



## Course Information

Semester & Year:	Spring 2025
Course Title:	Discrete Mathematical Structures
Course Prefix & Number:	MAT 227
Section Number:	32687
Credit Hours:	3
Start Date:	January 27, 2025
End Date:	May 9, 2025

## Course Format

The course format for this course is Online with in-person proctored exams.

## Instructor Information

Instructor:	Patricia Dueck
Email:	patricia.dueck@scottsdalecc.edu
Phone:	480.423.6594
Office Location:	CM-429
Office Hours:	MW, 4:00 PM to 5:30 PM, CM 453 TTh, 2:30 PM to 3:30 PM, CM 453

Virtual office hours are the same as above at this link:

<https://meet.google.com/gdz-kwbo-vez> .

Please inform me via email ahead of time if you plan on attending. I often forget to turn on the computer during office hours.

Others by appointment

## Course Description

Description: Course emphasizes discrete mathematics connections to computer science by exposing students to foundational concepts of set theory, logic, counting, induction, proof techniques, graph theory, and algorithms.

## Prerequisites

Prerequisites: A grade of C or better in MAT212, or MAT213, or MAT220, or MAT221, or permission of Department/Division Chair.

## Course Competencies

1. Establish the validity of logical propositions.
2. Compare the cardinality of given sets.

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3. Study the correctness of a proof
4. Classify a proof.
5. Solve a recurrence relation.
6. Identify the properties of a relation.
7. Create proofs using relations, order relations, and equivalence relations.
8. Calculate permutations and combinations of sets.
9. Calculate the empirical probability of an event.
10. Solve problems involving modular arithmetic.
11. Identify the properties of a graph.
12. Determine paths, cycles, and connectivity given a graph.
13. Represent a graph with its incidence matrix.
14. Use Big-O notation to study the growth of a given function.

## Texts, Course Materials and Technologies

Chapter readings are available as pdfs in the online learning system MOER. There is an optional text you may purchase. The information is below.

### Technology:

#### 1. MOER Account (FREE)

This course uses MOER, an Online Course Management System developed by David Lippman and the State of Washington. All the Course Materials will be accessed through this system. Grades will also be posted through this system. The software is free to use and can be accessed at <https://MOER.maricopa.edu/> Once you have an account, you can enroll in the course using the information below.

**Course ID:** 20728

**Enrollment Key:** Dueck\_MAT227\_S25

2. **Calculator:** You will need a calculator occasionally for this class. You will need a calculator that performs matrix operations for exams unless you would prefer to do them by hand. You may use your calculator on exams and assignments.

3. **Computer:** You will need regular access to a computer (with Internet access) in order to complete the online assignments that are part of this course. Your computer will need a web-cam for the proctored online testing. The labs and computer locations on campus may be used to access your online work (IT-100 computer lab, library, LC 371 Writing Center lab, Math Tutoring Center). You will need to have an SCC Network Login account to access the computers on campus.

4. **Email:** Your Maricopa Email address is part of your account automatically as an SCC student. I will primarily contact you via email and MOER. You can forward your Maricopa Gmail to another account, as you prefer.

## Course Policies

The following are policies specific to this course. Students are also responsible for the college policies included on the [Student Regulations](#) page of the Maricopa Community College District website.

## Late Passes

- Students are given 10 late passes at the beginning of the course.
- Each late pass extends a single homework assignment by 48 hours from the due date.
- You may only use **one late pass per assignment**. No assignments may be completed for credit more than 2 days after the due date.
- Once you are out of late passes, you may not complete any late assignments for credit.
- Late passes cannot be used on exams.
- Late exams may be approved by the instructor and will receive a 15% penalty per day late. Email or message your instructor if you would like to request a late exam with a penalty.

## Grading Standards & Practices

The information below explains the structure of the course, requirements, and grading procedure.

- 1) There are 11 Chapters in this course.
- 2) For each Chapter, you must submit a homework assignment. Homework assignments are submitted in the MOER system and may be typed or an image file may be uploaded.
- 3) There are 2 in-person/proctored exams for this course. They must be taken by the dates indicated in the course calendar in MOER. If you are unable to take the exam in person using the methods describe in MOER, you must let your instructor know.

Students who do not complete both Exams will earn a grade of W.

Required Assignments	Number of Assignments	Percent of Total Grade
1. Online Homework	11	25%
2. Reading Quizzes	11	15%
3 Midterm Review	1	5%
4. Midterm Exam	1	25%
5. Final Review	1	5%
6. Final Exam	1	25%

Grades are updated continually and visible in the MOER Gradebook section. Check there often to see your overall percent in the course. Final letter grades are assigned as indicated below.

Course Grade: A	90% – 100%
Course Grade: B	80% – 89.9%
Course Grade: C	70% – 79.9%
Course Grade: D	60% – 69.9%
Course Grade: F	Less than 60%
Course Grade: W	See Withdrawal section of Syllabus

## Response Time

Students can expect a response time of 72 hours (at most) for the instructor to respond to messages sent via MOER, Canvas Learning Management System, or email. Students can expect assignments to be graded within 7 days of the assignment's due date.

## Attendance Policy

Attendance in an online classroom involves consistent and regular progress on the course assignments. Failure to complete two assignments may result in being withdrawn from the course.

## Exam Proctoring Tool

### ProctorU

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ProctorU allows test-takers to take a supervised exam on demand or by appointment. SCC has adopted ProctorU to provide proctoring services for our online courses. All of the exams in this course are proctored, meaning you are supervised in-person through a webcam and screen sharing technology when you take your exam.

You may test your computer and webcam at the [How Do I Test My Equipment](#) page, and read about the ProctorU [Equipment Requirements](#).

ProctorU is a fee-based service with the following [ProctorU Pricing Plan](#).

