Texas State University
Course Syllabus

Course Number and Title: CS 5338 – Formal Languages
College or Department: Computer Science
Course Time & Location: T 6:30P - 9:20P (SM: Albert B. Alkek Library 00118) (RRC: Avery Building 00355)

Instructor: Dr. Raj Singh
Email: r_s601@txstate.edu
Office Hours & Location: By appointment – SM: Comal 207J, RRC: 464-D

LEARNING GOALS AND COURSE CONTENT

Learning Goal:

- Introduce concepts in automata theory and theory of computation
- Identify different formal language classes and their relationships
- Design grammars and recognizers for different formal languages
- Prove or disprove theorems in automata theory using its properties
- Determine the decidability and intractability of computational problems

Needed Resources:
To successfully complete this course, you will need:

Recommended Text:
"Introduction to automata theory, languages and computation" by JE Hopcroft, R Motwani and JD Ullman.

Other Resources:
Class notes, web resources.

SEMESTER GRADE DETERMINATION

GRADING SCALE:

Points	*Grade for the Semester*
90 - 100 pts.	A
80 - 89 pts.	B
70 - 79 pts.	C
60 - 69 pts.	D
0 - 59 pts.	F

METHOD OF EVALUATION (TENTATIVE)

1. Assignments	50 %
2. Quizzes	20 %
3. Midterm 1	20 %
4. Midterm 2	20 %

POLICIES

Academic Integrity

- You are expected to do your own work
  - Attribute sources
  - Respect the legal and moral rights of others
- You are also required to abide by the University Honor Code.
  - Cheating will not be tolerated.

- Using unauthorized resources during quizzes are prohibited.
- Copying other's code / work without proper citations is prohibited.

Disabilities:
Within the first two weeks of the course: Students with disabilities who need special accommodations should notify the instructor by presenting a letter prepared by the Office of Disability Services.
A student who is absent from an examination or cannot meet an assignment deadline due to the observance of a religious holy day may take the examination on an alternate day, submit the assignment up to 24 hours late without penalty, or be excused from the
examination or assignment.
Proper notice of the planned absence is required. The student is to notify the instructor through personal delivery, through email or certified mail of the request at least two weeks prior to the observance date. Confirming email or a signed receipt from the instructor are required to confirm.
A student who fails to complete missed work within the time allowed will be subject to the normal academic penalties.

Course Schedule (Tentative)

Session	Description	Supplementary Reading	Assignment / Quiz / Exam
1	Course overview		
2	Introduction to Automata Theory & Formal Languages	Ch-1	Assignment 1
3	Finite Automata	Ch-2	Quiz 1 (Ch 1, 2)
4	Regular Expressions	Ch-3	Assignment 2
5	Regular Language Properties	Ch-4	
6	Midterm I review	Ch 1-4	Midterm 1 (Ch 1, 4)
7	Context Free Grammars and Languages	Ch 5	Assignment 3
8	Pushdown Automata	Ch-6	Quiz 2 (Ch 5, 6)
Spring Break			
9	Context-Free Language Properties	Ch-7	Assignment 4
10	Context-Free Language Properties	Ch-7	
11	Turing Machines	Ch-8	
12	Midterm II review	Ch 5-7	Midterm 2 (Ch 5-7)
13	Undecidability	Ch-8, 9	Assignment 5
14	Undecidability	Ch-8, 9	Quiz 3 (Ch 8, 9) (10% grade)
15	-	-	-