

General Educ Statistics

MAT-110

SP 2021 Section 881DC 3.0 Credits 01/11/2021 to 05/12/2021 Modified 01/07/2021

Meeting Times

This course is being taught using an online format. In addition, there are live sessions available each Monday and Wednesday from 9:50 am until 11:10 am. You will be required to attend the live sessions on the following dates:

- Wednesday, February 10 (Midterm 1)
- Wednesday, April 14 (Midterm 2)
- Monday, May 10 and Wednesday, May 12 (Final Exam)

Attendance for other live sessions is optional; however, I strongly recommend that you attend regularly because it is a great opportunity for you to get extra assistance on any concepts you're struggling with. Online courses usually don't have an in-person component, so take advantage of this extra instructional time!

Contact Information

Instructor: Mr. Jacob Ayers

Email: jayers@sandburg.edu

Phone: (319) 202-2617

Office Hours

6:30 PM to 7:30 PM, Google Meet

We will have live meetings each Monday. I will be available beyond 7:30, if necessary. I am also available via email at any time.

Description

Using simulations and data collection students will learn how to organize and interpret data. Real-life examples will serve as the focus as students develop mathematical reasoning skills and the ability to read and interpret statistical reports. Calculators and computers will be used extensively. Topics include descriptive statistics (graphs averages variability) elementary probability theory probability distributions hypothesis testing of a single parameter and correlation and linear regression. Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AA AS AFA AAS AGS and Certificates where applicable (1.1)

Requisites

Two years of high school algebra and one year of high school geometry with grades of C or better; or an ACT Math score of 25; or a score of 4 or 5 on the PARCC exam; or appropriate placement exam score; or take MAT.086 with a grade of C or better or MAT.098 with a grade of C or better or MAT.099 with a grade of C or better.

IAI Number: M1 902

Outcomes

General Education Outcomes

1. Communication: Demonstrate proficiency in speaking, writing, reading, and/or listening.
2. Critical Thinking: Demonstrate critical thinking skills and problem solving skills.
3. Cultural Diversity: Demonstrate an awareness of human values and diverse cultures.
4. Information Technology: Demonstrate understanding and skills to functions in a technological society.
5. Quantitative Skills: Demonstrate use of quantitative analytical skills and processes to interpret, evaluate, and solve problems.

Objectives

Upon successful completion of this course the student should be able to do the following:

- Organize data and interpret the significance of data using descriptive measures (GEO 2,5)
- Solve simple probability problems (GEO 2,5)
- Solve problems involving the normal and binomial distributions (GEO 2,5)
- Construct and interpret confidence intervals for the mean and proportion (GEO 2,5)
- Conduct elementary hypothesis tests of various types (GEO 2,5)
- Interpret the meaning of correlation and the use of the linear regression line for the purposes of prediction (GEO 2,5)

Materials

Elementary Statistics: A Step By Step Approach

Author: Allan G. Bluman

Publisher: McGraw-Hill Education

Edition: 10th

ISBN: 978-1259755330

Availability: Online

Price: \$21 to rent; more to buy

Graphing Calculator

You will want a graphing calculator for this course. There will be many situations in which using a graphing calculator will save you a lot of time working problems. I will have instructional videos showing you how to perform various operations on the following models:

- TI 83/84 family
- Casio fx-9750 G-II

Other models will likely be able to perform these operations, but I do not have experience with calculators other than these two. For that reason, I recommend you choose one of these two. The Casio is cheaper, while the TI is more user-friendly. My advice is to get a TI model if you plan to pursue a STEM-related major, and the Casio if you don't.

Availability: Online or in stores

Price: \$40-\$100

Evaluation

Criteria

Your grade in this course will be determined by three factors: Assignments, Midterm Exams, and the Final Exam.

There are a total of 13 assignments. These assignments are designed to take about 4 hours for you to complete, so do not wait until the last minute to start on them. The assignments vary in length, depending on the complexity of the problems. Assignments will be posted on Moodle at least 7 days prior to their due date, and are to be completed digitally. Moodle will automatically grade

your assignment when you submit it, but I will be grading assignments on completion (i.e. you will receive full credit as long as you complete and submit them). Collaboration is encouraged on assignments; discussing mathematics is a great way to learn mathematics.

