

Statistics through Example

STA 1013 — Sections 0001 and 0011

Syllabus — Spring 2021

Florida State University — Statistics Department

INSTRUCTOR INFORMATION

Name: Herman Autore

Email: hautore@fsu.edu

Office: OSB 333 [Find in Google Maps](#). (OSB is AKA as the Roger's Building)

Office hours: MW 1 to 2pm

CLASS INFORMATION

Day(s): MWF

Time: 8:00 to 8:50 AM

Room: HCB 205 for section 0001 and HCB 309 for section 0011

REQUIRED MATERIALS:

- Calculator. TI-84 or equivalent.
- Something with which to access Canvas and other electronic classroom resources.

OPTIONAL MATERIALS

- Textbook: *Statistical Reasoning for Everyday Life*. Bennett, Jeffrey O., William L. Briggs, and Mario F. Triola. Fifth edition. Boston: Pearson, 2018.

COURSE DESCRIPTION

Prerequisite: None.

Credit Hours: 3

This course provides students with a background in applied statistical reasoning. Fundamental topics are covered including graphical and numerical description of data, understanding randomness, central tendency, correlation versus causation, line of best fit, estimation of proportions, and statistical testing.

Statistical thinking, relevant ideas, themes, and concepts are emphasized over mathematical calculation. In this class students learn many of the elementary principles that underlie collecting data, organizing it, summarizing it, and drawing conclusions from it.

LEARNING OBJECTIVES

This course has been approved to meet FSU's Liberal Studies Quantitative and Logical Thinking requirements and is designed to help you become a critical analyst of quantitative and logical claims.

In order to fulfill the State of Florida's College mathematics and computation requirement the student must earn a "C-" or better in the course.

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By the end of the course, students will:

- (1) Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
- (2) Use a variety of forms to represent problems and their solutions.

The above two competencies will be assessed in the Liberal Studies Quantitative Assessment for STA 1013, which includes a written summary of results.

- (3) Apply sound concepts of sample selection and experimental design in producing data.
- (4) Use statistical thinking in the context of work processes, academic endeavors, and everyday life.
- (5) Describe how inferential statistical methods are used to make valid judgments based on the data.
- (6) Evaluate the validity of statistical results with skepticism based on sensible considerations.

ASSIGNMENTS

Homework will be based on lectures and quizzes will be based on the homework.

Assessment	Percent of Grade
Quizzes	65
Projects	25
Homework	
Individual	15
Total	105

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GRADING SCALE

Grade	Percent of Points
A	$93 \leq x \leq 105$
A-	$90 \leq x < 93$
B+	$87 \leq x < 90$
B	$83 \leq x < 87$
B-	$80 \leq x < 83$
C+	$77 \leq x < 80$
C	$73 \leq x < 77$
C-	$70 \leq x < 73$
D+	$67 \leq x < 70$
D	$63 \leq x < 67$
D-	$60 \leq x < 63$
F	$x < 60$

ROUNDING WHEN GRADING

Grades are only rounded at the end of the semester when converted to letter grades. Percentages will be rounded to two decimal places.

TENTATIVE PACING SCHEDULE

Quizzes will be assigned once every two weeks. Homework will be assigned two to three times per week.

Week	Topic
1	Terminology/Initial Ideas: statistical study process.
1	Terminology/Initial Ideas: population, sample, parameter, statistic, categorical, quantitative.
1	Graphs: stemplots (sketch and interpret).
2	Graphs: histograms (sketch and interpret).
2	Graphs: bar charts (sketch and interpret), pie charts (interpret).
2	Summary Statistics: mode.
3	Dr. Martin Luther King, Jr. Day
3	Summary Statistics: mean, quartiles, range, standard deviation, five-number summary, boxplot.
3	"
4	Simple random sample.
4	Sampling: systematic, stratified, cluster, convenience.
4	"
5	Empirical Rule.
5	"

