SCOTTSDALE
COMMUNITY COLLEGE

A **MARICOPA** COMMUNITY COLLEGE

# Course Information

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| Semester & Year: | Spring, 2024 |
| Course Title: | Elements of Statistics |
| Course Prefix & Number: | MAT 206 |
| Section Number: | 15718 |
| Credit Hours: | 3 |
| Meeting Days: | Tuesday/Thursday |
| Meeting Time: | 9:00 – 10:15 am |
| Room Number: | CM 466 |
| Start Date: | 1/16/2024 |
| End Date: | 5/10/2024 |

# Course Format

The course format for this course is in person. The course runs from January 16th – May 10th.

# Instructor Information

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| Instructor: | Tracey Haynie |
| Email: | tracey.haynie@scottsdalecc.edu |
| Phone: | 480-423-6776 |
| Office Location: | CM 422 |
| Office Hours: | In person office hours are Tuesdays from 8 – 9 am, and Thursdays from 10:30 am – 12:30 pm. Online office hours are Mondays from 9 – 11am. If you'd like to meet during these online office hours, send me an email and I will send you a link to a live WebEx. Other times may be available by appointment. |

# Course Description

Basic concepts and applications of statistics, including data description, estimation and hypothesis tests.

# Prerequisites

A grade of "C" or better in MAT140 or MAT141 or MAT142, or a grade of "C" or better in MAT150 or MAT151 or MAT152 or equivalent, or satisfactory score on District placement exam.

# Course Competencies

1. Identify the difference between descriptive and inferential statistics.
2. Distinguish between a population and a sample.
3. Group a set of data and present the grouping in graphical form.
4. Determine the mean, median, mode and standard deviation of data set and find the z-score for a data piece.
5. Define random variable and the probability distribution of a random variable.
6. Find probabilities for normal random variables by using the standard normal distribution.
7. Construct random samples.
8. Graph the sampling distribution of the mean for all sample sizes and all populations.
9. Find point and interval estimates of population means and proportions.
10. Describe the logic of hypothesis testing emphasizing the role of probability distributions and types of error.
11. Perform inferences about one mean or proportion in the case of normal populations or large sample size.
12. Perform inferences about two means or proportions in the case of normal populations or large sample size.
13. Use the Chi-square goodness-of-fit test to determine if two populations have the same shape.
14. Use the Chi-square independence test to determine whether two characteristics of a population are dependent.
15. Identify the best-fitting regression line for a set of data points.
16. Partition the total sum of squares for a set of data points to find measures of regression line fit and linear relationship.

# Texts and Course Materials

**Required Texts**: *Statistics Using Technology, Edited Version.* You can access the textbook in MOER (see next section). If you would prefer a paper copy of the textbook, you may download the chapter files from MOER and print them.

In addition, a copy of the class Notes Packet is also required, and can only be purchased through the SCC Bookstore.  The ISBN is 9781634349260 and the estimated price is $6.75.

**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 at https://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.

**Calculator Requirement**: A graphing calculator is **required** for this course.  The instructor strongly recommends a TI-83+/TI-84+.  If you choose not to purchase one, you can rent one for $10 per semester from the Media Center in IT.  Calculators with QWERTY keyboards or those which do symbolic algebra (such as the TI-92 or TI-89) are NOT allowed.  You are expected to bring your graphing calculator to each class session.  Your cell phone may NOT be used as a calculator during in class exams.  Sharing of calculators during quizzes or exams is NOT permitted.

**Computer Access and Email**:  You will need regular access to a computer with online capabilities in order to complete online assignments.  You will also need a valid email address that you (and only you) check regularly.

# 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

# 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.

**Course Progression:** This course is NOT self-paced. Students are expected to keep up with the assignments and due dates. **Students who fall more than 1 chapter behind (or do not complete any online work over the course of 7 consecutive days) may be withdrawn from the course**. Also, **failure to enroll and/or complete the syllabus quiz in MOER by the due date will result in being withdrawn from the course.**

**Withdrawing from the Course:** This is not a self-paced class. You have assignments and due dates and must make regular and consistent progress on course work and assignments. If you miss an Exam you will be withdrawn so be sure to stay in touch with your instructor. Students that stop participating and fail to respond to instructor MOER communication will be withdrawn from the class.

