

Statistics through Example

STA 1013 — Section 0008

Syllabus — Fall 2020

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:
M 12pm, Tu 4pm.

CLASS INFORMATION

Day(s): N/A

Time: N/A

Room: N/A

This class is being delivered by recorded video, so no meeting time or place is needed.

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.

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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.

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.

GRADING

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.

Assessment	Percent of Grade
Quizzes	40
Fun Projects 😊	40
Homework	
Individual	25
Total	105

HOMEWORK

Homework will be based on lectures

QUIZZES

The quizzes will be based on the homework.

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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. Percentage 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	Labor 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	Thanksgiving
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.

RELIGIOUS HOLIDAYS

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

PENALTIES

Assessments that are not taken, and assignments that are not submitted, will receive a grade of zero. When a missed assessment/assignment is made up, 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.

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.

ABOUT CLASS 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 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.

UNIVERSITY ATTENDANCE POLICY

You are just watching videos at home whenever you want so... no attendance!

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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.

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/>).

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/academic-resources/academic-integrity-and-grievances/academic-honor-policy>.)

AMERICANS WITH DISABILITIES ACT

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Student Disability Resource Center; and
- (2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and
- (3) meet (in person, via phone, email, skype, zoom, etc...) with each instructor to whom a letter of accommodation was sent to review approved accommodations.

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

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

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>