

Data Analysis

SOC 364

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Spring 2019
March 26 – May 31
Online
5 units

COURSE INFORMATION

Most of us draw conclusions about the world using information that we encounter daily. Research is somewhat similar, as it involves collecting information and drawing conclusions. However, unlike our everyday observations, research is a *process* that involves careful *planning* and *systematic* steps. The information that is collected is not limited to personal experiences. Instead, researchers plan the information (the data) that will be collected, gather the data systematically, and analyze the data statistically (for quantitative research). This course focuses primarily on the last step in the research process—analyzing data using statistics. In particular, we will examine topics related to data analysis that include the nature and stages of quantitative research • research methods • organizing data • levels of measurement • measures of central tendency • measures of variability • samples and populations • probability • the normal curve • hypothesis testing • testing differences between means • analysis of variance • correlation • regression analysis • and choosing appropriate statistical procedures for specific research questions.

COURSE DESCRIPTION

Catalog Description

The use of quantitative methods in the analysis of data from social research. Prerequisite: SOC 363.

COURSE OBJECTIVES

By the end of this course students should be able to demonstrate an understanding of a range of topics related to data analysis, including:

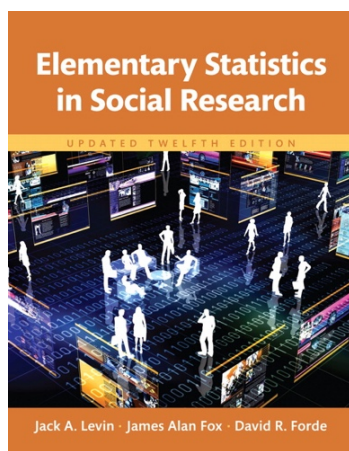
- the research process
- types of research methods
- components of a dataset, including cases, variables, values, and labels
- levels of measurement (nominal, ordinal, interval, ratio) for variables
- measures of central tendency and variability
- the relationship between samples and populations
- probability and the normal curve
- hypothesis testing
- appropriate ways of analyzing different types of data statistically
- choosing appropriate statistical procedures

COURSE REQUIREMENTS

REQUIRED READING

Reading course materials is vital for success. You are responsible for thoroughly reading the assigned materials, integrating the information into assignments and discussions, and studying the materials in preparation for quizzes and exams. Taking notes on readings is highly recommended. Your notes will help to remind you of important points and allow you to locate information quickly. You may purchase either a digital or paper copy of the textbook.

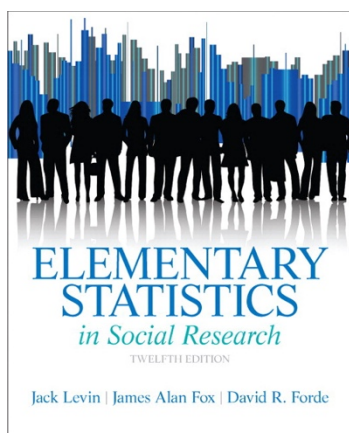
Digital textbook



Authors Jack Levin, James Alan Fox, David R. Forde
Title REVEL for Elementary Statistics in Social Research
Edition 12th Edition
Year 2017
ISBN ISBN-10: 0134238788, ISBN-13: 9780134238784
Publisher Pearson Education
Publisher site <https://www.pearson.com/us/higher-education/program/Levin-REVEL-for-Elementary-Statistics-in-Social-Research-Updated-Access-Card-12th-Edition/PGM71302.html>

Note: This is a digital textbook. You may purchase a hard copy textbook instead (not available through the bookstore). You do not need any supplementary CDs or packages.

Paper textbook



Authors Jack Levin, James Alan Fox, David R. Forde
Title Elementary Statistics in Social Research
Edition 12th Edition
Year 2014
ISBN ISBN-10: 0205959814, ISBN-13: 9780205959815
Publisher Pearson Education
Publisher site <https://www.pearson.com/us/higher-education/product/Levin-Elementary-Statistics-in-Social-Research-Plus-My-Lab-Search-with-Pearson-e-Text-Access-Card-Package-12th-Edition/9780205959815.html>

Note You do not need any supplementary CDs or packages.

