

## Course Information

Course Number: 222  
Course Title: Discrete Structures for Computing: CSCE 222  
Section: 551  
Time: TR 9:35am-10:50am  
Location: KIRK 206  
Credit Hours: 3

## Instructor Details

Instructor: Zoran Budimlić  
Office: SeaAggie Center #704  
Phone: 409-740-8873  
E-Mail: [zoran@tamu.edu](mailto:zoran@tamu.edu)  
Office Hours: 2-3PM, Tuesdays and Wednesdays

TA: Sunayna Ray  
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Office Hours: 10:30-11:30AM, Mondays and Wednesdays

## 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.

## Course Learning Outcomes

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.

## Textbook and/or Resource Materials

### *Required Textbook*

Discrete Mathematics and Its Applications, 8<sup>th</sup> Edition, Kenneth H. Rosen, McGraw Hill Education.

Canvas: <https://canvas.tamu.edu>

Assignment Turnin: <https://gradescope.com>

Course videos: [https://drive.google.com/drive/folders/1so-1k7N6BaxX2fELb\\_qkcBTPT-4357yr?usp=sharing](https://drive.google.com/drive/folders/1so-1k7N6BaxX2fELb_qkcBTPT-4357yr?usp=sharing) (must use TAMU Google account to access)

### 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](#)

## Grading Policy

**Quizzes:** 25 points each (x10, but only top 8 counted)

**Homeworks:** 20 points each (x12, but lowest 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  $\geq$  900 points

B = 800-899 points

C = 700-799 points

D = 600-699 points

F =  $<$ 600 points

## Late Work Policy

Late work will not be accepted in the class, except for students with an excused absence.

Work submitted by a student as makeup work for an excused absence is not considered late work and is exempted from the late work policy. Please see [Student Rule 7](#) for more details about late work.

## Return of Graded Work / Regrading

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 **submit a regrade request in Gradescope within one week**. Only if you can prove to the grader that your solution is correct and complete will your work be regraded.

## Course Schedule

Week	Topic	Required Reading
1 (Aug 25)	Introduction	Syllabus
2 (Aug 30, Sep 1)	Propositional Logic	1.1-1.5
	Rules of Inference	1.6
	Quiz 1 (Thu)	
3 (Sep 6, 8)	Proofs	1.7-1.8
	Sets	2.1-2.2
	HW 1 due Tue	
	Quiz 2 (Thu)	
4 (Sep 13, 15)	Functions	2.3
	Sequences and Sums	2.4
	HW 2 due Tue	
	Quiz 3 (Thu)	
	Cardinality of Sets	2.5

5 (Sep 20, 22)	Cardinality of Sets	2.5
	Algorithms	3.1
	HW 3 due Tue	
	<b>First Midterm Exam (Thu Sep 22)</b>	(through 2.4)
6 (Sep 27, 29)	Growth of Functions	3.2
	Complexity of Algorithms	3.3
	HW 4 due Tue	
	Quiz 4 (Thu)	
7 (Oct 4, 6)	Mathematical Induction	5.1-5.2
	HW 5 due Tue	
	Quiz 5 (Thu)	
8 (Oct 11, 13)	Recursive Functions	5.3
	Recursive Algorithms	5.4
	HW 6 due Tue	
	Quiz 6 (Thu)	
9 (Oct 18, 20)	Counting	6.1-6.4
	HW 7 due Tue	
	Quiz 7 (Thu)	
10 (Oct 25, 27)	Advanced Counting	8.1-8.4
	HW 8 due Tue	
	Quiz 8 (Thu)	
11 (Nov 1, 3)	Crypto Math	4.1-4.6
	HW 9 due Tue	
	<b>2nd Midterm Exam (Thu Nov 3)</b>	(through 8.4)
12 (Nov 8, 10)	Crypto Math	4.1-4.6
	Quiz 9 (Thu)	
13 (Nov 15, 17)	Relations	9.1,9.5-9.6
	HW 10 due Tue	
	Quiz 10 (Thu)	
14 (Nov 22, 24)	Finite State Machines	13.3
	HW 11 due Tue	
Nov 24	THANKSGIVING DAY – no class	
15 (Nov 29, Dec 1)	Languages and Grammars	13.1, 13.2, 13.4, 13.5
	HW 12 due Tue	
	Quiz 11 (Thu)	
	Last day of class is Tue Dec 6	