There are two midterm exams - one on February 10 (Week 5), and one on April 14 (Week 13). Each midterm is 25 questions in length, and comprised primarily of multiple choice exercises. Students are permitted to use one 8.5x11 piece of paper for notes on midterm exams. Midterms are to be taken during class time only - extra time will not be provided.

The final exam is scheduled for May 10 and May 12. The final exam is divided into two 25-question sections; the first is to be completed on Monday, and the second on Wednesday. All questions are multiple choice. Students will only be permitted to work on the exam during class time, and extra time will not be provided. Students are permitted to use one 8.5x11 piece of paper for notes.

Breakdown

Grades will be weighted. Weights are as follows:

Assignments (13, drop 2): 20%

Midterm Exams (2): 60%

Final Exam (1): 20%

* Course Policies

Instruction Method

In this online course, you will learn primarily by watching pre-recorded videos. Most weeks, there are two videos. Videos are generally 30-45 minutes in length (including pause time, it should take you between an hour and 75 minutes to watch a video from beginning to end). I recommend watching each video twice, as they are dense with information. Reading will also be an important part of learning. Students should read the content covered by each video before watching it.

In addition to the pre-recorded content, there will also be live meetings each Monday at 6:30 pm (I am willing to modify the day or time to better meet students' needs). Think of these meetings as office hours - I will be available to answer questions. Attendance of the first meeting (January 11) is mandatory, but after that you only need to attend if you have questions that you need to ask. I will be using Google Meet for these meetings, and will upload the recordings to Moodle shortly after the conclusion. Students who have questions but are unable to attend should send those questions to me via email at least an hour prior to the meeting time.

Attendance & Tardiness

Since this is an online course, attendance will not be utilized. The only exception is Week 1 (see Online Attendance below).

Missed Exams

You should do everything in your power to be present on the exam dates. However, sometimes things come up that make that impossible. If the absence is pre-arranged (i.e. you know at least a week in advance), then you will be expected to complete the exam before the scheduled time. If the absence is not pre-arranged, then you will be expected to complete the exam in class upon your return. Provided the absence is for a legitimate reason, your exam will be graded without penalty when it is completed. In the case of unexcused absences, your exam will be scored as a zero.

In either case, you must let me know prior to exam time that you will be absent. If you miss an exam and I don't hear from you before exam time, I will treat the absence as unexcused and the exam will be scored as a zero.

Late Assignments

I do not accept late work, except in extraordinary circumstances. Assignments will be set up to close at the due date. If you believe you are dealing with an exceptional circumstance, please reach out to me as soon as possible with the following information:

- The reason you are unable to submit your assignment on time
- When I can expect to receive the assignment from you

Moodle

This course will be administered exclusively through Moodle. You will use Moodle daily, for the following purposes:

- Watching instructional videos
- Completing assignments
- Asking questions in Forums
- Accessing links to Google Meet meetings
- Accessing other course resources (syllabus, schedule, etc)

If you are having trouble using Moodle, please send me an email and I will help you or direct you to someone who can.

Student Success

It is the student's responsibility to manage their own enrollment. Students should not assume that an instructor will or will not drop them from a course at midterm. After midterm, students may drop until the final drop deadline for the semester; instructors cannot drop students from the course after midterm.

The final day to drop this course is Tuesday, April 20.

Remote Sites

I will be using Google Meet to host weekly live meetings. You may attend these meetings using video or by telephone. The details are below, and I've also placed a link to the meeting room in the General Information section on Moodle.

Meeting ID: <https://meet.google.com/cwv-kcpf-eas> (meet.google.com/dtx-oshc-jsk)

Join by Phone: (US) +1 617-675-4444 PIN: 592 022 931 6924#

Online Attendance

In the General Information section on Moodle, you will find an assignment titled "First Week Attendance Assignment." You must complete this assignment by the end of the day on Thursday of the first week (January 14). Any student who fails to complete this assignment will be dropped from the course, per the College's "No Show, You Go" policy.