Please note that ProctorU requires a room scan prior to all testing sessions.

## Generative Artificial Intelligence (AI) Policy

### Opening Statement Regarding Generative Artificial Intelligence (AI)

The World Economic Forum defines generative AI as “a category of artificial intelligence (AI) algorithms that generate new outputs based on the data they have been trained on. Unlike traditional AI systems that are designed to recognize patterns and make predictions, generative AI creates new content in the form of images, text, audio, and more.”

Some examples of generative AI tools include but are not limited to: ChatGPT, Google Bard, Microsoft Copilot, Stable Diffusion, GrammarlyGo, and Adobe Firefly.

### No Generative Artificial Intelligence (AI) Allowed

In this class, all work submitted must be your own. The use of generative AI tools will be considered academic misconduct (see Administrative Regulation 2.3.11 1.B(b)) and will be treated as such. If you are unsure if the tool or website you are using is a generative AI tool, please contact the instructor for further clarification before using the tool or website.

## Instructional Contact Hours (Seat Time)

This is a three (3) credit-hour course. Plan to spend at least three hours on course content or seat time (direct instruction) and twelve hours on homework weekly. Accelerated courses will require additional time per week.

## Student and Instructor Interaction

In this course, you can expect regular and substantive interaction (RSI) that aligns with Scottsdale Community College's mission to provide challenging and supportive learning experiences and the US Department of Education's requirement for regular and substantive interaction (RSI) for online courses. My commitment to your success includes the following:

- Being available during regularly scheduled student support hours.
- Sharing weekly information about the course materials, including key information, explanations, examples, and resources via recorded, and/or text-based lectures.
- Promptly responding to student questions about the course sent via email, or MOER messaging.
- Regularly posting announcements about the course content and activities.

## Class Policies

### Withdrawal Policy

- 1) Failure to complete your orientation exercise and testing options assignment with 100% in MOER by Friday, 01/31/2025, will result in being dropped from the course.
- 2) Students who do not complete the 2 midterm and final exams will be withdrawn.
- 3) Students who fall behind schedule by more than one Chapter may be withdrawn.
- 4) Students who do not complete any work in MOER for 10 consecutive days (and are behind schedule) may be withdrawn.

If you find that you need to withdraw from the course, please speak to me first. I may be able to recommend other options or discuss alternative courses of action concerning future classes.

## College Policies

- 1) Student may initiate an official withdrawal from any course by submitting a withdrawal form with required signatures to the A&R office within published deadlines.
- 2) Failure to attend any classes is not a guarantee for a refund or an excuse of debt incurred through registration. See Refund Policy in the [2019-2020 College Catalog](#) page 241.
- 3) Official date of withdrawal is last date of attendance as determined by student's withdrawal or as reported by the instructor.
- 4) The official date of withdrawal will determine degree of refund, if any.

5) Failure to file an official withdrawal form within published deadlines can result in a failing grade and may affect refund of course tuition and fees.

## Online Tutoring

### SCC Math Tutor Center

SCC's tutors are available online to help with your courses. You may work with an SCC tutor remotely using Google Meet, your phone, or email. Visit the [Math Center](#) page for detailed information on the tutor center's hours and procedures.

As much as possible, it is highly recommended that you utilize SCC tutors since they are more familiar with SCC coursework, instructor expectations, and assignments.

### Brainfuse

If you need to work with a tutor outside regular hours, online and hybrid students now have access to a 24/7 online tutoring service called Brainfuse. Brainfuse provides online tutoring in a variety of academic subjects. Each student may utilize up to 6 hours of online tutoring through Brainfuse per semester, and has the option of requesting additional time if needed.

To access Brainfuse and begin working with a tutor:

1. Visit the [SCC Online Tutoring Services Through Brainfuse](https://www.scottsdalecc.edu/students/tutoring/online-tutoring) page (<https://www.scottsdalecc.edu/students/tutoring/online-tutoring>)
2. Click the **Visit a tutor online** button
3. Enter your MEID and password
4. Choose your topic and subject
5. Click the **Connect** button

Please use your time effectively and be prepared with your questions before you connect to a tutor. Tutors and students communicate in real-time so whatever you type, draw, or share on the screen, the tutor sees, and vice versa. You may also want to have screenshots ready if applicable. All Brainfuse sessions are recorded for review later.

## Technology Statement(s)

### Third-Party Learning Tools

SCC utilizes a variety of software applications and web-based tools operated by third party vendors to support student learning. To allow student access to the application, site, or tool certain identifiable information may be required to establish a user name or password, submit work and/or download information from these tools. Inherent with all internet-based tools, there is risk that individuals assume when electing to use the products and services made available by these tools, as they may place information at risk of disclosure.

In this course, we will use MOER to complete or participate in assignments, activities and/or access course materials. [Accessibility Statements and Privacy Policies](#) for all tools used at SCC are available.

To use the third-party tools responsibly, please observe all laws and the Maricopa Community College District [Student Conduct Code](#). Some specific aspects of law and conduct code to remember are prohibitions against copyright infringement, plagiarism, harassment or interferences with the underlying technical code of the software. As a student using a third-party learning tool, you have certain rights. Any original work that you produce belongs to you as a matter of copyright law. You also have a right to the privacy of your educational records. Your contributions to the third-party learning tool constitute an educational record. By using the third-party tool, and not taking other options available to you in this course equivalent to this assignment that would not be posted publicly on the internet, you consent to the collaborative use of this material as well as to the disclosure of it in this course and potentially for the use of future courses.

Students are responsible for the information contained in this syllabus, the Syllabus page in your Canvas course and the **College Policies & Student Services** page found in the First Steps module of your Canvas course. Students will be notified by the instructor of any changes in course requirements or policies.