Course Information

Course number:	CS 4384
Section:	004
Course title:	Automata Theory
Term:	Fall 2021

Note 1: The descriptions and timelines below are subject to change at the discretion of the Professor. As you all know, it might be necessary to make changes to the policies due to precautions taken during the pandemic period. We will notify students as soon as there is an update.

Professor Contact Information

Instructor:	Serdar Erbatur
Office:	ECSS 3.603
Office Hours:	Monday - Wednesday 1pm-2pm in office or via MS Teams
Email:	sxe190003@utdallas.edu

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CS 3305 with a grade of C or better

Course Description

A review of the abstract notions encountered in machine computation. Deterministic and nondeterministic finite automata; regular expressions, regular sets, context-free grammars, pushdown automata, context-free languages. Selected topics from Turing Machines and undecidability.

Student Learning Objectives/Outcomes

- 1. Ability to design and convert between DFA, NFA and regular expressions;
- 2. Ability to show that certain languages are not regular;
- 3. Ability to design and convert between PDA and CFGs;
- 4. Ability to show that certain languages are not context-free;
- 5. Ability to design and analyze Turing machines;
- 6. Ability to prove and apply the Halting Problem to other undecidable problems.

Required Textbooks and Materials

Michael Sipser, Introduction to the Theory of Computation, 3rd Edition, 2012.

Assignments & Academic Calendar

Exams will be online and posted on eLearning. Students will be given 29 hours to submit their solutions.

	Posted	Deadline
Exam 1	7PM, Wednesday, 10/6/2021	11:59PM, Thursday, 10/7/2021
Exam 2	7PM, Wednesday, 11/3/2021	11:59PM, Thursday, 11/4/2021
Exam 3	7PM, Monday, 12/6/2021	11:59PM, Tuesday, 12/7/2021

There will be 6 homework each of which will be posted on eLearning according to the calendar below.

	Assigned	Deadline
Homework 1	9/1/2021	9/9/2021 11:59PM
Homework 2	9/15/2021	9/23/2021 11:59PM
Homework 3	9/22/2021	9/30/2021 11:59PM
Homework 4	10/13/2021	10/21/2021 11:59PM
Homework 5	10/27/2021	11/5/2021 11:59PM
Homework 6	10/17/2021	10/29/2021 11:59PM

Grading Policy

- Homework: %21
- Exam 1: %24
- Exam 2: %25
- Exam 3: %30

Final letter grades will be calculated using the following scheme provided by the University. Grade ranges below will remain mostly same, except that we might reduce

borders by half percent. For instance, the lower bound of 70 for C- could be changed to 69.5.

97 -	100:	A+
94 –	less than 97:	А
90 –	less than 94:	A-
87 –	less than 90:	B^+
84 –	less than 87:	В
80 -	less than 84:	B-
77 –	less than 80:	C+
74 –	less than 77:	С
70 –	less than 74:	C-
67 –	less than 70:	D+
64 –	less than 67:	D
60 –	less than 64:	D-
0 –	less than 60	: F

Course & Instructor Policies

Any further detail for exams will be announced on eLearning. Please read the following carefully.

- 1. If a student is unable to take an exam on a scheduled date, they should inform the instructor in advance. Makeup exams will be scheduled only if the student has a valid medical excuse provided in a duly signed letter.
- 2. Each homework should be submitted individually via eLearning with an acceptable format (pdf, doc as well as other formats).
- 3. Each homework should be submitted by its deadline in order to be considered for full credit. Exceptions can be made only for valid medical reasons proven via a duly signed letter.
- 4. All assignments must be done by avoiding plagiarism. Each student must submit their own work. Any student guilty of plagiarism will receive zero credit for the plagiarized work and may be subject to further academic penalties.
- 5. The course teaching assistant (TA) will grade all assignments. Questions about assignments should be directed to TA first.
- 6. To review grades of assignment or exams, a request must be made **within one week** after the grade is posted.
- 7. Late homework submissions will be accepted with penalties;
 - \diamond %10 for the first late day,
 - \diamond %20 for the second late day and
 - \diamond %25 for the third late day

Please note that a submission with %25 penalty will receive at most 75 points, which falls into C grade range. This policy is not subject to negotiation and applied to everyone without exception if no official medical letter is provided in a duly signed letter.

- 8. Late homework submissions are not permitted after the graded homework has been returned to students, or the solutions to the homework has been provided (whichever is earlier). We will post solutions of each homework 72 hours after its deadline.
- 9. Students do not need to ask instructor for permission to submit a late homework as the late submission policy must be clear now.
- 10. If you want to drop the class, you must make sure to take Drop or Withdrawal actions via official channels of the university. Otherwise, you may receive an an **F** or **NF** for the course.

COVID-19 Guidelines and Resources

The information contained in the following link lists the University's COVID-19 resources for students and instructors of record.

Please see http://go.utdallas.edu/syllabus-policies.