

Florida State University, Department of Statistics

Statistics Through Example

STA 1013 Section 16 & 20, 3 credit hours

Spring 2019

Instructor: Matthew Runck

Instructor Email: mr17v@my.fsu.edu

Office Location: OSB 4442

Lecture Times:

Section 16: Mon, Wed, Fri 2:30PM – 3:20PM, OSB 110

Section 20: Mon, Wed, Fri 11:15AM – 12:05PM, OSB 110

Office Hours: Mondays 10:00AM - 11:00AM, Thursdays 11:00AM-12:00AM or by appointment

Final Exams:

Section 16: Wednesday May 1, 7:30AM – 9:30AM, OSB 110

Section 20: Thursday May 2, 12:30PM – 2:30PM, OSB 110

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.

LIBERAL STUDIES FOR THE 21st CENTURY:

Quantitative and Logical Thinking

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.

Course Objectives:

By the end of the course, students will demonstrate the ability to:

(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.

Textbook (optional): Statistical Reasoning for everyday life, by Bennet Briggs Triola (any edition is fine)

Required Materials: Scientific or Graphing Calculator (Preferably TI-84)

Important Dates

Quiz 1 (*tentative*): February 8

Add/Drop: February 22

Midterm 1 (*tentative*): Mar 2

Spring Break (no class): Mar 18-22

Quiz 2: April 12

Grade Composition

In-class activities	15%
Homework	15%
Midterm	20%
Quizzes	20%
Final	30%

In-class activities: Attendance is not mandatory, however, throughout the semester there will be regular unannounced activities/quizzes during class.

Homework: Homework will be assigned periodically throughout the semester. Homework will be collected in class on the due date.

Midterm: The midterm will be given in class, and will be worth 20% of your final grade. The midterm will include the **Liberal Studies Quantitative Assessment (LSQA)** which will comprise about half the exam. That is to say, of the 20% of your grade determined by the midterm, 10% will be from the LSQA, with the other 10% being assessed from the remaining material on the exam.

Final Exam: The final exam will take place in your regular classroom during Finals Week. The scheduling of the final exam is determined by the university and cannot be changed by the instructor.

You will be allowed up to a 8" x 11" one sided piece of paper for the midterm and the final.

Grade Cutoffs

Grade cutoffs will be established at the end of the course, but will not be stricter than the following cutoffs.

≥ 94%: A ≥ 73%: C
≥ 90%: A- ≥ 70%: C-
≥ 84%: B+ ≥ 67%: D+
≥ 80%: B ≥ 60%: D
≥ 77%: C+ < 60%: F

Missing Exams and Homeworks:

Make-ups will **not** be given unless the student has official documentation for an excused absence; see the **University Attendance Policy** below for more information on excused absences. It is up to the discretion of the instructor as to how to handle excused absences. No documentation will be accepted any later than *one week after the absence*. *The makeup must be completed within one week, unless special circumstances apply, of the absence accompanied by the proof of documentation*. All documentation will be emailed to me, please see below for steps on emailing me.

Grade Appeal:

You have **one** week to appeal about a grade after it is given; to do so, please make an appointment by emailing the instructor or go to the instructor's office hours with the assignment in hand.

Course Website:

All pertinent information for this class will be posted on the course website at <http://fsu.instructure.com>. Go to this site for class announcements, important dates, etc.

Contacting the instructor outside of class:

You are encouraged to ask questions during class and come to my office during office hours for additional help. If your schedule conflicts with my office hours, you can make an appointment. You may also ask me questions by e-mail, but questions are, usually, better answered in person. Please note it may take 24-72 hours, or even longer if there is a

delay in the system, for me to respond to your email. When you send e-mails please remember the following:

DO NOT REPLY TO ANY EMAIL SENT VIA CANVAS.

Steps to email me:

Email address to use: mr17v@my.fsu.edu

Subject: STA1013, "Topic of Email"

You are responsible for all information sent by email and posted on the course website.

Course Topics:

- Statistical study process
- Types of Data: population, sample, parameter, statistic, categorical, quantitative
- Sampling: simple random sample, systematic, stratified, cluster, convenience
- Visual Displays of data: histograms, stemplots, bar charts, pie charts, boxplots
- Summary Statistics
- Empirical Rule
- Normal Distribution
- Central Limit Theorem
- Probability
- Expected Values
- One Sample Hypothesis Tests
- Correlation
- Simple Linear Regression

Attendance:

Everyday lecture attendance is **not** mandatory, however, if you miss class for any reason, you are still responsible for the material covered in class. You can either get notes from a classmate or come to my office hours for general questions.

Classroom Conduct:

You are expected to act professionally in the classroom. Cell phones should be silenced and put away. You should arrive on time and prepared for class. If you do arrive late or leave early, please do so in a manner that does not disturb the class.

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 before final exams week. Individual students who need to reschedule the final exam for a different time during final exams week will need to

(i) talk to me about it first and get my permission to reschedule,

(ii) fill out the "Request to Reschedule Final Examination" form at <https://artsandsciences.fsu.edu/students/undergraduate/forms-requiring-deans-approval/rescheduling-final-examination> and take it to the Dean of Arts and Sciences office at 010 LON to get it approved, and

(iii) 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.

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.

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.

Religious Holiday Attendance Policy:

Per Section 1006.53, Florida Statutes, the Florida State University policy on observance of religious work-restricted holy days provides that students shall, upon notifying their instructor within the first two weeks of the semester, be excused from class to observe a religious work-restricted holy day of their faith. While students will be held responsible for the material covered in their absence, each student shall be permitted a reasonable amount of time to make up the work missed. (<http://registrar.fsu.edu/bulletin/undergraduate/information/integrity/>)

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) bring a letter to the instructor indicating the need for accommodation and what type.

Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided.

Special accommodations will be provided as soon as possible after I get your letter. **We cannot provide special accommodations in the classroom**, so you must take your exams at the SDRC testing center. You must take them on the same day as the other students take them in class but the time of day is up to you, you will not come to class on those days. If you need to take one of these assessments on a different day, please talk to me about it first. Please do not schedule one of these assessments for a different day without clearing it with me first. If you choose to take one of these assessments in the

classroom, or in our office hours, or at some other location, then you will not receive special accommodations and you must comply with the rules that the other students follow.

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/>