

## STA 5207 Applied Regression Methods Fall 2021

TuTh 4:50PM - 6:05PM

OSB 327

**Instructor:** Dr. Justin Shows

Office: OSB 307

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In-person office hours: 1:30-2:30 TuTh

Zoom appointments for other times may be requested by e-mail.

<https://fsu.zoom.us/j/4722571439> with Meeting ID 472 257 1439.

### COURSE OBJECTIVES

This course provides an introduction to the basic principles of regression. Upon successful completion, a student will be able to confidently carry out a regression study using R.

**Prerequisite:** One of STA 2122, 2171, 3032, 4322, 5126, 5354, or QMB 3200

**Credit Hours:** 3

**Topics:** Estimation, Inference, Hypothesis testing, Regression diagnostics, Collinearity, Generalized least squares, Weighted least squares, Robust regression, Transformations, Variable selection, Shrinkage methods, Principal component regression

### MATERIALS

**Textbook:** Optional: *Applied Linear Statistical Models*, 5<sup>th</sup> ed, by Kutner, Nachtsheim, Neter, and Li. This book contains the course topics but focuses mainly on prerequisite material.

Additional resource: *Linear Models with R*, 2<sup>nd</sup> ed, by Faraway.

**Class notes:** Notes will be posted on Canvas under Files -> Notes. Example R code and instructions will also be given.

R: R software will be used in the course. Example R code and instructions will also be given. Previous R experience is not necessary.

If you are taking this course to fulfill the requirements for SAS certification, contact me for the access code to my SAS Studio course site. I will post videos of the class examples using SAS on Canvas.

## **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.

The syllabus is intended to be an agreement between you (student) and I.

The presence of your name on your section roster after drop/add ends indicates that you have read and understood all of the information and documents posted on the course Canvas site, you have had your questions about them answered, and you accept and will abide by my policies.

Please understand that I deal with hundreds of students each term, and in the interests of fairness, I will not do for one student what we cannot do for all students who are likely to request the same.

## **ATTENDANCE, ABSENCE AND DROP/WITHDRAWAL**

Attendance will be taken the first day of class via an ungraded online quiz. If you are absent, the Registrar's Office will drop you from the course. I expect you to keep up-to-date with the lessons, activities and announcements by getting in touch with a classmate or with me, and by reading the course site on Canvas. Drop and withdrawal deadlines are given in the University's academic calendar at [https://registrar.fsu.edu/registration\\_guide/fall/academic\\_calendar/](https://registrar.fsu.edu/registration_guide/fall/academic_calendar/)

### **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/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 Office of Accessibility Services; 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 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](mailto:oas@fsu.edu)

<https://dsst.fsu.edu/oas>

## ASSESSMENT AND GRADING

- Assignments will be posted on Canvas along with a due date. You may work together on these assignments, but you must formulate and write your own solutions. You may not share files with other students.
- Assignments must be submitted through Canvas. You may submit a typed document, or a picture or scan of handwritten work.
- Assignments may be done either in SAS or R, however, Data Science students should use R.
- The lowest assignment score will be dropped.
- Late assignments submitted less than three days after the due date will be penalized by 25%. Late assignments submitted more than three days after the due date will not be accepted.
- Exams: During an exam, everything except a calculator and writing utensil must be stowed under the desk or chair.
- Calculators may not be shared. Phones may not be used as calculators.
- No early or late exams will be given for any reason. If you miss an in-class exam due to an excused absence (as defined in the University Attendance Policy), the final exam score will replace the missed exam score.

Grade disputes must be made within 24 hours of the class period in which graded exams are first returned.

You will be allowed to bring one 8.5 by 11 inch sheet (front and back) of notes for each in-class exam and the final exam. These notes must be handwritten without the assistance of anyone else.

Privacy: I strictly follow FERPA rules and guidelines. For example, grades cannot be given out in e-mail. For more information, read <https://registrar.fsu.edu/records/ferpa/>

**Grading:**

In-Class Exam I	25%
In-Class Exam II	25%
Assignments	20%
Final Exam	30%

Weighted Average is rounded up to the next integer.

**Grading Scale:**

Average	Letter
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
0-59	F