Additional required readings will be distributed by your professor or available online via Canvas, as necessary.

REQUIRED TOOLS

Calculator

A calculator that can add (+), subtract (-), multiply (x), divide (/), square (x^2), and calculate the square root ($\sqrt{}$).

NOTE-TAKING

Students are expected to take notes on all class slides. All information encountered in the course, in any form, may be represented on any form of evaluation. Students benefit by developing a thorough understanding of each topic and by incorporating detailed information into their notes. Your goal is to be able to understand topics in the most informed and developed ways possible.

ATTENDANCE and PARTICIPATION

Regular attendance and participation greatly enhance student performance. Students who attend class more regularly perform much better on assignments and exams than students who attend and less frequently. Regular attendance is also important because all of the course topics build on previous topics, and the complexity and difficulty of the material generally increases with each successive chapter. Attendance for an online course includes regularly logging into Canvas, reading announcements, reading assigned chapters, engaging lecture content (slides), and completing assignments. Consistent engagement with the course is the key to success.

ASSIGNMENTS

Students are required to practice identification, interpretations, and calculations throughout the course in the form of practice questions. The practice assignments are available in Canvas as part of each content section. There is often more than one practice assignment per chapter.

Students may complete each practice assignment multiple times before the due date. Your highest score out of all attempts (before the due date) will represent your final score. Completing each practice assignment at least once is the minimum that a student can do to complete the requirements.

QUIZZES and EXAMS

Quizzes and exams are designed to help you demonstrate that you have carefully studied course materials and are able to answer questions concerning their content. Quizzes/exams are not cumulative in terms of specific questions being repeated on more than one quiz/exam. However, the course materials build on each other. Thus, information that you learn early on will be necessary for understanding information that you learn later. Learning is cumulative.

Quizzes

You are required to complete quizzes (sets of questions) for each chapter of material covered in class. The quizzes include standard types of questions (e.g., multiple choice, true/false, fill-in-the-blank, check-

all, calculations, interpretations). Each quiz includes a random subset of questions from a larger pool of questions. Because the set of questions is randomly chosen, each student will not necessarily answer the exact same questions as every other student, although there will likely be some overlap as well, and all questions will draw on the same topics. Students have 30 minutes to take the quiz; at the end of this time allotment, the quiz will automatically submit, unless the student has already submitted the quiz.

During the quizzes, you may reference class materials, but may not work with others. In order to do well, you must read and study *before the quiz*. Do not assume that you will do well simply because you can use class materials. You will not have time to look up every answer, so you must know most of the information beforehand. Use class materials only as a resource.

Students may complete each quiz multiple times before the due date. Each attempt presents a new set of questions, and thus additional practice with the material and an opportunity to improve your score. Your highest score out of all attempts (before the due date) will represent your final score. Taking each quiz at least once is the minimum that a student can do to complete the requirements. It is highly recommended, however, that students take each quiz multiple times in order to maximize practice.

Quiz questions are graded for correctness. Quizzes must be completed and submitted in Canvas by 11:59 p.m. on the scheduled due date. Late quizzes are accepted but penalized by 25% on the earned grade. Late quizzes must be submitted within one week of the original due date in order to earn credit; beyond one week, no credit can be earned.

Exams

Exam questions include standard types of questions (e.g., multiple choice, true/false, calculations, interpretations, short answer). Each exam includes a random subset of questions from a larger pool of questions. Because the set of questions is randomly chosen, each student will not necessarily answer the exact same questions as every other student, although there will likely be some overlap as well, and all questions will draw on the same topics. Students have 90 minutes to take the exam; at the end of this time allotment, the exam will automatically submit, unless the student has already submitted the exam. Each exam will be preceded by an exam review outline provided on Canvas. Students should plan to complete the review on their own time as a study tool.

During the exams, you may reference class materials, but may not work with others. In order to do well, you must read and study *before the exam*. Do not assume that you will do well simply because you can use class materials. You will not have time to look up every answer, so you must know most of the information beforehand. Use class materials only as a resource.