#### FINAL EXAM

See: <http://registrar.tamu.edu/Courses,-Registration,-Scheduling/Final-Examination-Schedules>

Dates/Times TBA

*Technology Support* - Texas A&M University at Galveston students can direct their technical questions to [helpdesk@tamug.edu](mailto:helpdesk@tamug.edu)

*Learning Resources* – On-campus learning resources to support students in achieving excellence are available through the Center for Academic Learning Support ([tamug.edu/cals](http://tamug.edu/cals)).

### University Policies

*This section outlines the university level policies that must be included in each course syllabus. The TAMU Faculty Senate established the wording of these policies.*

**NOTE:** Faculty members should not change the written statements. A faculty member may add separate paragraphs if additional information is needed.

### Attendance and Makeup Work Policies

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 Honor Council Rules and Procedures as well as your rights and responsibilities at [tamug.edu/HonorSystem](http://tamug.edu/HonorSystem).

### 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 the Disability Resources office located in the Student Services Building or at (409) 740-4587 or visit [tamug.edu/counsel/Disabilities](http://tamug.edu/counsel/Disabilities). 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 the Counseling Office in the Seibel Student Center, or call (409)740-4587. For additional information, visit [tamug.edu/counsel](http://tamug.edu/counsel).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the Galveston Campus' [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 healthy self-care by utilizing available resources and services on your campus.

Students who need someone to talk to can call (409) 740-4736 from 8:00 a.m. to 5:00 p.m. weekdays or visit [tamug.edu/counsel](http://tamug.edu/counsel) for more information. For 24-hour emergency assistance during nights and weekends, contact the TAMUG Police Dept at (409) 740-4545. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org).

## COVID Statement

To help protect Aggieland by the Sea and stop the spread of COVID-19, Texas A&M University at Galveston urges students to be vaccinated and to wear masks in classrooms and all other academic facilities on campus, including labs. Doing so exemplifies the Aggie Core Values of respect, leadership, integrity, and selfless service by putting community concerns above individual preferences. COVID-19 vaccines and masking — regardless of vaccination status — have been shown to be safe and effective at reducing spread to others, infection, hospitalization, and death.

## Texas A&M at Galveston - Campus-Specific Policies

### Classroom Access and Inclusion Statement

Texas A&M University is committed to engaged student participation in all of its programs and courses and provides an accessible academic environment for all students. This means that our classrooms, our virtual spaces, our practices and our interactions are as inclusive as possible and we work to provide a welcoming instructional climate and equal learning opportunities for everyone. If you have an instructional need, please notify me as soon as possible.

The Aggie Core values of respect, excellence, leadership, loyalty, integrity and selfless service in addition to civility, and the ability to listen and to observe others are the foundation of a welcoming instructional climate. Active, thoughtful and respectful participation in all aspects of the course supports a more inclusive classroom environment as well as [our mutual](#) responsibilities to the campus community.

*The following statements below are optional. Leave as is to include, or delete if preferred. Either way, delete this note.*

### Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to [howdy.tamu.edu](http://howdy.tamu.edu) and clicking on the "Directory Hold Information" link in the Student Records channel on the MyRecord tab. The complete [FERPA Notice to Students](#) and the student records policy is available on the Office of the Registrar webpage.

Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.

### Statement on Course Evaluations

Texas A&M will use an online course evaluation tool through AEFIS (Assessment, Evaluation, Feedback & Intervention System). We highly encourage you to complete an evaluation for each course on your schedule. Student input is a critical component used to improve curriculum and teaching. Each faculty member values your input to improve his/her methodology. Your comments can also significantly impact the mix and membership of faculty. The course evaluations will be available through TAMU.AEFIS.NET and you will receive an email notification with a direct link to the system when the course evaluation becomes available.

### Department Policies

Departmental units may establish their own policies and minimum syllabus requirements. As long as these policies and requirements do not contradict the university level and college level requirements, departments can add them in this section. Please remove this section if not needed.