

Course Information

Course Number: CSCE 222
Course Title: Discrete Structures for Computing
Section: 599
Time: MWF 01:50 PM – 02:40 PM
Location: ONLINE
Credit Hours: 3

Instructor Details

Instructor: Qin Huang
Office: PETR 445
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Office Hours: will be posted on Canvas

Course Description

Provide 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.

Course Prerequisites

MATH 151

Course Learning Outcomes

The course will allow students to understand the relationships between logic, proofs and sets, and apply results from discrete mathematics to analysis of algorithms. Students will be able to produce proofs and apply counting techniques. They will have a basic understanding of models of computation.

Textbook and/or Resource Materials

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

Campuswire (<https://campuswire.com/p/GFD9B2B2C>):

All questions will be fielded through Campuswire.

- Everyone can see answers and other students can answer as well.
- You may post to the entire class, or to instructors and TAs only
 - Email messages are more likely to be overlooked and should be used only in rare circumstances.

Join the course and use code 5442.

Grading Policy

If you want to challenge any grading, you must do so within one week of when the grade is published.

We reserve the right to audit the grades for any assignments submitted to this course. During the audit process, we can decrease or increase your score. This could result in lowering the score of already released grades.

Letter grades will be assigned as follows:

90-100 A

80-89 B or better

70-79 C or better

60-69 D or better

<60 F or better

Exams (50%)

- One midterm (20%).
- Final exam (30%).

Exams are open book, open note.

- You are allowed
 - to use your textbook.
 - any instructor's slides and examples.
- You **are not** allowed
 - to interact with anyone face to face or electronically during an exam.

Homework (50%)

Written assignments are handed out every one or two weeks. A subset of each homework will be graded for correctness. The other problems will be graded for completeness only.

The number of homework assignments is indeterminate (you cannot assume there will be a certain number).

- You must write your individual homework independently.
- You **are not** allowed to interact with other students currently taking the course or those who have taken the course before.
- You are allowed
 - to use your textbook.
 - any instructor's slides and examples.
 - to get help from the grader and instructor.

Late Work Policy

Submission of late assignments and scheduling of make-up exams should be arranged before the due date.

Course Schedule

Week	Topic
1	Logic and proofs
2	Sets
3	Functions
4	Sequences and sums
5	Algorithms and complexity
6	Induction and recursion
7	Counting
8	Permutations and combinations
9	Generalized permutations and combinations
10	Recurrence relations
11	Generating functions
12	Inclusion-exclusion
13	Relations
14	Models of computation

University Policies

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to [Student Rule 7](#) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the instructor.

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor” ([Student Rule 7, Section 7.4.1](#)).

“The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence” ([Student Rule 7, Section 7.4.2](#)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

Academic Integrity Statement and Policy

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

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case” ([Section 20.1.2.3, Student Rule 20](#)).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Americans with Disabilities Act (ADA) Policy

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 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.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.

- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University’s goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with [Counseling and Psychological Services](#) (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University’s [Title IX webpage](#).

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student’s academic success and overall wellbeing. Students are encouraged to engage in proper self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at suicidepreventionlifeline.org.