



MATH 1350 G-Introduction to Statistics section name section credit hours
Credits
Syllabus

Course Information

Meeting times and location: section meeting_times section location

Catalog description: This course discusses the fundamentals of descriptive and inferential statistics. Students will gain introductions to topics such as descriptive statistics, probability and basic probability models used in statistics, sampling and statistical inference, and techniques for the visual presentation of numerical data. These concepts will be illustrated by examples from a variety of fields. Course includes review of simplifying expressions and fractions, interval notation, inequalities, finding percent, rounding, scientific notation, slope-intercept form, and other topics necessary for the calculation of statistical formulas.

Prerequisites: MATH-096 or appropriate placement ENGL-1110(ENGL-111) or ENGL1210(ENGL-118)

Terms offered: All Semesters

Section-specific Course Description:

Course Level Objectives

Course Learning Outcomes

1. Descriptive and Inferential Statistics
2. Regression and Correlation
3. Probability Theory
4. Distributions - Normal, Binomial, Student-t

5. Confidence Intervals
6. Hypothesis Testing

Specific Learning Outcomes

Upon successful completion of the course, the student will be able to...

A. Descriptive Statistics

A1. Explain and evaluate statistics used in the real world (from a news article, research project, etc.).

A2. Use statistical vocabulary appropriately.

A3. Distinguish between descriptive and inferential statistics.

A4. Distinguish between qualitative and quantitative data.

A5. Distinguish between populations and sample, and parameters and statistics.

A6. Give examples of independent and dependent variables.

A7. Present data graphically using histograms, frequency curves and other statistical graphs.

A8. Interpret graphs of data, including histograms and shapes of distributions.

A9. Calculate and interpret the mean, median, and mode to describe data.

A10. Calculate and interpret range, variance, and standard deviation to describe data.

B. Probability

B1. Interpret basic probabilities.

B2. Calculate probabilities using compound probability rules and the binomial distribution.

B3. Calculate probabilities using the standard normal distribution and relate them to areas under the curve.

B4. Determine if the binomial distribution can be approximated with the normal distribution.

B5. Describe the relationship between the sampling distribution and the population distribution.

B6. Use the Central Limit Theorem to approximate the probability distribution and calculate probabilities.

C. Inferential Statistics

C1. Determine the confidence interval for a parameter.

C2. Interpret the confidence level and margin of error.

C3. Determine whether a statistical technique is appropriate under stated conditions.

C4. Identify null and alternative hypotheses.

C5. Perform and interpret statistical tests (e.g. z-test, t-test, one-tailed and two-tailed, one-sample, two-sample) and determine whether data is statistically significant.

C6. State the conclusion of a hypothesis test.

C7. Interpret a p-value as compared to a significance level.

C8. Explain why a test can lead us to reject a null hypothesis, not accept one.

C9. Distinguish between Type I and Type II errors.

D. Correlation and Regression

D1. Explain the difference between correlation and causation.

D2. Construct and interpret scatter plots.

D3. Calculate and interpret the linear correlation coefficient.

D4. Determine and use the equation of least-squares regression line between two variables to make predictions.

D5. Interpret the meaning of the coefficient of determination.

E. OPTIONAL TOPICS

E1. Inter-quartile range, box-plots, stem-and-leaf plots.

E2. Combinations and permutations.

E3. The Poisson distribution.

E4. Statistical power.

E5. The Chi-square distribution.

E6. Analysis of Variance.

General Education Student Learning Outcomes

This course meets the requirements set forth by the state of New Mexico for a general education course that is transferable to any public institution of higher education in New Mexico. Each general education course addresses three essential skills as outlined in the table below.

General Education Content Area	Essential Skills Associated with the Content Area
Communication	Communication, Critical Thinking, Information & Digital Literacy
Creative and Fine Arts	Communication, Critical Thinking, Personal & Social Responsibility
Humanities	Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
Mathematics	Communication, Critical Thinking, Quantitative Reasoning
Science	Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
Social & Behavioral Sciences	Communication, Critical Thinking, Personal & Social Responsibility

For further information on the Essential Skills, visit the [General Education Essential Skills](#) page.

Required Texts and/or Materials

BEGINNING STATISTICS PLUS INTEGRATED REVIEW SOFTWARE + EBOOK

9781642772814

Warren, Denley, Atchley

Hawkes

Third edition

The above text is an example of the type of text and software bundle students should expect to use. This does not mean every statistics section at SJC will use this particular text. Please refer to the section specific syllabus for your instructor's text requirements. The text may differ depending on the instructor. Most instructors have a minimum requirement of the publisher's access code, but some may require the purchase of a textbook.

Some instructors may provide supplemental materials in class.

Students should expect to use a TI-84 graphing calculator for this course.

Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at [San Juan College Help Desk](#).

