



Course Information

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| Semester & Year: | Spring 2023 |
| Course Title: | Introduction to Statistics |
| Course Prefix & Number: | PSY230 |
| Section Number: | 25232 |
| Credit Hours: | 3 |
| Start Date: | March 21, 2023 |
| End Date: | May 12, 2023 |
| Room Number: | SBE-173 |
| Meeting Days: | Tuesdays & Thursdays |
| Meeting Times: | 12:00 – 1:15 PM |

Course Format

The course format for this course is In-Person Hybrid, and meets on SCC's campus in SBE-173.

Instructor Information

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|------------------|-----------------------------------------------------------------------------------|
| Instructor: | Eric Haas, Ph.D. |
| Email: | eric.haas@scottsdalecc.edu |
| Phone: | (480) 423-6142 |
| Office Location: | SBE-137 |
| Office Hours: | <u>In-Person:</u> Mon & Wed: 12:00 pm - 1:15 pm Tue & Thu: 10:45 am - 12:00 pm |

Please do not hesitate to email me if these specific office hours don't work so we can find another time to chat.

Land Acknowledgement

Scottsdale Community College (SCC) credits the diverse Indigenous people still connected to the land on which we gather. Our college resides on the tribal territory of the Salt River Pima-Maricopa Indian Community (SRP-MIC). SRP-MIC is a federally recognized nation - one of 22 Arizona Indigenous nations 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, established by Executive Order on June 14, 1879, of two distinct tribal nations: the Onk Akimel O'odham (Pima) and the Xalychidom Piipaash (Maricopa) people. We take this opportunity to thank the original caretakers of this land. We offer our respect to their Elders and to all O'odham and Piipaash people of the past, present, and future.

Course Description

An introduction to basic concepts in descriptive and inferential statistics, with emphasis upon application to psychology. Consideration given to the methods of data collection, sampling techniques, graphing of data, and the statistical evaluation of data collected through experimentation. Required of psychology majors.

Prerequisites

(A grade of "C" or better in PSY101 and MAT092 or higher MAT course) or (a grade of "C" or better in PSY101 and eligibility for MAT112 or higher as indicated by appropriate mathematics placement test score) or permission of Instructor.

Course Competencies

1. Prepare frequency and cumulative frequency distributions for grouped and ungrouped data.
2. Prepare frequency and cumulative frequency polygons for grouped and ungrouped data.
3. Compute mean, median, mode, and percentiles for grouped and ungrouped data.
4. Identify the most appropriate measure of central tendency for given data.
5. Compute variance, standard deviation, and estimate of population standard deviation from a sample for grouped and ungrouped data.

6. Compute and interpret z-scores.
7. Compute Pearson and Spearman for grouped and ungrouped data.
8. Interpret the significance of Pearson and Spearman for given data.
9. Compute area under the normal curve for given z-scores or standard deviations.
10. Explain the concept of sampling distributions and the Central Limit Theorem.
11. Compute and interpret the significance of a t-test for the hypothesized mean for single distribution.
12. Compute and interpret the significance of a t-test of the difference between two means from matched or independent samples.
13. Compute and interpret one and two factor ANOVAs.
14. Compute and interpret chi-square analyses.

Texts and Course Materials

There are **no required textbooks** for this class. Many students have told me that they were fine without a textbook, so I no longer require one.

However, I still believe that textbooks can be very helpful and are an important part of learning, so I want to make sure that all students at least have access to a textbook. To that end, here are two textbook options for students:

- The textbook that I used to use for the class. Please know that the edition of this textbook does not matter. If you can find an edition that is cheaper, it will work because the formulas haven't changed.

Gravetter, F.J. & Wallnau, L.B. (2013). *Essentials of Statistics for the Behavioral Sciences (8th ed.)*. Belmont, CA: Thompson. ISBN: 9781133956570

- I am in the middle of writing my own online textbook for this class. It is definitely in draft form, but I still think it may be useful. If I can get it into decent enough shape, I will provide a link.

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

Synchronous Communication Tools

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

- Google Meet (for any virtual meetings with the instructor)

Streaming Media/Audio/Video Tools

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

- YouTube (for online lecture videos)

Student Assignment Tools

This course requires students to participate in or submit assignments using desktop or cloud-based applications.

- WebAssign
- Jamovi

We will be using WebAssign (<https://www.webassign.com>) to do homework problem sets and exams.

WebAssign costs \$23.95 that you will pay directly to the site when you sign up. **To sign up with WebAssign, you will need to start in Canvas**, and click any of the WebAssign / Cengage links (e.g., the “Cengage” tab on the left, any Problem Set, or the “WebAssign / Cengage Link” in Week 1). Then you will be taken to Cengage to either create an account (most of you) or link your Cengage account if you have one. There is a video that shows you how to do this in the “How-To-Videos” page in Week 1.

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.

