



SYLLABUS

STA 2171 Statistics for Biology

Florida State University • Department of Statistics • Fall 2019

This syllabus serves as an agreement between the students and the instructor with respect to the course and its workings. The contents of the syllabus will be used to resolve any issues or concerns that may arise during the course. Students are expected to be familiar with the contents of the syllabus.

Class Information

Class Name and Section: STA 2171 Statistics for Biology, Section 1

Meeting Times and Locations: TuTh 8:00am – 9:15am OSB 108; Fr 10:10am – 11:00am HCB 205

Meeting Dates: Aug 26, 2019 – Dec 6, 2019

Instructor Information

Instructor and Email: Disa Yu, disa.yu@stat.fsu.edu

Office: OSB 201G

Office Hours: Mondays 9:00 – 11:00am

Grader Information:

Grader and Email: Harshita Dogra, hd19i@my.fsu.edu

Office: Dirac Library 443

Office Hours: Thursdays 2:30 – 3:30pm

Course Description

Prerequisite: MAC 2311 Calculus I and Biology major status, or departmental approval.

Credit Hours: 4

Special Note: No credit is given for STA 2171 if a "C-" or better has been previously earned in STA 3032 or QMB 3200.

This course provides an introduction to statistics emphasizing applications in Biology. Topics include descriptive statistics, elementary probability, the binomial and normal distributions, confidence intervals and hypothesis tests for means and proportions, correlation and regression, contingency tables and goodness-of-fit tests, analysis of variance and non-parametric tests.

The purpose of this course is to prepare students for further study and job preparation in the field of Biological Sciences including Medicine, Dentistry, other healthcare professions, Veterinary Medicine, Zoology and Botany. It will emphasize understanding of data and interpretation of statistical analyses. It will require students to think of data, and report the results of their analyses, in context.

Course 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 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 2171, which includes a written summary of results.

- (3) Use descriptive statistics and graphical methods to summarize data accurately.
- (4) Use inferential statistics to make valid judgments based on the data available.
- (5) Select the appropriate statistical tools to analyze a particular problem.
- (6) Describe the goals of various statistical methodologies conceptually.
- (7) Develop a healthy skepticism toward statistical studies and their results based on a sensible consideration of the techniques employed.

Required Materials

- Graphing Calculator (TI-84 or TI-83 family recommended)
- No textbook required

Reference Textbook

The textbook for this course is *Practice of Statistics in the Life Sciences, Fourth Edition, Baldi Moore; published by Macmillan W. H. Freeman*. Owning or renting this textbook is NOT required for this class. The textbook may serve as a good reference to complement our lecture notes, so you may choose to purchase, rent, or borrow it from the library.

Student Conduct Expectations

- 1. I expect students to dedicate a notable amount of time towards this class; in the form of attending class, reading and reviewing the class notes, doing the homeworks, studying for the exams etc.**
- 2. I expect students to be proactive about their learning. It's a good idea to review the class notes after each lecture. If you don't understand something, be proactive in finding a way to understand it— by re-reading the notes and looking at the examples, asking a classmate, asking me after class or during office hours, asking a tutor, reading about it in the textbook, reading about it online, watching a tutorial video online etc.**
- 3. Things that I find rude and disrespectful: consistently not coming to class, leaving class early, having your phone out and looking at it the whole time.**
- 4. I've had students in the past who try to cheat on exam and assessments (sometime multiple times). This makes me very annoyed. Don't do this. If you do this, we will have a talk. Points will get deducted. I will not write any sort of recommendation for you.**
- 5. If you are not performing as well as you would like to in this class, or if you're going through a difficult time and it's affecting your class performance; please know that**

you can come talk to me and we can discuss strategies for performing better, discuss your prospective grade, or discuss any other plan that will help you learn and do better in my class.

Grading

The Academic Honor Policy applies to all graded material in this class. Students are expected to follow the Academic Honor Policy when working on all graded material.

