UF UNIVERSITY of FLORIDA

STA 4210 – Regression Analysis (28151)

Fall 2024
MWF 12:50pm - 1:40pm
Room: Griffin Floyd Hall 100 (FLO 100)

Instructor:
David Lindberg
Email: dlindberg@ufl.edu
Offce: Griffin-Floyd 115B
Offce Hours:
  Tue, Thu 10:30am - 12:30pm

Teaching Assistant:
Yisen Jin
Email: y.jin@ufl.edu
Zoom Office Hours:
Zoom link on Canvas
  Mon, Wed 2:00pm - 4:00pm

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

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 Objectives and Goals

By the end of the course successful students should have achieved the following learning goals: (i) A clear understanding of the principles, assumptions, and methods in regression analysis, (ii) the skill to know when and how regression might be useful in a variety of application areas, (iii) the selection of appropriate statistical models in regression situations and the ability to validate selected models, (iv) the skills to analyze data involving several variables, (v) The ability to provide correct interpretations of results and to recommend appropriate decisions, (vi) the possession of strong computing skills and familiarity with statistical software, and (vii) 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

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

Calculator(s)

Any scientific or graphing calculator may be used for homework and exams. Internet-enabled electronic devices, such as cell phones or tablets, cannot be used as calculators during exams.

Software

You will need a statistical software program for the 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 yield similar results. R instructions and tutorials will be posted on the course webpage. 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	2	Inference in Simple Linear Regression
4	3	Diagnostics, Remedial Measures, Exam 1 Review
5	4	Simultaneous Inferences
6	5	Matrix Algebra
7-8	6	Multiple Linear Regression I
9	7	Multiple Linear Regression II, Exam 2 Review
10	8	Polynomial Regression and Qualitative Predictors
11	9	Model Building
12	10-11	Diagnostics, Remedial Measures
13	12	Time Series
14	14	Nonlinear Regression, Logistic Regression, Exam 3 Review

Course Assignments

The course assignments will be three (3) exams, ten (10) homework assignments, and eleven (11) quizzes.

(A) Exams

Three (3) exams will be held in class will be administered tentatively scheduled Wednesday, September 25, Wednesday, October 23, and Wednesday, December 4. Exam 1 will cover Chapters 1-3 from the notes, Exam 2 will cover Chapters 4-7 from the notes, Exam 3 will cover Chapters 8-12 and 14 from the notes. Each exam has a maximum score of 200 points.

To the exam, you may bring a calculator and writing utensil. A formula sheet will be provided.

If a student knows they are unable to take an exam at the scheduled time, they must notify the instructor seven days prior to the exam date. Each case will be reviewed individually. Valid and detailed documentation is a prerequisite under such extenuating circumstances. A makeup exam may not be guaranteed. In case of an illness, the instructor must be notified by 11:00am on the day of the exam and the student must provide a medical excuse. A grade of zero is the minimum punishment of any type of dishonesty on an exam.

(B) Quizzes

Eleven (11) quizzes are assigned. One (1) is a syllabus quiz and ten (10) pertain to the course material, given on the eLearning environment. Quizzes will have 5 questions covering the material from the previous week. You will have 60 minutes to complete the quiz. It is recommended that you have a reliable internet connection when you start the quiz. Computers and study rooms are available at the UF libraries.

The syllabus quiz will have an unlimited number of attempts. The purpose of this quiz is to test your knowledge of key pieces of information in the syllabus and make sure you are familiar with the quiz taking features on the eLearning system.

The ten quizzes pertaining to the course material will have a maximum of 2 attempts and the best grade out of two attempts will be the grade for each individual quiz.

All quizzes are available at 12:00am on the release date and will be due at 11:59pm on the due date. The release dates and due dates are shown in the table below. Each question on the quiz is worth 4 points, which means the highest score on one quiz is 20 points. The highest ten quiz scores will be used to calculate the total quiz score.

Quiz	Date Released	Date Due
Syllabus	Wednesday, August 28	Wednesday, September 4
1	Wednesday, September 4	Friday, September 6
2	Wednesday, September 11	Friday, September 13
3	Wednesday, September 18	Friday, September 20
4	Wednesday, October 2	Friday, October 4
5	Wednesday, October 9	Friday, October 11
6	Tueday, October 15	Thursday, October 17
7	Wednesday, October 30	Friday, November 1
8	Wednesday, November 6	Friday, November 8
9	Wednesday, November 13	Friday, November 15
10	Wednesday, November 20	Friday, November 22

(C) Homework

A total of 8 homework assignments will be given throughout the semester, each worth 25 points. Homework assignments will be posted on the e-Learning course page. The homework due dates are below. Homework is to be turned in on Canvas on the due date. Any homework assignment

received after 11:59pm on the due date is subject to a 5 point penalty for each day after the due date.

Homework must be typed

Homework is assigned to help reinforce the material learned in class—not just to get the right answer and improve your course grade. Although all the homework questions are multiple choice, homework solutions must show all formulas and steps used to arrive at the answer and be the sole work of each individual student.

Homework	Date Assigned	Date Due
1	Wednesday, August 28	Monday, September 9
2	Monday, September 9	Wednesday, September 18
3	Friday, September 27	Monday, October 7
4	Monday, October 7	Monday, October 14
5	Monday, October 14	Monday, October 21
6	Friday, October 25	Monday, November 4
7	Monday, November 4	Wednesday, November 13
8	Wednesday, November 13	Friday, November 22

Total Course Points

Assignment	Points
Exam 1	200
Exam 2	200
Exam 3	200
Highest 10 Quiz Scores	200
Homework Assignments	200
Total	1000

Letter Grade Distribution:

Letter	Points
A	920 to 1000
A-	890 to 919
B+	860 to 889
B	820 to 859
B-	790 to 819
C+	760 to 789
C	690 to 759
C-	660 to 689
D	620 to 659
E	619 and below

Statistics Major and Minor and Data Science Major

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/

COVID-19 (and other infectious diseases)

In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.

- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

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 e-Learning webpage.

Course Policies

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 you to please refer to this syllabus and the course website to try to find the answers for 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.

Attendance

If you miss class for any reason it is your responsibility to get any notes and information you might have missed from another student. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. Additionally, please turn your cellular phones off and refrain from eating and excessive talking while in attendance.

Instructor's Honor Code

We the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

Academic Honesty

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: 'On my honor, I have neither given nor received unauthorized aid in doing this assignment.'" The Honor Code (https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

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. Grades will be posted on the e-Learning course page at http://elearning.ufl.edu/. The current UF grading policies for assigning grade points is available at https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

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/.

The syllabus is subject to change. You will be notified if there is a change.