Technology

If you are having technology issues that are getting in the way of your success in this course, let me know via email as soon as possible. I will do everything possible to help solve the issue. If we cannot get the issue sorted out, I will direct you to someone who is able to provide you with further assistance.

Cell Phones and Wireless Technology

During exams, the use of any device other than a calculator is prohibited. You should leave these devices in your locker on exam dates to avoid any possibility of an issue. If I receive a report that a student used any device other than a calculator on an exam, the student's exam will be scored as a zero per the Academic Dishonesty policy.

Student Time Obligation

Students are expected to spend a minimum of 2 hours out of class for every hour in class. Thus, for a 3 credit hour class, a student should dedicate at least 6 hours per week out of class. The work might be class preparation and study time, reading, completing assignments, writing papers, group work, and/or other types of experiential learning. An equivalent amount of work is required for all forms of learning activities, such as online, blended, laboratory work, studio work, and courses meeting on a shortened schedule. The following calculations are made using the college's approved Course Workload Estimator.

Reading Assignments		Exams	
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<i>Pages Per Week</i>	20	<i>Exams per semester</i>	3
<i>Page Density</i>	600 Words/Page	<i>Study Hours per exam</i>	10
<i>Difficulty</i>	Some New Concepts		
<i>Purpose</i>	Understand		
Writing Assignments		Other Assignments	
<i>Pages Per Semester</i>	-	<i>Assignments per semester</i>	13
<i>Page Density</i>	-	<i>Hours per assignment</i>	4
<i>Genre</i>	-		
<i>Drafting</i>	-	TOTAL OUT OF CLASS HOURS PER WEEK	6.24

Academic Dishonesty & Plagiarism

Students at Carl Sandburg College are responsible for understanding what constitutes academic dishonesty. Carl Sandburg College defines academic dishonesty as proposed by Gary Pavela [Kibler, et al, (1998, p. 1) Academic Integrity and Student Development: Legal Issues and Policy Perspectives. North Carolina: College Administrative Publications, Inc.]:

Cheating: Intentionally using or attempting to use work that is not your own, unauthorized materials, information or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.

Fabrication: The intentional and unauthorized falsification or invention of any information for citation in an academic exercise.

Facilitating academic dishonesty: Intentionally or knowingly helping or attempting to help another violate a provision of the institutional code of academic integrity.

Plagiarism: The reproduction of ideas or words or statements of another person as one's own without acknowledgment. The penalties for academic dishonesty may be severe. Students are advised to contact their instructors for policy clarification for a specific class.

I do not tolerate any form of academic dishonesty. The consequences for academic dishonesty are as follows:

1st Offense: Score of zero on assignment/exam on which the dishonesty occurred

2nd Offense: Removal from course; grade of F

Schedule

Live Conferences: Weekly on Monday (6:30-7:30 pm)

Week 1:

Video Lesson #1 (1-1 and 1-2)

Video Lesson #2 (1-3 and 1-4)

Week 2:

Assignment #1 (Covers Chapter 1) – due Wednesday, Jan. 20

Video Lesson #3 (2-1 and 2-2)

Video Lesson #4 (2-3)

Week 3:

Assignment #2 (Covers Chapter 2) – due Wednesday, Jan. 27

Video Lesson #5 (3-1)

Video Lesson #6 (3-2)

Week 4:

Assignment #3 (Covers 3-1 and 3-2) – due Wednesday, Feb. 3
Video Lesson #7 (3-3)
Video Lesson #8 (3-4)

Week 5:

Midterm 1 (Covers Chapters 1-3) – during class proctored on Wednesday, Feb. 10

Week 6:

Assignment #4 (Covers 3-3 and 3-4) – due Wednesday, Feb. 17
Video Lesson #9 (4-1)
Video Lesson #10 (4-2)
Video Lesson #11 (4-3)

Week 7:

Assignment #5 (Covers 4-1-4-3) – due Wednesday, Feb. 24
Video Lesson #12 (4-4)
Video Lesson #13 (4-5)

Week 8:

Assignment #6 (Covers 4-4 and 4-5) – due Wednesday, Mar. 3
Video Lesson #14 (5-1)
Video Lesson #15 (5-2)