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Week	Topic
5	"
6	Correlation: what the sign and absolute value of r imply, correlation does not imply cause-and-effect.
6	"
6	"
7	Simple Linear Regression: read scatterplots, given equation make prediction, interpret R^2 .
7	"
7	"
8	Normal Distributions: forward problems (finding area under the curve/percentage of data).
8	"
8	"
9	Central Limit Theorem: sampling distributions of \bar{x} , features of the distributions and implications when using a larger/smaller sample to estimate μ , forward problems (finding probabilities).
9	"
9	"
10	Probability: random processes, four rules, probability models, addition rule for mutually exclusive events.
10	"
10	"
11	Random Variables: definition, expected value.
11	"
11	"
12	One-sample mean: obtain and interpret z-intervals.
12	"
12	"
13	One-sample mean: carry out and interpret results of z-test, interpret P-value.
13	"
13	"
14	One-proportion: z-intervals and z-tests.
14	"
14	"
15	One-proportion: z-intervals and z-tests.
15	"
15	"

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Week	Topic
16	Finals Exams Week
16	"
16	"

FINAL EXAM

There will be an assignment on Final's week.

GRADES

Assessments that are not submitted will receive a grade of zero. When a makeup is submitted, the zero will be replaced with the earned grade.

APPEALING GRADES

If you think your assignment was incorrectly graded you may email me an explanation of why you think so or visit me during office hours. If you need more help than what I can provide, see [this](#).

RELIGIOUS HOLIDAYS

If you cannot meet a deadline because of a religious holiday, you will be granted an extension.

EMAIL & COMMUNICATION

Please turn on the course notifications in Canvas by going to **Account / Notifications /** and checking the **Notify me right away** option for all of the items under **Course Activities**.

You may expect a response to your email within two work days (one work day in Summer).

NOTE ON TECHNOLOGY-DEPENDENT ASSESSMENTS

Canvas is most compatible with Chrome and Firefox. If you experience problems while using Safari, then use the recommended browsers.

LECTURE VIDEOS

Watching the lecture videos is equivalent to attending class and listening to lectures. Although lecture videos may not always be short, remember that class time would have been 50 or 75 minutes—not short either. With videos, however, you may pause the lecture at any time and return to it later. Therefore, you are expected to watch the lecture videos in their entirety. Pause whenever you need to, but always be sure to return and finish watching the video.

Please note that the recorded lectures are the property of Florida State University and are made available only to students enrolled in this class. Students are not permitted to

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share the recorded lectures with any other persons outside of this class. Copyrights of the recorded lectures are reserved by the instructor and Florida State University.

SEXUAL MISCONDUCT AND TITLE IX REPORTING

As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of; I cannot hold such information confidential. If you would like to discuss your situation in confidence, you may contact the Victim Advocate Program (<https://dos.fsu.edu/vap/>), the University Counseling Center (<https://counseling.fsu.edu/>), the Employee Assistance Program (<https://eap.fsu.edu/>), or University Health Services (<https://uhs.fsu.edu/>).

FINAL EXAM RESCHEDULING POLICY

You may not take the final exam week assignment before final exams week. Individual students who need to reschedule the final exam week assignment for a different time during final exams week will need to

- (1) talk to me about it first and get my permission to reschedule,
- (2) fill out the "Request to Reschedule Final Examination" form at artsandsciences.fsu.edu/students/undergraduate/forms-requiring-deans-approval/rescheduling-final-examination get it approved by the Dean of Arts and Sciences office, and
- (3) bring the approved form back to me by the last day of classes.

If you experience a documented emergency that prevents you from observing the above deadline, contact me as soon as you are able to, and we'll take it from there.

UNIVERSITY ATTENDANCE POLICY

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

ACADEMIC HONOR POLICY

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>.)

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AMERICANS WITH DISABILITIES ACT

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (4) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (5) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
- (6) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the

Office of Accessibility Services
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
<https://dsst.fsu.edu/oas>

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CONFIDENTIAL CAMPUS RESOURCES:

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program University Center A, Rm. 4100 (850) 644-7161 Available 24/7/365 Office Hours: M-F 8-5 https://dsst.fsu.edu/vap	University Counseling Center Askew Student Life Center, 2nd floor 942 Learning Way (850) 644-8255 https://counseling.fsu.edu/	University Health Services Health and Wellness Center (850) 644-6230 https://uhs.fsu.edu/
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SYLLABUS CHANGE POLICY

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.