Students can request to withdraw from this class (with a grade of W) at any time prior to taking Exam 3. Students that take Exam 3 cannot earn a W for the class.

If a student withdraws or is withdrawn from the course, the instructor is required by law to report last day of attendance (LDA). This date is based upon actual work that is submitted and/or communication with the instructor about the class. Additional information on withdrawals can be found in the College Catalog.

**Electronic Devices/Cell Phones:** Use of cell phones, laptops, cameras, and other electronic devices when in class is a disruption for you, your fellow students, and your instructor. Please keep them off and out of sight during class. If you have an emergency situation requiring you remain in cell phone contact, please let the instructor know prior to the start of class. Also, no audio or video recording, or taking photos are allowed in class.

**Generative Artificial Intelligence (AI) Policy**

Generative AI can be defined 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.

**Math/Science Tutor Center:** Free tutoring, calculator assistance, and computers are available in person and online through the Math/Science Tutor Center (https://www.scottsdalecc.edu/students/tutoring/math).   You will need to know your SCC student ID number in order to sign in.

# Grading Standards & Practices

## Grade Scale

| Letter Grade | Points Range |
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| A | 90 – 100% |
| B | 80 – 89% |
| C | 70 – 79% |
| D | 60 – 69% |
| F | 0 – 59% |

**Grade Categories** - Your final grade will be determined by the following graded events:

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| Reading Quizzes | 10**%** |
| Online Homework | 15% |
| Homework Quizzes | 15% |
| Exams (3 at 20% each) | 60% |

**Reading Quizzes:** Prior to completing the homework assigned for each chapter, you will be asked to complete an online Reading Quiz.  The Reading Quiz will be in MOER and will include problems that are similar to the examples presented in the textbook, and the examples presented in class.  The purpose of the Reading Quiz is to hold students accountable for reading each chapter in the textbook, and learning material prior to starting the online homework.  Reading Quizzes are worth 10% of your final course grade. No late Reading Quizzes are accepted.

**Online Homework:** You are expected to complete weekly homework assignments online using MOER ([https://moer.maricopa.edu/](https://moer.maricopa.edu/)). These assignments are worth 15% of your course grade. Assignments and due dates are already posted on MOER and will be announced in class. You should WRITE DOWN your work for all problems as you do the homework. **No late homework will be accepted for any reason, but your lowest 2 homework scores will be dropped.**

**Homework Quizzes**: End of chapter homework quizzes will be assigned in MOER over each chapter and will cover the material you practiced in your homework assignments. They are worth 15% of your final course grade. Quiz dates will be announced in MOER and in class. **No make-up quizzes will be given, but the 2 lowest homework quiz scores will be dropped.**

**Exams**: There will be 3 exams, each worth 20% of your grade, for a total of 60%. Make up exams will only be granted in extreme circumstances, with proper documentation and must be approved BEFORE the missed exam. DO NOT wait until after the missed exam to contact me. Exams not taken by the class exam date may be assessed a late penalty of 20%, or may be given a score of 0, depending on unique circumstances. Any exams not completed by 3 days past the due date will be given a score of 0. Exam dates will be announced in MOER and in class at least one week prior to the exam. Tentative exam dates are already posted in the MOER calendar. Exams will be taken in class.

# Response Time

Your instructor will respond to posts on the discussion board, messages, and emails within 8 business hours (usually faster). Please understand that business hours are from 9 am to 5 pm, Monday through Friday. If you post a question or message, be aware that after 5 pm on Friday until Monday morning at 9 am is NOT part of business hours. Any holidays are also not considered part of business hours. Students can expect assignments to be graded within 5 business days after the due date.

# Attendance Policy

Students are expected to attend every class period, for the full class period, and attendance will be taken daily. SCC policy states that you may be withdrawn from the course by the instructor after three unexcused absences. In addition, 3 tardies will be considered an absence, so repeated tardiness can also result in being withdrawn from the course.

# 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 at least six hours on homework weekly.

# Tutoring

SCC's tutors are available both in person and online to help with your courses. You may work with an SCC tutor remotely using Google Meet, your phone, or email. Visit the SCC Tutoring & Learning Centers page for detailed information on the math learning center's hours and procedures.

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.

# 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.

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 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.