SCOTTSDALE COMMUNITY COLLEGE
A MARICOPA COMMUNITY COLLEGE

Scottsdale Community College (SCC) credits the diverse Indigenous people still connected to the land on which we gather. Our college resides on the ancient lands of the Huhugam, ancestors to the O'odham and tribal territory of the Salt River Pima-Maricopa Indian Community (SRP-MIC). SRP-MIC is a federally recognized tribe - one of 22 Arizona Indigenous tribes and one of 574 across the United States. Attached to this physical space is a painful history of forced removal and the resulting intentional genocide of its Indigenous people. We remain appreciative of our ability to teach, learn and serve in a space of such importance and reverence**.**

SCC acknowledges the land on which we are situated today as the traditional land and home of two distinct tribal nations: the Onk Akimel O'odham (Pima) and the Xalychidom Piipaash (Maricopa). We take this opportunity to thank the original caretakers of this land, the Huhugam. We offer our respect to all O'odham and Piipaash of the past, present and future.

Course Information

Semester & Year:	Summer 2025
Course Title:	Discrete Math Structures
Course Prefix & Number:	MAT 227
Section Number:	10845
Credit Hours:	3
Start Date:	May 27th, 2025
End Date:	July 17th, 2025

Note: All times and dates in this syllabus use Mountain Standard Time. Please plan accordingly, especially if traveling.

Course Format

The course format for this course is on your time online. This is an 8-week course. The start date for the course is May 27th, 2025. The end date for the course is July 17th, 2025. Exams in this course must be taken in a proctored setting.

Instructor Information

Instructor:	Gabriel Tarr
Email:	gabriel.tarr@scottsdalecc.edu
Phone:	480-425-6746
Office Location:	CM 419
Office Hours:	By Appointment (via Zoom)

Course 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. (I)
2. Compare the cardinality of given sets. (I)
3. Study the correctness of a proof (I)
4. Classify a proof. (I)
5. Solve a recurrence relation. (II)
6. Identify the properties of a relation. (II)
7. Create proofs using relations, order relations, and equivalence relations. (II)
8. Calculate permutations and combinations of sets. (III)
9. Calculate the empirical probability of an event. (III)

10. Solve problems involving modular arithmetic. (IV)
11. Identify the properties of a graph. (V)
12. Determine paths, cycles, and connectivity given a graph. (V)
13. Represent a graph with its incidence matrix. (V)
14. Use Big-O notation to study the growth of a given function. (VI)

Texts and Course Materials

Required Texts: Chapter readings are available as PDFs in the online learning system Maricopa Open Educational Resources (MOER).

Online Course Management System: This course uses MOER, an Online Course Management System developed by David Lippman and the State of Washington. All of the Online Homework will be accessed through this system. Grades will also be posted through this system. The software is free to use and can be accessed here at moer.maricopa.edu. Failure to enroll in MOER and complete the required syllabus quiz by the due date will result in being withdrawn from the course.

Course ID: **21161** **Enrollment Key**: **10845**

Calculator Requirement: A calculator will be occasionally required for this course. You should pick a calculator that performs matrix operations unless you would prefer to complete the operations yourself. The instructor strongly recommends a TI-83/84. Your cell phone may NOT be used as a calculator on your exams. The SCC Media Center will rent calculators this semester on a first-come basis. Go to the Media Center located in the Information Technology (IT) Building to rent a graphing calculator. Rentals are first-come, first-served and there are limited quantities.

Computer Access, Webcam, Microphone, and Email: You will need regular access to a computer with online capabilities in order to complete online assignments in MOER.

You will need access to a webcam and a microphone if you need to meet with the instructor or tutors virtually.

Course Technologies

View the Accessibility Statements & Privacy Policies of technologies used in this course.

Maricopa Systems

This course uses key Maricopa systems for course management and communication.

- Canvas Learning Management System
- Student Maricopa Gmail Account
- Maricopa Open Educational Resource Learning System (MOER)

Synchronous Communication Tools

This course implements the use of web conferencing and/or other synchronous course tools.

- Zoom (for optional office hours)

Streaming Media/Audio/Video Tools

This course uses webcasting, lecture capture systems, YouTube, and/or other streaming media services.

- YouTube

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.

Academic Dishonesty: There is a zero-tolerance policy for cheating. For students taking exams using remote options, all policies and procedures for the remote proctoring center must be followed (this includes ProctorU). Repeated failure to adhere to these policies will constitute cheating. When students are found cheating, they will receive a non-negotiable 0 for the exam.

Withdrawing from the Course: If it becomes necessary to withdraw from the course, you should speak with admissions office and fill out the proper forms there. There is a last day to withdraw without an instructor's signature. It is not guaranteed that you will be able to withdraw from the course after this date.

Math/Science Tutor Center: Free online tutoring is available online at the following link. http://www.scottsdalecc.edu/students/tutoring/math. You will need to know your Maricopa gmail account ID and password, and self-enroll in a Canvas course. Details can be found at the link above.

Email and Contacting the Instructor: It is HIGHLY inappropriate for your family members, guardians, private tutors, former teachers, or any other third-party actors to contact your instructor to discuss anything related to your academic standing in this class. The instructor is more than happy to discuss your academic standing with YOU (the student), but emails, messages, and phone calls from third-party actors on your behalf will not receive a response (except in extreme circumstances as determined by the instructor). In certain cases, these third-party actors may be blocked from contacting the instructor.

Be respectful of your classmates and the instructor. Don't be a jerk!