- Homework 15%
 - Homework will be assigned on a bi-weekly basis. Homework will be graded for accuracy.
 - Resources that may be used when doing the homework: class notes, working together with classmates, textbooks, the internet etc.
 - Directly copying someone else's homework solution or directly copying any sort of solutions manual is a violation of the Academic Honor Policy.
 - Homework solutions will be posted after the homework is returned.
- Midterm Exam 35%
 - Students will be allowed one note sheet (front and back, on standard size 8.5" by 11" copy paper or smaller). The note sheet must be handwritten and written by the student who is using it. Students are also allowed their graphing calculator for the exam. No other resources may be used.
- Liberal Studies Quantitative Assessment (Quiz) 10%
 - Students will be allowed one note sheet (front and back, on standard size 8.5" by 11" copy paper or smaller). The note sheet must be handwritten and written by the student who is using it. Students are also allowed their graphing calculator for the exam. No other resources may be used.
- Final Exam 30%
 - Our final exam is scheduled for **Thursday Dec. 12, 2019** from **12:30pm – 2:30pm** in our usual classroom **OSB 108**.
 - Students will be allowed one note sheet (front and back, on standard size 8.5" by 11" copy paper or smaller). The note sheet must be handwritten and written by the student who is using it. Students are also allowed their graphing calculator for the exam. No other resources may be used.
- Attendance 10%
 - Yes, this is an early class. But as with any math and statistics class, a lot of material will get covered during each class period and attendance is essential for understanding the material and keeping up with the class.
 - There will be attendance checks, where students will receive 1 point if they are present and 0 points if they are absent.
 - Students will not be penalized for excused documented absences; they will still receive 1 point in this case.
 - The one lowest attendance grade will be dropped.

Grades will be posted as percentages in Canvas in a timely manner. The final course percentage grade will be calculated according to the weights indicated above. A final letter grade will then be assigned as outlined in the table below.

A : 92.5% or above	A- : 92.4% - 89.5%	B+ : 89.4% - 86.5%	B : 86.4% - 82.5%
B- : 82.4% - 79.5%	C+ : 79.4% - 76.5%	C : 76.4% - 72.5%	C- : 72.4% - 69.5%
D+ : 69.4% - 66.5%	D : 66.4% - 62.5%	D- : 62.4% - 59.5%	F: 59.4% or below

University Attendance Policy and Class Make-up 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.

In order for absences to be considered excused absences, documentation of the excused absence must be provided to the instructor. This documentation must be provided to the instructor before an assignment or assessment make-up can occur.

For certain excused absence situations where documentation is difficult to obtain, such as absence due to religious holidays or absence due to the attendance of a funeral, a self-written and self-signed letter will suffice as adequate documentation. The instructor will decide, on a case-by-case basis, in which situations a self-written and self-signed letter will suffice as excused absence documentation, and in which situations more formal documentation will be required.

If adequate documentation does not accompany the absence due to an excused absence reasons listed above (e.g. documented illness, official university activities etc.), then the absence will be considered an unexcused absence.

It is recommended that students submit excused absence documentation as soon as possible after the absence, in order to meet the make-up due-dates listed below, as documentation must be provided to the instructor before an assignment or assessment make-up can occur.

- For **excused documented absences**, the midterm exam and LSQA quiz may be made up, with no grade penalty, within 1 week after the date(s) of the documented excused absence, during my office hours
- For **excused documented absences**, homework may be turned-in, with no grade penalty, within the 2 class sessions immediately after the date(s) of the documented excused

absence

- To receive attendance credit for **excused documented absences**, the documentation must be submitted within 1 week of the original attendance check date
- Make-ups for **unexcused absences** are not guaranteed and will be considered on a case by case basis. If make-ups for **unexcused absences** are granted, they will likely be for partial credit.
- **No make-ups will occur after the last day of class**

Grade Appeal Policy

If you disagree with a grade that you received, please email the grader (and CC the instructor) with a re-grade request within 1 week of the day that the graded assignment was returned. Otherwise, the grade that you originally received will be used to compute your final grade. Exceptions will be made for grading errors on part of the instructor or grader.

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. 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: 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/>

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.

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.