TEXAS A&M UNIVERSITY

SYLLABUS

Course title and number	Discrete Structures for Computing: CSCE 222
Term (e.g., Fall 200X)	Spring 2020
Meeting times and location	CSCE 222-502 TR 8:00am- 9:15am ~~Zachry 310~~ CSCE 222-503 TR 9:35am-10:50am ~~Zachry 310~~ Lectures will be delivered by Zoom. Visit https://tamu.zoom.us/my/thedoctor

Course Description and Prerequisites

This course provides the mathematical foundations from discrete mathematics for analyzing computer algorithms, for both correctness and performance; introduction to models of computation, including finite state machines and Turing machines. Prerequisite: MATH 151.

Learning Outcomes or Course Objectives

At the end of the course, students will understand the basic principles of logic, proofs and sets. They will be able to apply results from discrete mathematics to the analysis of algorithms. They will be able to produce proofs by induction and apply counting techniques. They will have a basic understanding of models of computation.

Instructor Information

Professor

Name	Prof. Martin “Doc” Carlisle
Telephone number	561-376-2789 (561-DR-MARTY) 979-845-8873 (office)
Email address	the_doctor@tamu.edu
Zoom	https://tamu.zoom.us/my/**thedoctor**
Office hours	9:30-11am MWF, 2:30-3:30pm TR, and by appointment
~~Office location~~	~~330B Harvey R Bright Bldg~~

Teaching Assistant

Name	Xilong Zhou
Telephone number	979-255-6867
Email address	zhouxilong199213@tamu.edu
Office hours	T/R 11:00am-12:00pm
Zoom	https://tamu.zoom.us/j/3510296288
~~Office location~~	~~EAB-C 118B~~

Peer Teachers (PTs)

Peer-Teachers are available to help you with this class. For more details, see http://engineering.tamu.edu/cse/academics/peer-teachers/current-peer-teachers and the course website.

At this time, I do not have information on how Peer Teachers are adapting. Check their website for updates.

Textbook and/or Resource Material

Required Textbook
Discrete Mathematics and Its Applications, 8th Edition, Kenneth H. Rosen, McGraw Hill Education.

Campuswire (assignments, Q&A): https://campuswire.com/p/G84AA0CF9 (class join code 6812)

Assignment Turnin: https://gradescope.com

Gradebook: http://ecampus.tamu.edu/

LaTeX References

- (The Not So Short) Introduction to LaTeX (Skim Chapter 1 and Study Chapter 3)
- Short Math Guide for LaTeX
- Comprehensive LaTeX Symbol List

Course Policies

Attendance

The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at http://student-rules.tamu.edu/rule07. If you have a conflict with a scheduled exam, please contact the professor as soon as possible, but no later than one week in advance to schedule a make-up. If your conflict is unforeseen (e.g. sudden hospitalization), please contact the professor as soon as possible to arrange a make-up. Please provide your professor with documentation for excused absences. The lowest two quiz grades will be dropped. If you have three or more excused quiz absences, please coordinate with the professor for a make-up.

Late Work Policy

Late homeworks are not accepted and are worth 0 points. If you have an extended excused absence (per rule 7) that prevents you from completing a homework, please coordinate with the professor as soon as possible for a make-up.

Grading Scale

Quizzes: 25 points each (x10, but only top 8 counted)
Homeworks: 20 points each (~~x13~~ x12, but lowest ~~three~~ two dropped). A subset of each homework will be graded for correctness. The other problems will be graded for completeness only. Your assignments must be submitted in LaTeX (see references above). Submit assignment to gradescope (https://www.gradescope.com)
Midterm exams: 200 points each (x 2)
Final exam: 200 points

A >= 900 points
B = 800-899 points
C = 700-799 points
D = 600-699 points
F = <600 points

Special Final Exam rule:
The second half of the semester will be disruptive and grades may not accurately reflect student learning. The instructor may, in his sole discretion, assign a final grade based solely

on the final exam if he believes it is more reflective of student learning. For example, if a student was doing well at the beginning of the semester (A), and does poorly in the latter half of the semester, but achieves an A on the final, the instructor may award the A even if the total score wouldn't justify it. Similarly, if a student 's final exam score is significantly lower than other grades, the instructor may award a final grade which is lower than the total score.

