STA 4210 – Regression Analysis (22863), Fall 2025

Section: 9632
Period 6: Monday, Wednesday, Friday 12:50 p.m. - 1:40 p.m.
Room: Griffin Hall 100 (FLO 0100)

Instructor:
David Lindberg
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Phone: (352) 273-1897
Office: Griffin-Floyd 115B
Office Hours:
Tuesday, Thursday 1:00 p.m. - 2:30 p.m.

Teaching Assistant:
Sayoni Roychowdhury
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Zoom Office Hours (link on Canvas)
Monday, Wednesday 2:00 p.m. - 3:30 p.m.

eLearning Course Webpage on Canvas: http://elearning.ufl.edu/

Catalog Description

Simple linear regression and multiple linear regression models. Inference about model parameters and predictions, diagnostic and remedial measures about the model, independent variable selection, multicollinearity, autocorrelation, and nonlinear regression. SAS implementation of the above topics.

Prerequisite(s)

STA 3100 and (STA 3024 or STA 3032 or STA 4321 or MAS 3114 or MAS 4105).

Credit Hours

This is a 3 credit hour class.

Course Goals

By the end of the course successful students should have achieved the following learning goals:

1. A clear understanding of the principles, assumptions, and methods in regression analysis.
2. The skill to know when and how regression might be useful in a variety of application areas.
3. The selection of appropriate statistical models in regression situations and the ability to validate selected models.
4. The skills to analyze data involving several variables.
5. The ability to provide correct interpretations of results and to recommend appropriate decisions.

6. The possession of strong computing skills and familiarity with statistical software.

7. The possession of skills directed to the communication of statistical results to a variety of audiences.

Required Text(s)

None

Optional Text(s)

1. ***Applied Linear Statistical Models*** by M. Kutner, C. Nachtsheim, J. Neter and W. Li, 5th Edition [This textbook is what the class notes are based off of]

2. ***A Second Course in Statistics: Regression Analysis*** by W. Mendenhall and T. Sincich, 8th Edition.

Calculator(s)

Any scientific calculator may be used for exams and in-class assignments. Neither graphing calculators nor internet-enabled electronic devices, such as cell phones, tablets, computers, or smart watches, can be used during exams or in-class assignments.

Software

You will need a statistical software program for homework assignments and practice. The software used in class will be R http://www.r-project.org although you can use any other software you wish that yields similar results. We encourage the use of R Studio https://posit.co/download/rstudio-desktop/.

Tentative Schedule of Course Topics

Week(s)	Chapters from Notes	Description
1-2	1	Simple Linear Regression
3-4	2	Inference in Simple Linear Regression
5	3	Diagnostics, Remedial Measures
Exam 1		
6	4	Simultaneous Inferences
7	5	Matrix Algebra
8-9	6	Multiple Linear Regression I
10	7	Multiple Linear Regression II
Exam 2		
11	8	Polynomial Regression and Qualitative Predictors
12	9-10	Model Building, Diagnostics
13	11-12	Remedial Measures, Time Series
14	14	Logistic Regression
Exam 3		

Course Assignments

The course assignments will be three (3) exams, ten (10) online quizzes, eight (8) homework assignments, and thirteen (13) in-class assignments.

(A) Exams

Three (3) exams will be held in class. The purpose of exams is to assess your knowledge of the course material without the use of class notes, a computer, or other outside materials. Exams will be scheduled as follows:

- Exam 1: Wednesday, September 24. Covers Chapters 1, 2, and 3 from the class notes.
- Exam 2: Wednesday, October 29. Covers Chapters 4, 5, 6, and 7 from the class notes.
- Exam 3: Wednesday, December 3. Covers Chapters 8, 9, 10, 11, 12, and 14 from the class notes.

You will have the entire class period (50 minutes) to complete the exam. Each exam is out of 100 points. Exams 2 and 3 are not cumulative–that is, they will only test the course material from the chapters listed above. For the exam, you may bring a scientific calculator and a writing utensil. Graphing calculators, computers, phones, tablets, or any other electronic devices are not allowed for the exams. A formula sheet will also be provided.