For tickets and password reset: [San Juan College Help Desk](#)

For Canvas support information: [Canvas Support](#)

Accessibility/Privacy Policies for all Technology Tools Used

[Accessibility/Privacy Policies for all Technology Tools Used](#)

Course Requirements

This master syllabus is for informational purposes only and individual course syllabi may differ. Faculty reserve the right to make changes to their individual syllabi on an as-needed basis.

In a typical intro to statistics class at SJC, students may complete a series of weekly homework assignments. Instructors may also use weekly regular quizzes to solidify class concepts and use tests every 3 to 4 weeks, online or otherwise, to assess students. Some instructors might use additional assessments, such as projects or statistical analyses. Use of technology, such as the TI-84 calculator and statistical software, such as Minitab Express or StatCrunch, is to be expected. Students should expect to have a final assessment, such as a final exam, given on the last day of class.

COVID Safe Practices for Being on Campus

Masks / cloth face coverings must be worn while on campus in accordance with the New Mexico public health order. If you feel that you cannot wear a mask due to health complications, please contact Disabilities Services:

disabilityservices@sanjuancollege.edu or call (505) 566-3271. Hand sanitizer stations are at all building entrances, please “wash in, wash out”--clean your hands when you enter and before you leave. Classrooms and labs have been arranged to allow for social distancing; please respect your classmates and instructors by staying 6 feet away from everyone. You will be expected to disinfect your table or area prior to class and after class, cleaning products will be provided for this purpose. Check with your instructor for specific policies for their course. Please do not congregate in hallways or common areas, instead utilize our beautiful outside spaces and weather to visit with your friends and colleagues from a safe distance.

If you have been in contact with anyone who has tested positive for COVID-19, has symptoms, or is waiting on test results, contact your instructor and DO NOT come to class. If you have tested positive, have symptoms or are waiting on test results, contact your instructor and DO NOT come to class. Your health care provider or the assigned contact tracer will let you know when it is safe for you to be around others.

Student Support

Student Services and Support

The Student Support webpage provides information on counseling, tutoring, technical support, and many other support services available to San Juan College students.

[Student Support](#)

Academic Support

Academic Support webpage provides information on academic advising, the library, Testing Center, and the honors program.

[Academic Support](#)

Participation and Attendance Policy

Regular attendance is important for success in a math class. All instructors expect students to attend class or, and to notify instructors if they will be absent. Students in online classes are expected to log in to Canvas and check email/announcements at least two times per week. Late work policies will vary by instructor. Some instructors may not give full credit for late work missed due to absence.

Students are expected to actively participate in class, adhere to deadlines, be respectful when communicating with instructors and other students, and to read all course information provided by their instructor in the Simple Syllabus and Canvas.

Other Classroom Policies and Expectations

Each instructor may have additional policies on classroom expectations. Students need to read the information provided by their instructor for their section regarding specific policies and expectations. Policies and expectations may vary from section to section.

Canvas Participation and Expectations

Students should be logging into Canvas regularly, at a minimum of two to three times a week.

Instructor Response Time

All instructors endeavor to respond to student requests within 24 hours Monday - Friday. Some instructors will respond on the weekends and some will not. Check with individual instructors regarding weekend response times. Instructors also try to return graded work or review material submitted online through an external learning management system within 3 - 5 days.

Course Time Commitment

In general, for every hour you spend in class for a face to face class, you should expect to spend 2 - 3 hours outside of class on work for class. For a regular semester, the standard time commitment is 8-12 hours outside of class for a 4-credit face to face course and 12-16 hours per week for an online course for a regular 16-week semester.

Grading

Each instructor will have a different grade distribution. One **example** of a grade distribution:

Lessons/Homework 15%

Tests 35%

Midterm 20%

Final Exam 30%

Please read the information provided in Canvas by your instructor for your section's specific grade distribution. The above grade distribution is only an example.

Key Dates to Remember

[Full Academic Calendar](#)

Course Schedule

The exact schedule with due dates will be determined by the instructor. See Course Requirements in your specific section for general information on assignment expectations.

College Policies

The following information also applies to your work in this class. If you have special needs for campus emergency situations, please inform me immediately.

1. **Academic Accommodations - American with Disabilities Act (ADA)**

If you believe you need academic accommodations due to physical or learning disabilities, you are encouraged to inform them as soon as possible. The

coordinator can work with you in verifying your disabilities and developing accommodation strategies. Please go to [Disability Services Office](#), click the button for “Request for Services” and complete all the steps.

You can also contact the college’s disability coordinator in the Advising/Counseling Center at 566-3271 or disabilityservices@sanjuancollege.edu. More information is available on the website listed above.

2. The Family Educational Rights and Privacy Act (FERPA)

Your personal information and grade are confidential. Aside from routine reporting to the college required for this course, I will not share such information with anyone unless I have your permission.

3. Academic Honesty Rules

San Juan College expects all students to adhere to the [Academic Honesty Rules](#) as posted online. These are the official guidelines for all classes at San Juan College (July 2006).

