



SYLLABUS

STA 2171 Statistics for Biology

Florida State University • Department of Statistics • Spring 2021

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

Classes begin January 6, 2021 and end April 23, 2021

This class will be taught remotely and asynchronously. “Remotely” means that we will not meet in person. This class will be taught through Canvas. Lecture videos will be posted on FSU OneDrive (link provided on Canvas). Homeworks will be submitted on Canvas. Quizzes will be taken on Canvas. Grades will be posted on Canvas. Announcements will be announced on Canvas. “Asynchronously” means that there are no set class times. Please refer to the class schedule for what you should be learning each day/week, homework due dates, quiz dates.

Instructor Information

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

Office Hours: Please email me to schedule an appointment. We will meet through Canvas Zoom.

Grader Information:

Grader and Email: Yang Chen, cyl6e@my.fsu.edu

Office Hours: Please email him to schedule an appointment. The meeting will take place over Canvas Zoom.

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.

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 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

- TI-84 Plus or equivalent calculator
- Textbook is optional (see section below)

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. However, you may find the textbook to serve as a good reference and offer extra practice problems; so you may choose to purchase, rent, or borrow it from the library.

Student Conduct Expectations

1. **Watching the lecture videos is equivalent to attending class and listening to lectures. We acknowledge that the lecture videos are not short but remember that class time would have been 50 or 75 mins - not short either. On the bright side, however, you may pause the video at any time and return to it later - you would not have been able to do that with live lectures. Therefore, we fully expect you to watch the lecture videos in their entirety. Pause whenever you need to, but always be sure to return and finish watching the video.**
2. **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 50%
 - Homework will be assigned on an approximately bi-weekly basis. Homework will be graded for accuracy.
 - Homework will be posted, and then submitted, on Canvas
 - Resources that may be used when doing the homework: class notes, graphing calculator, 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.
- Quizzes 40%
 - Quizzes will occur on an approximately bi-weekly basis.
 - The last quiz will serve as the Final Exam
 - The quizzes will be taken and submitted on Canvas.
 - Quizzes will be "open-book" which means that the following resources may be used during quizzes: class notes, graphing calculator, homeworks, personal notes (these are notes that you can take while preparing/studying for quizzes), textbooks, scrap paper
 - Resources that **may not** be used during quizzes: any and all people (including classmates etc.), the internet
 - Each quiz may only be taken once
 - Each quiz will have a 24-hour time frame in which they will be available to take on Canvas. Each quiz will be timed for approximately 1 hour.
- Liberal Studies Quantitative Assessment (LSQA Quiz) 10%
 - This one quiz occurs because this class is in the Liberal Studies program
 - All the guidelines mentioned above for Quizzes, except the first 2 bullet points, also apply to the LSQA Quiz.

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.

Grades will be posted on 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.

Note on the meaning of “absence” in the context of remote asynchronous learning: The class make-up policy depends on the concepts of “excused/unexcused absences.” By “make-up,” I mean being allowed to submit homework or take quizzes past the original due date when they have never been submitted or taken before. In the context of remote asynchronous learning, “absent” means not submitting an assignment or taking an assessment by the due date.

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 homework may be submitted, and the quizzes may be taken, with no grade penalty, within 1 week after the date(s) of the documented excused absence.
- 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 copy the instructor) with a re-grade request within 1 week of the day that the grade for the assignment was released on Canvas. 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>.)

Email and 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.

Note on Technology-dependent Assessments

This course is heavily technology-dependent. While we will do our best to work with you on technology issues, please be aware that if you take an assessment but we can find absolutely no record of the fact, then we will not be able to give you credit for it. Please DO NOT USE SAFARI when you take assessments on Canvas – please use Chrome or Firefox.

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:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
- (3) 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>

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/>).

Recorded Lectures are FSU Properties

Recorded lectures are FSU properties and only available to students enrolled in the class. Students are not allowed to share the recorded lectures to any other people outside the class. Copyright of the recorded lectures are reserved by the instructors and FSU.

Final Exam Rescheduling Policy

Please remember that our final exam will be the last quiz. ***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.