(B) Online Quizzes

Ten (10) quizzes are assigned. The purpose of the quizzes is to assess your knowledge of the course material, where course notes, a computer, or other materials are allowed. This serves as practice for the exams, as some exam questions are modeled after the quizzes. All quizzes are given in the eLearning environment. The quizzes will have questions covering the previous week's material. You will have 30 minutes to complete the quiz. You should have a reliable internet connection when you start the quiz. Computers and study rooms are available at the UF Libraries.

All quizzes are available at 12:00 a.m. on the release date and will be due at 11:59 p.m. on the due date. The release dates and due dates are shown in the table below. Quizzes are graded out of 20 points.

Each quiz will have a maximum of two attempts, and the best grade out of two will be the grade for each quiz. The questions from one attempt to the next may be different. The highest nine (9) quiz scores will be used in the final grade.

Quiz	Date Released	Date Due
1	Friday, August 29	Tuesday, September 2
2	Friday, September 5	Monday, September 8
3	Friday, September 12	Monday, September 15
4	Friday, September 19	Monday, September 22
5	Friday, October 3	Monday, October 6
6	Friday, October 10	Monday, October 13
7	Thursday, October 16	Monday, October 20
8	Friday, November 7	Monday, November 10
9	Friday, November 14	Monday, November 17
10	Friday, November 21	Monday, December 1

(C) Homework

A total of eight (8) homework assignments will be given throughout the semester. The purpose of the homework is to help reinforce the material learned in class—not just to get the right answer. Homework serves as practice for the quizzes, in-class assignments, and exams, as some questions on questions on the homework resemble the questions seen on these assessments.

Each homework is graded out of 25 points. Homework assignments will be posted on the eLearning course page. The homework is to be submitted to the eLearning system by 11:59 p.m. on the due date below. Any homework assignment received after 11:59 p.m. on the due date is subject to a 5-point penalty out of 25 points for each day after the due date (for example the maximum score for homework turned in one day late would be 20 points).

The homework must be typed. You may use any document editing software to type up your solutions. All code must be included that was used to produce the results to answer the questions. Homework solutions must show all formulas and steps used to arrive at the answer and be the sole work of each student. It is suggested to use R Markdown to type the solutions. A homework template file is provided on the eLearning system.

Homework	Date Due
1	Friday, September 5
2	Friday, September 12
3	Friday, September 19
4	Wednesday, October 8
5	Wednesday, October 15
6	Monday, October 27
7	Wednesday, November 12
8	Friday, November 21

(D) In-Class Assignments

Thirteen (13) in-class assignments will be given throughout the semester. The purpose of the quizzes is to assess your knowledge of the course material, where only the course notes are allowed. The in-class assignments also allow you to collaborate with your classmates to help learn the concepts from the class material together.

You may work together to answer the problems and also consult with the instructor for assistance. You may only use the printed course notes and a scientific calculator to complete the in-class assignment. Graphing calculators, computers, phones, tablets, or any other electronic devices are not allowed for the in-class assignments.

You will have about 10-15 minutes during class time to complete the in-class assignments. They will be given either at the beginning of class or at the end of class. The dates of the in-class assignments will not be announced in advance. Each assignment is graded out of 10 points. You must complete 10 out of 13 assignments to earn full credit for the in-class assignment grade. Extra credit (10 points per additional assignment over the required ten assignments) can be earned on this part of the grade if more than 10 in-class assignments are completed. Assignments will be graded for both completion and correctness.

Grading

Grade distribution:

Exams 1, 2, and 3	60%	(25% highest, 20% second highest, 15% lowest)
Quizzes	10%	(lowest quiz score dropped)
Homework	20%	
In Class Assignments	10%	
Total	100%	

Final grade and can be calculated using:

$$\begin{aligned}\text{Final} = {} & 0.25(\text{highest exam score}) \\ & + 0.20(\text{second highest exam score}) \\ & + 0.15(\text{lowest exam score}) \\ & + 0.10\left(\frac{\sum \text{quizzes} - \text{lowest}}{180} \times 100\right) \\ & + 0.20\left(\frac{\sum \text{homework}}{200} \times 100\right) \\ & + 0.10\left(\frac{\sum \text{in-class assignments}}{100} \times 100\right)\end{aligned}$$

Letter Grade Assignment:

There will be *no rounding up* of scores.