Make-up Exams and Quizzes

If you cannot complete an exam or quiz on time due to an official absence or a verifiable personal emergency, you must provide documented evidence (e.g., doctor's note, court summons, accident report, etc.) to take a make-up exam without penalty. Otherwise, you may make up the test but will be penalized 20% of your grade, and an additional 20% for each class period that occurs between the official exam date and the time you take the make-up.

Problem Sets may be turned in late, but you will be penalized 50% of your score, unless you have an official absence or provide the appropriate documentation. WebAssign allows you to extend the due date on your own, but it will implement the 50% penalty. If you have provided me with documentation for a late problem set, contact me to let me know and I will extend it on my end.

Grading Standards & Practices

Grade Scale

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

(Note: I do round up, so an 89.5% is an A, but an 89.4% is a B.)

Assignments

| Assignment Name | Percent of Grade |
|---------------------------------------|------------------|
| Attendance & Participation | 10% |
| Problem Sets | 15% |
| Chapter Muddiest Points | 5% |
| Discussions | 10% |

| Assignment Name | Percent of Grade |
|-----------------------|------------------|
| Deep Dive Assignments | 10% |
| Research Project | 10% |
| Exams | 40% |
| TOTAL: | 100% |

Attendance & Participation

There will be 16 class sessions. You are expected to attend them and participate in the activities. These classes will be a chance to go over some of the more important material and dive deeper into the topics through activities, exercises, lectures, and discussions. Participation is part of the grade, so just showing up won't be enough. I would like to see everyone participating, so if you tend to talk a lot, you will be challenged to let others talk, and if you tend to not talk much, you will be challenged to jump in and share your thoughts.

Problem Sets

Throughout the semester you will complete online problem sets covering the material we discussed. You are allowed to use your notes, textbook, and calculator to solve these problem sets. The best way to learn in a statistics course is to keep up with the material and constantly practice and test yourself. There will be three nearly identical versions of each problem set, and **your grade will be based upon the highest grade of the three**. You do not need to do all three, but more practice is always excellent for learning. I will also drop the 2 lowest Problem Sets grades for the semester to account for those bad weeks that can happen during a semester.

Chapter Muddiest Points

Each chapter, you will have the opportunity to share with me about what parts of the material you understand relatively well and what part of the material is "muddy" or unclear for you. This way, I can keep track of how well students are learning the material, and then possibly create extra short videos to cover common muddy points. I will drop the 2 lowest Muddiest Point grades.

Discussions

We will occasionally have online discussions where we can get to know each other better and discuss various statistical issues. In order to create more of a discussion, students will be expected to make multiple posts in each discussion.

Deep Dives

The Deep Dive assignments will allow us to try to explore some of the statistical concepts at a deeper level, beyond just calculations. You will have the opportunity to use freely available statistical software (Jamovi) to perform statistical procedures. Occasionally during the semester, you will be given assignments that will require you to use Jamovi to compute statistics and interpret the findings. This program can be accessed for free through at the Jamovi website: <https://www.jamovi.org/>. The program can be downloaded to your own computer or run on the website.

Research Project

You will perform your own mini research project, where you will pose a research question, hypothesize about what you think will happen, gather data, analyze the data using statistics, and then report your findings. This project can be done independently or in pairs (my preference).

Exams

There will be 4 online exams. These examinations will cover material from class lectures, the textbook, and handouts, and will consist of multiple-choice, matching, and computation questions. They are open-note and open-textbook, but you will have a 90-minute time limit. I would suggest that you prepare yourself as if it was an in-class exam without your notes, textbook, etc., so that you can complete the questions within the time limit.

Response Time

Students can expect a response time of 1-3 days for the instructor to respond to messages sent via the Canvas Learning Management System or email. Students can expect assignments to be graded within 1 week of the assignment's due date, but it will usually be much faster.

Attendance Policy

Class attendance and participation are extremely important. There is no make-up work that will replace in-class experiences. Regular, on-time attendance is expected. As emergency and unforeseen situations do occur, **three unofficial absences** are accepted prior to the instructor considering a student's absences excessive. Excessive absences **will result in the instructor withdrawing your enrollment**. Please reach out to me if you wish to remain enrolled in the class. Whenever possible notify the instructor prior to missing a class to clarify information about assignments/activities you will miss. Arriving late or leaving early will be counted as an absence.

Instructional Contact Hours (Seat Time)

This is a three (3) credit-hour course. For a 16-week course, students should normally plan to spend at least 3 hours on course content or seat time (direct instruction) and 6 hours on homework weekly. However, because it is an 8-week accelerated course, please plan to spend at least **6 hours on course content and/or seat time** (about 3 hours per week of this will be our Live Online meetings) and **12 hours on homework** each 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 [SCC Tutoring & Learning Centers](#) page for detailed information on the five learning 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; however, 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.

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 username 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.