Exams must be taken by the due date except when a student provides documentation for a legitimate absence. Students should make every effort not to miss a scheduled exam for reasons outside of legitimate absences. A student who does miss an exam for an undocumented reason may reschedule the exam as a one-time courtesy with a 25% reduction on the earned grade. Students who miss more than one exam due to an undocumented reason may not make up subsequently missed exams. Exams that are missed for any reason must be taken within one week of the original exam date. Your professor will not contact students about missed exams. It is the student's responsibility to contact your professor about any missed or excused exam. **Note:** Make-up exams may or may not include the same questions as regularly scheduled exams.

Reviewing Quiz and Exam Performance

Students may review their specific performances on weekly quizzes and exams (question by question) online in Canvas, immediately after the quiz is submitted, and after the due date has passed for exams.

CANVAS

Canvas is required for this course. You will use this online resource to access the syllabus (and any updated schedules), announcements, readings, handouts, assignments, grades, and to submit work (<https://canvas.cwu.edu>). Students are expected to check Canvas on a daily basis in order to remain apprised of announcements, due dates, and other important information. Please review the information available at <http://www.cwu.edu/online-learning> > Online Student Support, in order to familiarize yourself with Canvas.

It is each student's responsibility to ensure that they have uploaded the correct file when submitting an assignment in Canvas; please double-check that you have submitted the correct file in Canvas. If you experience an issue with Canvas that potentially hinders your ability to complete work (e.g., online quiz) by the listed due date, contact your instructor immediately via email and describe the issue(s). If you are unable to submit an assignment via Canvas, or are unsure about whether a submission was successful, email your professor with a copy of your assignment as a back-up. Students who do not successfully submit work via Canvas, and who fail to send a copy via email, will not be granted leniency; the submission will not be counted and/or will be considered late (if re-submitted later).

If you experience ongoing problems with Canvas, please use any of the following technical support resources to find a solution.

Canvas Technical Support 24/7

- Toll Free Support Line: (877) 399-8897
- Email Canvas Support: support@instructure.com
- Finding Help with Canvas:
 - <http://www.cwu.edu/online-learning/canvas-help-and-support-students>
 - <http://www.cwu.edu/online-learning/finding-help-canvas-0>

LockDown Browser

LockDown Browser is required for all online quizzes and exams. Campus lab computers are already equipped, but follow these steps to set up the browser on a personal computer:

1. Download LockDown Browser
 - a. <http://www.respondus.com/lockdown/download.php?id=715433924>
 - b. Be sure to do this well in advance, as download and installation times may vary.
2. Launch the browser.
3. Sign in to your CWU account.
4. Navigate to the course in Canvas.
5. Select the quiz you wish to take and begin.

GRADING

Grades for all assignments and exams can be accessed by logging in to Canvas and clicking Grades in the navigation.

Grading Scale

Letter Grade	Percentage Range	GPA Credit	Transcript Explanation	Definition of letter grade / Policy statement
A A-	94-100% 90-93%	4.0 3.7	Excellent	Meets all objectives of the course and fulfills all requirements; performs at a level that reflects excellence
B+ B B-	87-89% 84-86% 80-83%	3.3 3.0 2.7	Good	Meets all objectives of the course and fulfills all requirements; performs at a high level
C+ C C-	77-79% 74-76% 70-73%	2.3 2.0 1.7	Satisfactory	Meets all objectives of the course and fulfills all requirements; performs at a satisfactory level
D+ D D-	67-69% 64-66% 61-63%	1.3 1.0 0.7	Marginal Pass	Makes progress toward meeting the course objectives; fulfills course requirements at a substandard level
F	0-60%	0	Failure	Fails to meet the course objectives; does not fulfill course requirements

Grade Points Breakdown

	<u>Percent</u>
Practice assignments (points vary)	30%
Chapter Quizzes (9 total; 20 points each)	40%
Exams (2 total; 75 points each)	30%
TOTAL	100%

COURSE POLICIES

SYLLABUS

Remaining enrolled in this course indicates consent to the guidelines, policies, and requirements outlined in this syllabus. Periodic changes to the course schedule may be necessary. Students will be given sufficient notice of such changes. Students are responsible for following any current or revised schedules. Learning is flexible, and so is our academic itinerary.