Week 9:

Assignment #7 (Covers 5-1 and 5-2) – due Wednesday, Mar. 17
Video Lesson #16 (5-3)
Video Lesson #17 (6-1)

Week 10:

Assignment #8 (Covers 5-3 and 6-1) – due Wednesday, Mar. 24
Video Lesson #18 (6-2)
Video Lesson #19 (6-3)

Week 11:

Assignment #9 (Covers 6-2 and 6-3) – due Wednesday, Mar. 31
Video Lesson #20 (7-1)
Video Lesson #21 (7-2)

Week 12:

Assignment #10 (Covers 7-1 and 7-2) – due Wednesday, Apr. 7
Video Lesson #22 (7-3)
Video Lesson #23 (8-1)

Week 13:

Midterm 2 (Covers Chapters 4-7) – proctored during class Wednesday, Apr. 14

Week 14:

Assignment #11 (Covers 7-3 and 8-1) – due Wednesday, Apr. 21
Video Lesson #24 (8-2)
Video Lesson #25 (8-3)

Week 15:

Assignment #12 (Covers 8-2 and 8-3) – due Wednesday, Apr. 28
Video Lesson #26 (8-4)
Video Lesson #27 (8-5)

Week 16:

Assignment #13 (Covers 8-4 and 8-5) – due Wednesday, May 5
Video Lesson #28 (10-1)
Video Lesson #29 (10-2)

Week 17:

Final Exam (Cumulative) – proctored during class May 10 and 12

NOTE: Spring Break will be observed the week of March 8. This falls between Weeks 8 and 9 in this schedule. There will be no obligations for you during Spring Break.

Institutional Policies

Carl Sandburg College Mission Statement

The mission of Carl Sandburg College is to provide all students with opportunities for success.

Student Code of Conduct

The College expects from its students a higher standard of conduct than the minimum required to avoid disciplinary action. Students are expected to obey the law, to show respect for properly constituted authority, to perform contractual obligations, to maintain integrity and a high standard of honor in academic work and to observe a standard of conduct appropriate for the

College. The College expects all students to conduct themselves under all circumstances in a responsible manner. This implies thoughtful consideration of College property and members of the College community. Any student or group of students failing to observe either the general standards of conduct or any specific regulation adopted by the College or acting in a manner not in the best interest of other students of the College shall be subject to disciplinary action. Copies of the [Student Code of Conduct Procedure on Disciplinary Due Process \(http://www.sandburg.edu/About/Board-of-Trustees/Assets/procedures/proc-3.16.1.1-disciplinary-due-process.pdf\)](http://www.sandburg.edu/About/Board-of-Trustees/Assets/procedures/proc-3.16.1.1-disciplinary-due-process.pdf) are available in the Student Services Office and/or the Office of Student Life.

Library Materials

Sandburg Library supplies a wide variety of traditional and innovative materials and services necessary to support our patrons' educational and recreational needs. The library subscribes to research databases accessible online both on and off campus with a valid Sandburg login. In addition to over 30,000 volumes of books, DVDs, and print periodicals, the library also has an extensive inter-library loan program through which materials may be borrowed from other libraries. The libraries at both campuses provide study spaces and lab computers; the Main Campus MakerSpace provides students with equipment, supplies, and space for hands-on learning and creativity. The library staff provides information literacy instruction to teach students about research strategies and resources. One-on-one research assistance is also available both in-person and electronically. Contact library@sandburg.edu (<mailto:library@sandburg.edu>) for research assistance. For a comprehensive list of services and materials available, visit <http://www.sandburg.edu/Academics/Library/Library-Services.html> (<http://www.sandburg.edu/Academics/Library/Library-Services.html>).

During Illinois Phase 4, the Library will be open during its regularly scheduled hours at 50% capacity. Students are required to maintain social distancing in the Library at all times. Seating will be removed to encourage social distancing.