Return of Graded Work/Regrading

You may pick up your graded work from the TA during office hours. We will make an effort to complete the grading of work within one week of the turnin date. If you believe your work was graded incorrectly or incompletely, you must either **1**) **meet with a TA within one week of the date the work is returned, or 2) submit a regrade request in Gradescope within one week (when applicable).** Only if you can prove to the TA that your solution is correct and complete will your work be regraded.

Course Topics, Calendar of Activities, Major Assignment Dates

Week	**Topic**	**Required Reading**
1 (Jan 14)	Introduction	Syllabus
	Propositional Logic	1.1-1.5
2 (Jan 21)	Rules of Inference (HW 1 due Tues)	1.6
	Quiz 1 (Thurs)	
	Proofs	1.7-1.8
3 (Jan 28)	Sets (HW 2 due Tues)	2.1-2.2
	Quiz 2 (Thu)	
	Functions	2.3
4 (Feb 4)	Sequences and Sums (HW 3 due Tues)	2.4
	Quiz 3 (Thu)	2.5
	Cardinality of Sets	
5 (Feb 11)	Algorithms (HW 4 due Tues)	3.1
	First Midterm Exam (Thu Feb 13)	(through 2.5)
	Growth of Functions	3.2
6 (Feb 18)	Complexity of Algorithms (HW 5 due Tues)	3.3
	Quiz 4 (Thu)	
7 (Feb 25)	Mathematical Induction (HW 6 due Tues)	5.1-5.2
	Quiz 5 (Thu)	
8 (Mar 3)	Recursive Functions (HW 7 due Tues)	5.3
	Quiz 6 (Thu)	
	Recursive Algorithms	5.4
BREAK (Mar 10)	SPRING BREAK	
~~9 (Mar 17)~~	Counting (HW 8 due Tues)	6.1-6.4
10 (Mar 24)	Quiz 7 (Thu)	
~~10 (Mar 24)~~	Advanced Counting (HW 9 due Tues)	8.1-8.4
11 (Mar 31)	**Second Midterm Exam (Thu ~~Mar 26~~ Apr 2)**	
~~11 (Mar 31)~~	Relations (HW 10 due Tues)	9.1,9.5,9.6
12 (Apr 7)	Quiz 8 (Thu)	
~~12 (Apr 7)~~	Crypto Math (HW 11 due Tues)	4.1-4.6
13 (Apr 14)	Quiz 9 (Thu)	
~~13 (Apr 14)~~	Finite State Machines (HW 12 due Tues)	13.3
14 (Apr 21)	Quiz 10 (Thu)	
	Languages and Grammars	13.1-13.2
~~14 (Apr 21)~~	~~Language Recognition~~	~~13.4, 13.5~~
	~~Turing Machines (HW 13 due **THU**)~~	
15 (NO CLASS)	Last day of class is Thu 23 April	

FINAL EXAM
See: http://registrar.tamu.edu/Courses,-Registration,-Scheduling/Final-Examination-Schedules
TR 8am has final exam Friday May 1 from 1pm-3pm
TR 9:35am has final exam Thursday April 30 from 12:30pm-2:30pm

At this time, finals are still expected to be in person. This section will be updated as information becomes available.

Disability Resources

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit http://disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Harassment and Discrimination

Texas A&M is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, Texas A&M encourages a climate that values and nurtures collegiality, diversity, pluralism and the uniqueness of the individual within our state, nation and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University prohibits harassment and discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran.

Students who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the Office of the Dean of Student Life at 979-845-3113.

Academic Integrity

For additional information please visit: http://aggiehonor.tamu.edu

"An Aggie does not lie, cheat, or steal, or tolerate those who do."

All violations wil be reported to the Aggie Honor System Office. Please pay particular attention to the definitions of academic misconduct at: http://aggiehonor.tamu.edu/Rules-and-Procedures/Rules/Honor-System-Rules#Definitions

You are encouraged to discuss concepts with others, but **you must do all assignments by yourself** unless specifically instructed otherwise. If you refer to any source while doing your homework, you must give credit in your solution, (this holds true whether it be a person, paper, book, solution set, web page or whatever). You MUST write up the assignments **in your own words.** Never copy someone else's words and turn them in. For example, "the academic integrity policy on this syllabus was based on one obtained from Prof. Jennifer Welch", or "Sally Smith walked me through the solution to #38 and then I did #39 on my own" (assuming #38 was not on the homework).

On all assignments and examinations at Texas A&M University, the following Honor Pledge shall be preprinted and signed by the student: "On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."