Course Syllabus

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Course Description

Introduction to different classes of automata and their correspondence to different classes of formal languages and grammars, computability, complexity and various proof techniques.

Assessment

The class will use the grading scale: 90%=A, 80%=B, 70%=C, 60%=D.

The primary assessment in the class are the tests and final exam. The main test questions and the exam will be graded with the following rubric:

General Rubric	
A	Your answer is basically correct, possibly with small logical or mathematical errors.
B	Using the correct proof technique in the correct manner, but significant errors.
C	Using the correct technique in an incorrect, but reasonable way, or using a reasonable technique correctly.
D	Using an incorrect technique and not in the correct way, but the technique is reasonable for the problem and the way you use it is also reasonable for the problem.

Class work

Homework: *(12% of your grade)* There will be homework every week. **You are strongly recommended to start working on the homework questions as soon as they are assigned.** You are welcome to use any resource (book, internet, another student, etc.) to help you answer the question. However, if you use a resource beyond the course textbook on a problem you submit for grade, you must acknowledge it on the homework solution. There is no deduction for using extra resources as long as you write your answer in your own words. Not acknowledging a resource you used is an academic offense. **Note that this permits you to look up the answers to homework questions, but you are strongly encouraged to not do that until you have spent multiple hours and attempts to solve the problem.**

Tests: *(42% of your grade)* There will be three tests during the term. February 21, March 20, and April 17. The tests will cover exactly the material from the previously submitted homework questions. The tests will require the same techniques as used in the homework even though the test questions may not look similar to the homework questions.

Final Exam: (46% of your grade) The final exam is three hours and at a time and place listed on SIS.

The *"I do not know"* rule. Because of the challenging nature of this subject, there will be times that, no matter how hard you work or how long you study, you just cannot figure out how to start on a problem. If this happens on a test or exam question, you will receive 45% if you answer simply *"I do not know how to answer this question."* On a homework question, you will receive 25%. As indicated, you will receive partial credit for understanding when you do not understand something. An answer that does not demonstrate knowledge of class techniques can earn less than 45%, and a blank answer will earn 0.

As a consequence of the "I do not know rule", you must score above a 50% on the final exam to pass the class.

Resources

Lecture: Monday, Wednesday, Friday 9:30 am-10:20 am in Olin 314.

Instructor Office Hours: Monday 4:30-5:30pm, Tuesday 3-4pm, Wednesday 10:30-11:30am, Thursday 9-10am at https://cwru.zoom.us/j/986854791.

TA Office Hour: TBA

Textbook: Sipser, *Introduction to the Theory of Computation*, Third edition, 2012. ISBN 9781133187790

Academic Honesty

Please see the general University Policy on Academic Integrity . The specifics for the course are listed above in the syllabus.

Special Considerations

Physical Disabilities or Other Hardships: If you have a physical disability or other hardship that can potentially put you at a disadvantage in this course, please see Disability Resources . They will make certain you receive the necessary accommodations so that you may perform your best.

Religious Holidays: I strive to schedule all major projects and tests so that they do not conflict with important religious holidays. However, I am not always successful in doing that. If an important religious holiday conflicts with a class test or assignment in a way that makes it so that you can not take the test or complete the assignment as originally assigned, please see me as soon as possible to make necessary arrangements.

Course Summary:

Date	Details	
Mon Jan 27, 2020	Homework 1	due by 9:30am
Mon Feb 3, 2020	Homework 2	due by 9:30am
Mon Feb 10, 2020	Homework 3	due by 9:30am
Mon Feb 17, 2020	Homework 4	due by 9:30am
Fri Feb 21, 2020	Test 1	due by 9:30am
Mon Feb 24, 2020	Homework 5	due by 9:30am
Mon Mar 2, 2020	Homework 6	due by 9:30am
Wed Mar 18, 2020	Homework 7	due by 9:30am
Mon Mar 23, 2020	Homework 8	due by 9:30am
	Test 2	due by 9:30am
Mon Mar 30, 2020	Homework 9	due by 11:59pm
Mon Apr 6, 2020	Homework 10	due by 9:30am
Mon Apr 13, 2020	Homework 11	due by 9:30am
Mon Apr 20, 2020	Homework 12	due by 9:30am
	Test 3	due by 9:30am
Mon Apr 27, 2020	Homework 13	due by 9:30am
Sun May 3, 2020	Final Exam	due by 1pm
Thu May 7, 2020	Course Evaluation	due by 11:59pm

May 2020

26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Assignments are weighted by group:

Group	Weight
Assignments	12%
Tests	42%
Exam	46%
Extra Credit	0%
Total	100%