ABSENCES / MAKE-UP WORK

There is **no make-up work** unless an absence reflects a legitimate reason (see below) and you provide documentation for the absence(s). You **must** either 1) contact me *before* the scheduled due date with documentation of the reason that will prohibit you from completing the work by or on the scheduled due-date, or 2) provide documentation of the extreme circumstances that prohibited you from completing the work by or on the scheduled due-date.

If you know in advance that you will need to miss work that has an associated due date, contact me at least one week in advance to provide documentation and to schedule a time to turn in the work. If you miss coursework unexpectedly, you must contact me within **one week** explaining the reason for the absence, providing documentation or stating your intention to do so, and making arrangements for how/when the work will be made up. Failure to make this contact within one week (barring extreme circumstances) will forfeit any associated grade points.

Legitimate reasons for missing due dates for coursework **only** include extreme illness, injury, surgery, hospitalization, death of someone close to you, accidents, other unpreventable and unpredictable rare events, disability-related concerns, military service, court appearances, religious observance, or participation in university-approved activities. You **must** have written documentation for all absences for which you wish to be able to make up work (e.g., medical release form, funeral program, court document, etc.). **Do not** ask to be excused or to make up work for coursework that you miss due to vacations, “personal days,” missing your alarm, getting lost, or any other reason. You cannot make up work for (potential) full credit in these cases.

CLASSROOM ETIQUETTE

In order to foster an environment that maximizes learning and prioritizes basic respect for others, students are required to uphold the following codes and practices:

- The Student Conduct Code in its entirety.
 - <http://apps.leg.wa.gov/wac/default.aspx?cite=106-125>
 - https://www.cwu.edu/trustees/sites/cts.cwu.edu.trustees/files/OTS-7344.2_1.pdf
- Treat the course and all classroom participants with courtesy and respect.
 - Abstain from the following:
 - Dominating conversations. Make space for others to contribute.
 - Derogatory or sarcastic comments or devaluation aimed at others (students, professor, guests) in any way or form
 - Derogatory or sarcastic comments or devaluation of the course, class structure, and other course-related components in any way or form
 - Interruptions during class activities, discussions, lecture, videos, or any other component of the class
 - Interruptions include the following:
 - talking or making noise while others are speaking; during a class-wide discussion or activity; during a lecture; during a video; during any other component of class
 - reading during class
 - working on assignments for other classes
 - using electronic devices for purposes that are unrelated to taking notes
 - other rude, disparaging, or harassing behaviors as interpreted by other students and/or your professor
- Focus primarily on course-related activities and discussions during class.
- Mute volumes on cell phones and other devices.

Students who fail to practice appropriate classroom etiquette will face disciplinary action at the professor's discretion. The first violation is subject to a verbal or written warning directed to the student. In the event of a second violation (or a severe first violation), any of the following actions (in isolation or in combination) are taken at the professor's discretion:

- 1) An official university report is filed.
- 2) The student is asked to leave the classroom (or is removed by authorities). Students who are removed from the class are not permitted to return to any future class sessions until they meet with the professor and/or chair of the department and/or a representative from Student Success, at the professor's discretion. During the period of removal from the classroom, the student is not welcome to attend class sessions and forfeits any associated grade points that might otherwise have been earned during the period of removal from the classroom.
- 3) The student is officially dropped from the course.
- 4) The student is subject to university-authorized disciplinary measures, including probation, suspension, or expulsion.

COMMUNICATION ETIQUETTE

Students may use their official CWU email account to correspond with the professor about course-related questions. Email messages from non-CWU accounts will not be addressed. Please abide by the following guidelines when using email to correspond about a course:

- Identify your full name and the course in which you are enrolled.
- Allow at least 24 hours for a response during the week.
 - During weekends, I am often able to provide a response; in the event that I am unable, you will receive a response on the next day on which the university is open. Do not necessarily expect responses during holidays; I will provide responses as I am able.

If your question is easily answered by information contained in the syllabus, I will refer you to the syllabus.

When communicating with any college/university instructors, the proper title is "Professor." You may also refer to me as "Dr." Please do not use titles such as Ms., Miss, or Mrs. My last name is pronounced *Sam-bluh-nay*.