4. Student Conduct Statement

College is preparation for professional opportunities, and professional conduct is expected in courses, including online classes, as well as any written communications, and interactions with members of the college community. As part of our learning community, students are expected to interact and communicate in a mature, respectful, thoughtful, and supportive manner. Students who demonstrate disrespectful, hostile, belittling, bullying or other disruptive behavior will be subject to potential consequences and possible dismissal from the college. The college will take appropriate action when students demonstrate threatening behavior (to others or self). Students should refer to the Code of Conduct in the Student Handbook for additional information.

5. Student Safety

Keeping students safe is a priority, and part of that is ensuring that we have the ability to communicate emergency messages – whether for school closures due to weather or for more or urgent situations. Rave is San Juan College’s emergency messaging system. Through your SJC student email, you will automatically receive email messages, however, it is also vital that you receive text messages. In order to receive the messages, you must register in a simple process with [Rave](#). When registering, please make sure that your mobile status is “confirmed.”

The Department of Public Safety is available 24 hours per day. In an emergency, they can be accessed by calling 215-3091 or 566-3333.

In the event of an emergency, a Rave message will be sent, and depending on the situation, you will be instructed to do one of the following:

- Evacuate the building
- Shelter in place (Campus doors are locked, and operations continue as normal. During this situation, no one other than law enforcement is allowed

in or out of the campus.)

- Lockdown (Campus doors are locked. All operations cease, and you should take cover in your immediate area. No one other than law enforcement is allowed in or out of the campus.)

6. **Non-Discrimination, Sexual Harassment, and Retaliation.**

San Juan College does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, genetic, veteran's status, or on the basis of any other category protected under federal, state and local laws. If you have experienced sexual harassment, sexual assault, or any other form of protected class discrimination, we encourage you to make a report. If you report to a faculty member, she/he/they are obligated by policy to share knowledge, notice, and/or reports of harassment, discrimination, and/or retaliation with the Title IX Coordinator. These disclosures include but are not limited to reports of sexual assault, dating/domestic violence, and stalking. You may also make a confidential report to a SJC Counselor. Please refer to San Juan College's [Title IX](#) site for further details.

San Juan College's Title IX Coordinator is Stacey Allen, Assistant Director of Human Resources/Equity, Diversity, and Inclusion Officer. The office is located at the Educational Services Center Building, 2nd Floor, Human Resources, Room 4243 at (505) 566-3515 or allens@sanjuancollege.edu.

7. **Drop for Non-Attendance and/or Non-Participation**

Class Attendance and Participation Expectation:

Face-to-Face -- Students are expected to attend and participate in class regularly. Any student missing more than 10% of consecutive class time, (For example, in a regular 15-week class that meets twice a week, this equates to the student missing 3 consecutive classes) without consultation with the instructor may be considered as having abandoned the course.

On-line -- Students are expected to participate regularly and submit all course assignments, based on the course guide definition. A student who does not submit any assignments during a consecutive 10% of the course (1.5 weeks of a 15-week semester) without consulting the instructor, may be considered as having abandoned the course. Logging in does not meet the attendance standard.

Competency-Based Education Classes -- Students are expected to have regular and substantive interactions with their instructor and to actively work on course

content. A student who has not submitted coursework, nor had substantive interactions with the instructor over a consecutive 10% of the term, without the instructor's prior approval, will be considered to have abandoned the competency progression. Last date of attendance will be recorded as the last date that coursework was submitted or that the student met with the instructor. For on-line learners, logging in does not meet the attendance standard.

8. Failure to Meet Class Participation Expectation:

Students who fail to meet participation expectations will have their last date of attendance recorded. This date will be used to recalculate any financial aid received/veteran's benefits received, and the student may be required to repay the institution/government. If the student does not drop the course, an 'X' grade will be recorded. An 'X' grade impacts the grade point average the same as an 'F'.

9. Grading Policies

Incomplete: Incomplete Grade Assignment ([Incomplete Grades Information](#))

The grade of I (Incomplete) is given for passing work that could not be completed during the semester because of circumstances beyond the student's control. Ordinarily, the assignment of an I is given by the course instructor at the time final grades are due

In no case is an I grade to be used to avoid assignment of D or F grades for marginal or failing work or to require a student to enroll in the class the next semester because work was not completed on time. Circumstances warranting the issuance of an I grade must be beyond the student's control and must be documented on the appropriate form prior to approval.

I grades can be removed only during the subsequent 16 weeks from the end of term, or within the time limit set by the instructor. Removal of an I is accomplished by completing the work in a manner acceptable to the instructor. Re-enrollment in the course under the repeat option does not remove the prior grade of I. Students should not re-enroll for the course. An I not made up within 16 weeks or within the time limit set by the instructor will change to an F grade thereafter and cannot be changed by work completion.

10. Grade Appeals

The policy for grade appeals is in the Academic Catalog. ([Grade Appeal Policy](#))

Student Handbook

The Student Handbook provides information on Student support, student organizations, and San Juan College policies.

[Student Handbook](#)