SCOTTSDALE COMMUNITY COLLEGE
A MARICOPA COMMUNITY COLLEGE

# Course Information

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| Semester & Year: | Summer 2025 |
| Course Title: | Mathematical Analysis for Business |
| Course Prefix & Number: | MAT 217 |
| Section Number: | 10675 |
| Credit Hours: | 3 |
| Start Date: | May 27, 2025 |
| End Date: | July 17, 2025 |

# Course Format

This course is On Your Time Online from May 27 to July 17 (8 weeks). On Your Time Online classes do not meet at specific class times. Coursework must be completed according to deadlines.

# Instructor Information


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| Instructor: | Carla Stroud |
| Email: | Carla.Stroud@scottsdalecc.edu |
| Phone: | (480) 423-6112 |
| Office Location: | CM 424 |
| Office Hours: | Contact via email |

# Course Description

An introduction to the mathematics required for the study of business. Includes multivariable optimization, Lagrange multipliers, linear programming, linear algebra, probability, random variables, discrete and continuous distributions.

# Prerequisites

Grade of “C” or better in MAT 212 or MAT213.

# Course Competencies

1. Solve linear systems with two and three equations using various methods, including matrices.
2. Use technology to solve application problems with 3+ variables.
3. Solve linear programming problems using the graphical method.
4. Solve multivariable optimization problems with and without constraints.
5. Solve counting problems using various counting techniques.
6. Define probability using sample spaces, and apply to real-world scenarios.
7. Define basic statistics (measure of central tendency and dispersion), and apply to real-world problems.
8. Describe properties of discrete and continuous probability distributions, and apply to solve real-world problems.
9. Describe the normal distribution and its characteristics.
10. Find probabilities for normal random variables by using the normal distribution.

# Texts and Course Materials

**Textbook:** Given the array of topics covered in this course, content is used from several textbooks. Students can view the textbook sections as a pdf file for free on MOER.

**Calculator:** A graphing calculator is **required** for this course. A TI-83, TI-83+, or TI-84 are recommended. Calculators with QWERTY keyboards or those that do symbolic algebra (such as the TI-92 or TI-89) are NOT allowed. Your cell phone may NOT be used as a calculator on an exam class.

**Computer Access:** Students will need regular access to a computer with reliable internet connection to complete online assignments. Students are responsible for completing all assignments on time regardless of any computer issues that may occur.

# 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)

## Streaming Media/Audio/Video Tools

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

- YouTube

## MOER Account

We will be using MOER (https://moer.maricopa.edu) as the course learning management system. The syllabus, schedule, announcements, assignments, grades, and course materials/textbook will be available through MOER. **Students who do not create a MOER account by the end of the first day of class will be withdrawn from the course.** Students can find information on how to log in to the course on Canvas.

# Grading Standards & Practices

| **Grading Weights** | | **Grading Scale** |
|---|---|---|
| Online Lessons | 5% | A 90% - 100% |
| Homework | 10% | B 80% - 89% |
| Quizzes | 15% | C 70% - 79% |
| Units 1-2 Exam | 35% | D 60% - 69% |
| Unit 3-4 Exam | 35% | F 59% or less |

**Online Lesson:** The Online Lesson is your direct instruction on the content. Online Lessons are set up like an interactive textbook - read through the text and examples, watch the videos, and complete the problems. You will have unlimited attempts at each question. It is recommended that students print the lesson notes and use the online lessons to complete the lessons notes.

**Homework:** Online homework assignments will be due frequently in MOER. Homework questions can be posted to the FAQ forum for the instructor or other students to answer or asked in class. You will get three attempts at each question, then you will have to try a new similar question for an attempt at full credit. Any written homework assigned during the semester will be announced and posted on MOER. To receive full credit, written homework assignments must be organized, complete, and detailed. Late written homework assignments will be counted for partial credit.