Please exhibit courtesy and respect when interacting and communicating with everyone who is a member of the CWU campus (as well as people in all social situations and contexts outside of CWU).

GRADE BOOK

Students must retain all written and printed work (including the original computer document/file) throughout the quarter. In the rare event that a grade for completed work is not saved in the Canvas grade book, a student must be able to produce the physical copy of the work in order to receive credit. For printed (typed) work, the physical copy must include your professor's original written feedback; re-printed copies will not be accepted. For online submissions, the computer document/file must be provided.

UNIVERSITY CLOSINGS and CLASS CANCELLATIONS

Class cancellations due to university closings

Class sessions that are cancelled due to official university closings waive all student responsibilities for in-class work, in-class submissions of work, and all online work that is due through Canvas. Due dates will automatically be shifted to the next day that the university is open.

UNIVERSITY POLICIES

REGISTRATION

University policy requires all students to be officially registered in each class they are attending. Students who are not officially registered for a course by published deadlines should not be attending classes and will not receive credit or a grade for the course. For information about registration and withdrawal dates, access the Academic Calendar (<https://www.cwu.edu/registrar/course-information>).

ACADEMIC INTEGRITY

Students are expected to maintain academic integrity by avoiding dishonesty, cheating, plagiarism, and fabrication, and by reporting any violations to their professor. Academic honesty will not be tolerated in any form. Students identified as having violated academic honesty will fail the specific course requirement and be referred to the appropriate academic authorities. A list of prohibited student conduct, including academic dishonesty, is available at the Washington State Legislature website, WAC 106-125-020 (<http://apps.leg.wa.gov/wac/default.aspx?cite=106-125-020>)

Students are responsible for familiarizing themselves with what constitutes academic dishonesty. Regarding plagiarism, specifically, students are responsible for asking any questions *before* submitting written work. Use the following resource to understand plagiarism: <http://libguides.lib.cwu.edu/content.php?pid=644922>.

Consequences of academic dishonesty may include a warning, disciplinary probation, suspension, or expulsion (WAC 106-125-030, <http://apps.leg.wa.gov/wac/default.aspx?cite=106-125-030>).

STUDENT ACCESSIBILITIES

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with your professor. Students with disabilities should contact Student Disability Services to discuss a range of options to removing barriers in the course, including accommodations. Student Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.

SCHEDULE

Readings and assignments are listed on the weeks during which you should complete them. Assignments (including practice questions and chapter quizzes) are due at the end of each week at 11:59 p.m.

Schedule					
Week	Dates	Days	Topic	Reading	Assignment
1	Mar 26-31	Th-Su	Getting Started / syllabus Why the Social Researcher... Organizing the Data	Chapter 1 Chapter 2	Introduction Ch. 1 practice Ch. 1 quiz Ch. 2 practice Ch. 2 quiz
2	Apr 1-7	M-Su	Measures of Central Tendency Measures of Variability	Chapter 3 Chapter 4	Ch. 3 practice Ch. 3 quiz Ch. 4 practice Ch. 4 quiz
3	Apr 8-14	M-Su	Probability and the Normal Curve	Chapter 5	Ch. 5 practice Ch. 5 quiz
4	Apr 15-21	M-Su	EXAM 1 (Ch. 1-5)		Exam 1
5	Apr 22-28	M-Su	Samples and Populations	Chapter 6	Ch. 6 practice
6	Apr 29- May 5	M-Su	Chapter 6/7 transition	Chapter 6/7	Ch. 6/7 practice Ch. 6 quiz
7	May 6-12	M-Su	Testing Differences between Means	Chapter 7	Ch. 7 practice Ch. 7 quiz
8	May 13- 19	M-Su	Analysis of Variance	Chapter 8	Ch. 8 practice Ch. 8 quiz
9	May 20- 26	M-Su	Correlation	Chapter 10	Ch. 10 practice Ch. 10 quiz
10	May 27- June 2	M-Su	Regression	Chapter 11	Ch. 11 practice Ch. 11 quiz
11	June 3 June 4 June 5 June 6 June 7	M T W Th F	Study day FINAL EXAM WEEK EXAM 2 (Ch. 6, 7, 8, 10, 11)		Exam 2