Financial Aid Recipients

Under the college's "No Show, You Go" policy, students who do not attend class during the first week will be dropped from the course. Students who fail to maintain attendance, withdraw, or are dropped from all of their courses prior to the 11th week of the semester and who receive federal financial aid (PellGrant, SEOG Grant, Direct Loans), will be responsible to repay part of the monies received. The College follows the federal requirement for Return of Title IV aid. A copy of this policy is available in the Financial Aid Office. If you have any questions about how this law may affect you, please contact the Financial Aid Office.

College Notification Services & School Closures

Carl Sandburg College has a notification service to reach all students and staff with information and updates during weather-related events or emergencies within minutes through phone calls, texts, and emails. To ensure notification, please confirm your contact information is updated in the Student Services office. Students may be contacted with up to two email addresses and six phone numbers. The college also uses a retention software program called Starfish whose effectiveness will depend on the contact information given by students.

Academic Support

Academic Support Services can provide assistance for all Carl Sandburg College students. Tutoring is a free resource open to any student and includes the availability of a drop-in Tutoring Center (B72), arranged sessions for career-oriented subjects, and online tutoring through Brainfuse. Additionally, students with disabilities can request accommodations wherever a disability interferes with their ability to equally access educational resources. Students should contact the Coordinator of Academic Support Services (309.341.5262) for more information.

Emergency Procedures

For Sandburg Buildings, follow the procedures outlined in the Campus Emergency Guides and follow directions of building personnel. For dual credit courses taught on high school campuses, refer to the emergency systems at each school for information.

Policy on Anti-Discrimination/EEO

Career and Technical programs/courses are offered without regard to race, color, national origin, sex, sexual orientation, age, disability or status in any group protected by applicable federal, state, or local law. Title IX Coordinator: Rick Eddy, 309.341.5234; ADA/Section 504 Coordinator: Jacob Runge, 309.341.5262

Last Day to Drop

These are the drop dates for 2020-2021. It is the student's responsibility to know the length of the course in which they are enrolled and manage their drops accordingly.

Fall 2020

- 16-week: Tuesday, November 17
- 12-week: Tuesday, November 24
- 1st 8-week: Friday, October 2
- 2nd 8-week: Tuesday, November 17

Spring 2021

- 16-week: Tuesday, April 20
- 12-week: Wednesday, April 28
- 1st 8-week: Friday, February 26
- 2nd 8-week: Thursday, April 29

Summer 2021

- 3-week: Wednesday, June 2
- 8-week: Monday, July 26
- 11-week: Monday, July 26
- 1st 4-week: Tuesday, June 29
- 2nd 4-week: Wednesday, July 28

Current dates can be found at [Academic Calendars on the Sandburg website. \(http://www.sandburg.edu/Academics/Academic-Calendar/index.html\)](http://www.sandburg.edu/Academics/Academic-Calendar/index.html)

COVID-19 Information

General Health Information

- All staff, faculty, and students should continue to monitor their health. People who are feeling ill or have a temperature should avoid coming to campus or participating in any College activities. Everyone should continue to follow CDC guidelines regarding face coverings, hand washing, and social distancing.
- People who become ill while on campus should leave immediately and are encouraged to seek appropriate medical attention. Everyone should err on the side of caution to reduce the chance of becoming ill or making others ill.
- In the event of a State mandate to return to a previous phase, Carl Sandburg College will immediately comply. Should this happen campus access will once again be restricted and as much course content as feasible will be delivered online. In the event of a return to a previous phase, additional guidance will be provided.
- All persons visiting, working, or studying on any Carl Sandburg College campus will be required to wear a face covering. Face coverings must cover the mouth and nose at all times. Disposable masks will be provided to all individuals unable to acquire a face covering (one per day). Exceptions to this rule will be granted on a case-by-case basis.
- Any individual who is medically unable to wear a standard facemask may be provided with a face shield.
- Anyone who refuses to wear a face covering for non-medical reasons may be subject to disciplinary measures or asked to leave the campus.
- Anyone accessing the campus is required to fill out an online campus visit health screening prior to coming to campus each day.

Social Distancing

- All individuals are required to maintain social distancing of six feet of separation at all times. Unnecessary gatherings are not allowed, and meetings are encouraged to be held online to the extent possible. All individuals are requested to wash their hands as frequently as possible.