**LatePasses:** LatePasses can be used on the Online Lessons and Online Homework assignments. One LatePass will extend the due date for 24 hours (so to complete an assignment 4 days late, you will need to use 4 LatePasses). There is no penalty for using a LatePass, however **students will only receive 100 LatePasses**. Students that use up their LatePasses will need to message the instructor to have assignments extended with a 20% penalty. Additionally, **lessons and homework can only be extended until the corresponding exam**.

**Quizzes:** The Online Quiz gives you the opportunity to demonstrate your understanding of the material. You will have two chances per question, with a 30% penalty on the second attempt. You will have the opportunity to retake two quizzes in an attempt to improve your score. Students can message the instructor requesting to use a quiz redo. The practice quizzes are optional but highly recommended and can be taken multiple times. **Note, you can NOT use a LatePass for the Online Quizzes.**

**Exams:** There are two exams in this course and both exams must be taken to earn a grade in the class. Exams must be completed by the deadlines listed in MOER. Students that miss an exam deadline may take the exam up to 3 days late, but they can only earn a maximum score of 70%.

Exams will be proctored at the SCC campus (detailed information can be found in MOER). If you are unable to take the exam during the scheduled time at the SCC campus, then you may use the SCC testing center (free) or a certified testing center or college near you (fees apply). Students will need to indicate how they plan to take the in-person proctored exams in an MOER assignment at the start of the semester. Students who need to modify their exam proctoring option must contact the instructor **at least two weeks before the exam**. Students who fail to find an alternative in-person testing center in a timely manner and/or fail to follow all exam instructions given in MOER and by the exam proctor will receive a 0 for the exam.

# Course Policies

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

## Academic Dishonesty

When academic dishonesty is suspected, students may be asked to describe their solution method, redo a similar problem, or redo the exam. Students who are found to be cheating on an exam will receive a 0 for the exam.

## Course Grading Policy

Exam scores are non-negotiable and extra-credit is not offered in this course. Discussions about how the exam is graded will not be discussed via email. Instead, students are encouraged to meet with the instructor to review their exam performance. Final course grades are calculated using the scale listed in the syllabus (rounded to the nearest percent) and are non-negotiable. It is unethical for a student to request their final percentage be rounded up to earn their desired grade.

## Generative Artificial Intelligence (AI) Policy

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.

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.

# Student/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:

- Providing regular updates and information about the course, campus events, resources, tutoring services, and opportunities.
- Remind students about reviews and exams.
- Monitoring student academic progress and communicating concerns, as needed.

## Response Time

Students can expect the instructor to respond to messages within 24 hours Mon-Thurs and 48 hours Fri-Sun. Messages that don't adhere to the "Netiquette" Rules posted in MOER will not receive a response. Online lessons, homework, and quiz assignments will be graded immediately in MOER and other assignments (forum posts, reflections, etc.) will be graded within 48 hours after submission. Exams and written homework assignments will be graded within 4 days of the due date.

## Attendance Policy

Attendance in an online course involves consistent and regular progress on course assignments. This is not a self-paced class. Refer to the Calendar in MOER for the assignment submission schedule. Students that fall **one week behind** the Calendar schedule may be withdrawn from the class without notice. Additionally, Students who miss an exam may be withdrawn without notice.

## Instructional Contact Hours (Seat Time)

This is a three (3) credit-hour course completed in 8-weeks. Plan to spend an average of 17 hours each week on course content and homework.

## Math/Science Tutor Center

The Math Center offers free **in-person** and **remote** tutoring to students who are currently enrolled in mathematics courses at Scottsdale Community College. Visit their webpage for more information: https://www.scottsdalecc.edu/students/tutoring/math

## Online Tutoring

It is highly recommended that students utilize SCC tutors since they are more familiar with SCC coursework, instructor expectations, and assignments. However, online and hybrid students needing to work with a tutor outside regular hours 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, visit the SCC Online Tutoring Services Through Brainfuse page and click **Visit a Brainfuse Tutor Online** (blue button located below the title "Online Tutoring Services").

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.

# 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.