

# STA 6207 – Regression Analysis – Fall 2020

**Instructor:** Dr. Larry Winner

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**Office Hours:** TBA (Will be posted on class webpage)

**Text:** Statistical Regression Analysis (Course Notes)

**Supplementary Text:** *Applied Regression Analysis, 2nd. Ed.* by Rawlings, Pantula, Dickey (e-book for UF Students)

## Course Description:

This course provides a survey of theory and applications in linear regression analysis. A full treatment of the linear regression model is covered, focusing on results from mathematical statistics making use of matrix algebra. Computational methods will be used to analyze datasets based on "canned routines" as well as a matrix language.

## Tentative Topics (Course Notes Sections) [RPD Sections]:

- Intro to Probability Distributions and Inference (Chapter 1) [N/A]
- Simple Linear Regression in Scalar Form (Chapter 2) [Chapter 1]
- Simple Linear Regression in Matrix Form (Chapter 3) [Chapter 2.1-2.8]
- Distributional Results, Analysis of Variance and Quadratic Forms (Chapter 4) [Chapters 3,4]
- Model Diagnostics and Influence Measures (Chapter 5) [Chapters 10, 11]
- Multiple Regression (Chapter 6) [Chapters 3,7,8,9.6,9.7,12]
  - Model Building: Selection of Independent Variables [Chapter 7]
  - Polynomial Models [Chapter 8]
  - Models with Class Variables [Chapter 9.6-9.7]
  - Transformations [Chapter 12]
- Intro to Nonlinear Models (Chapter 7) [Chapter 15.1-15.3]
- Random Coefficient Regression Models (Chapter 8) [Chapter 18.3]
- Alternative Regression Models (Chapter 9) [N/A]

## Tests and Grading:

- (Tentative) Exam 1 (7:25AM - 9:20AM) – Monday, October 5 – 30%
- (Tentative) Exam 2 (7:25AM - 9:20AM) – Monday, November 16 – 30%
- "Take-Home" Final Exam/Project Monday, December 7– 20%
- Homework - 20%

## Notes:

- In-class Exams are closed note. I will provide any formulas if necessary
- No make-up exams will be given. Early exams will be given under no circumstances.
- Homework will be assigned on approximately a weekly basis and you will typically have 2-3 class periods to complete them. No late assignments will be accepted, and you must submit them to UF Canvas. The grader will grade a sample of the assigned problems.
- R code for examples in the Course Notes are available UF Canvas.

### Course Grade Cut-offs:

A	A-	B+	B	B-	C+	C	C-	D	E
93	88	83	75	65	50				

**Attendance/Exam/Assignment Policies:** While attendance is not taken, students are expected to attend lectures and participate in class.

**Academic Accommodations:** If you have a documented disability and wish to discuss academic accommodations with me, please contact me as soon as possible.

### University Grading Points:

A	A-	B+	B	B-	C+	C	C-	D	E
4	3.67	3.33	3	2.67	2.33	2	1.67	1	0

**Online Course Evaluations:** The University has an online course evaluation system. Late in each semester (after final withdrawal date), students can go to the GATORRATER portal and evaluate courses. The website is located at: <https://evaluations.ufl.edu/evals/Default.aspx>.

**Zoom Lecture Disclaimer:** Our class sessions may be audio-visually recorded for students in the class to refer back to and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voice recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials by students or any other party is prohibited.

## **University Policies:**

**Academic Dishonesty:** All members of the University Community share the responsibility to challenge and make known acts of apparent academic dishonesty. Acts of academic dishonesty will not be tolerated and will be referred to the Student Honor Council.

## **Campus Resources:**

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/>

Academic Resources: <http://www.ufl.edu/academics/resources/>

Disability Resource Center: <https://www.dso.ufl.edu/drc/>

Student Health Care Center: <http://shcc.ufl.edu/>