		A	92 to 100	A-	89 to $<$ 92
B+	86 to $<$ 89	B	82 to $<$ 86	B-	79 to $<$ 82
C+	76 to $<$ 79	C	70 to $<$ 76	C-	67 to $<$ 70
D+	64 to $<$ 67	D	60 to $<$ 64	D-	57 to $<$ 60
E	$<$ 57				

- Assignment grades will be posted on the eLearning course page at http://elearning.ufl.edu/.

- Final grades are not shown on eLearning as they do not account for the conditional weighing of exams.
- To view the result of the letter grades to your GPA please visit the UF Grade and Grading Policies.

Statistics Major, Data Science Major, and Statistics Minor

STA 4210 is a 3 credit-hour course that satisfies a requirement for the Statistics Major and Minor and the Data Science Major. Dr. Demetris Athienitis is the academic advisor for undergraduate statistics majors and minors and data science majors. For more information on advising, see https://stat.ufl.edu/academics/undergraduate/

School Closures

If classes at the University of Florida are canceled, the course will be suspended until the university re-opens. The University will announce this closure on the University of Florida homepage. Any announcements about the course will be posted at the course eLearning webpage.

Course Policies

The instructor reserves the right to update parts of this syllabus in the event of extenuating circumstances (such as changing the due dates for homework and quizzes or exam dates, eliminating or modifying course material, etc.). Students will promptly be notified of any changes.

Privacy Policies

Student records are confidential. Only information designated "UF directory information" may be released without your written consent. UF views each student as the primary contact for all communication. If your parents contact me about your grade, attendance or other information that is not "UF directory information", they will be directed to contact you. More information can be found at https://catalog.ufl.edu/UGRD/academic-regulations/ferpa-confidentiality-student-records/

E-mail

E-mail relating to information about the class should be sent to the instructor at dlindberg@ufl.edu or through the course management system. Your message will be answered within one working day, in most cases. However, we ask that you refer to this syllabus and the course website to try to find the answers yourself. Questions regarding the material covered should be asked before, during, or after class, at the instructor's office hours, or at the teaching assistant's office hours. It is often difficult to answer questions regarding material through e-mail. Questions about quizzes should be sent to the instructor and it should include the quiz number and question number.

Make-up Policy

The requirements of this course for class attendance, exams, assignments, and other work are consistent with university policies. See UF Academic Regulations and Policies for more information on university attendance policies.

University Honor Code

University of Florida students are bound by the Honor Pledge. On all work submitted for credit by a student, the following pledge is required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Student Honor Code and Conduct Code (Regulation 4.040) specifies a number of behaviors that are in violation of this code, as well as the process for reported allegations and sanctions that may be implemented. All potential violations of the code will be reported to Student Conduct and Conflict Resolution. If a student is found responsible for an Honor Code violation in this course, the instructor will enter a Grade Adjustment sanction which may be up to or including failure of the course.

Students with Disabilities

Students who require special accommodations in class or during exams should first register with the Disability Resource Center at 352-392-8565, https://disability.ufl.edu/ by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation for an exam or quiz. The instructor must be emailed the form at least 7 days before an exam or quiz for accommodations to be arranged.

Grading

Grades will be changed only when an error has been made; negotiation is not appropriate.

Incomplete

Incomplete grades are only assigned when extraordinary circumstances (such as an accident, or extended hospitalization), arising after the date for dropping the course, prevent the student from completing the course requirements. Having a failing grade in the course is not a valid reason for requesting an Incomplete.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://gatorevals.aa.ufl.edu/. Evaluations are typically open during the few weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at
https://gatorevals.aa.ufl.edu/instructors/instructor-reports/.