Grading Standards & Practices

Your grade is NOT a commodity; it has not been purchased with your tuition. You have the right to be graded fairly, but you do NOT have the right to any specific grade. Your grade is not a reflection of you as a person. Your grade is not a measurement of effort, it is an evaluation of PERFORMANCE. This means your grade is dependent upon how well you demonstrate your comprehension of the subject through application and completion of the items listed above in the course competencies. Furthermore, it is immoral to reach out to your instructor about the consequences of not receiving a certain grade in the course. Please do not ask for extra credit or "a few extra points" in order to make a certain grade for scholarships, admittance to a certain program, or athletic eligibility. Emails and messages of this nature will be ignored.

Grade Scale

Letter Grade	Points Range
A	90 – 100%
B	80 – 89.9999%
C	70 – 79.9999%
D	50 – 69.9999%
F	0 – 49.9999%

Grade Distribution

Exams (50% of course grade): There will be two exams in this course. Your exams are meant to test your PERSONAL mathematical aptitude of topics covered prior to each exam in this class, but occasionally you will be required to draw from your PERSONAL aptitude in topics covered in prerequisite courses, your real-life experiences, and common sense.

Make up exams will only be granted under extreme circumstances. You should meet with your instructor AT LEAST TWO WEEKS BEFORE THE SCHEDULED EXAM to discuss arrangements. This discussion must take place BEFORE the scheduled date of the exam. Failure to adhere to this policy may result in a 0 for the exam.

The Midterm Exam will focus on the content from Chapter 1 through Chapter 6. **The midterm must be completed by June 26th, 2025 at 11:59 PM.** The Final Exam will focus on the content from Chapter 7 through Chapter 11, though you may need to be proficient with content from the Midterm. **The final must be completed by July 17th, 2025 at 11:59 PM.** For each exam, you may bring one 8.5-inch by 11-inch sheet of paper with notes on it. No other notes or assistance are permitted!

Both exams must be taken in a proctored environment. You have three options for taking exams. **Option 1 is the preferred choice.**

Option 1: In-Person at SCC (location TBD) during the proctored exam time on Thursday 6/26 from 4:00 PM - 6:00 PM (Arizona Time) for the midterm and Thursday 7/17 from 4:00 PM – 6:00 PM (Arizona Time) for the final.

Option 2: In-Person at the SCC Testing center. Contact me through email or MOER so I can set it up for you to make an appointment. You must contact me for this option by Thursday 6/22 at 3:00 PM (Arizona Time) for Exam 1 and Thursday 7/11 at 3:00 PM (Arizona Time) for Exam 2.

Option 3: In-Person at a certified non-SCC Testing Center. There may be proctoring fees required. The fee is the responsibility of the student. For this option, **you** must determine **all relevant contact information for the testing center and email me this information**. To ensure I have enough time to verify the testing center and submit the exam materials to the proctor, you must contact me for this option by Friday 6/13 at 3:00 PM (Arizona Time) for the midterm and Thursday 7/3 at 3:00 PM for the final. If you cannot find a certified testing center **or** the testing center/proctor cannot be verified for whatever reason, then you will need to use option 1 or option 2.

Online Homework (35% of course grade): You will be expected to complete regular homework assignments using MOER. It will benefit you to take notes on the video assignments and write out the homework problems (as if the instructor were grading each assignment by hand). Assignments and due dates will be posted in MOER. It is to your benefit to keep up, however, if you miss a due date, you have 5 late passes that you are able to use with no penalty to your homework grade. Each late pass only extends the due date for 48 hours. For example, if an assignment is 4 days (96 hours)

late, it will take 2 late passes to open the assignment. Since you only have 5 late passes, you should keep up with your assignments.

Reading Quizzes (15% of course grade): You will be required to complete regular quizzes in this course. You only have one chance per question, but you may repeat the entire assessment up to 10 times. You may use late passes on quizzes, but these count against your 5 late passes.

Student/Instructor Interaction

In this course, you can expect regular and substantive interaction (RSI) that aligns with Scootsdale 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:

- Promptly responding to student questions about the course sent via email, MOER messaging, or the Canvas inbox.
- Regularly grading your assignments.
- Monitoring your academic progress and communicating concerns, as needed.

Response Time

Students can expect a response time of up to 24 hours (not including weekends, holidays, or breaks) for the instructor to respond to messages sent via MOER or email. Students can expect assignments to be graded within 48 hours of the assignment's due date (not including weekends, holidays, or breaks).

Attendance Policy

This is an accelerated course. Material that is normally covered in 16 weeks is covered in 8 weeks. As such, keeping up with course assignments is *very* important. Any student who falls more than 7 days behind on assignments may be withdrawn from the course. Any student who fails to complete either exam will be withdrawn.

Instructional Contact Hours (Seat Time)

This is a three (3) credit-hour course. On average, a course requires 45 hours on course content per credit hour. This amounts to a total of 135 total hours for this course. Since this is an 8-week course, the typical student should anticipate spending

approximately 17 hours per week on course content. Some students *may* spend more or less time than this during the week.

Online Tutoring

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 Tutoring & Learning Centers page for detailed information on the five learning center's hours and procedures.

If you need tutoring, it is highly recommended that you utilize SCC tutors since they are more familiar with SCC coursework, instructor expectations, and assignments.

Learning Tools and Your Privacy and Security

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, and submit work and/or download information from these tools. Inherent with all internet-based tools, there is a risk that individuals assume when electing to use these tools, as they may place information at risk of disclosure.

To use learning tools responsibly, please observe all laws and the Maricopa Community College District Student Conduct Code, such as copyright infringement, plagiarism, harassment or interference with the underlying technical code of the software. As a student using a 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 learning tools constitute an educational record. By using the 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.