They simply give students an idea of where they stand at the midpoint of the semester. Students earning below a C at the midway point should a) schedule a meeting with the professor and b) Seek out tutoring.

Important Dates
Visit MSU's Registrars website Important Dates
https://msutexas.edu/registrar/_assets/files/pdfs/fall22front.pdf