



Texas A&M
University
Central Texas

CRIJ 5300
Linear Regression
Fall 2018

Class Location: FH 311
Class Hours: M 6-9
Instructor: Floyd Berry, PhD
Office: FH 217G
Office Hours: MTWR 2-5 (please make an appointment)
Email: (prefer Canvas message) fberry@tamuct.edu

1.0 Course Description

This course assumes student's competency in basic undergraduate statistics, measures of significance, and use of a statpak, which are available in a one-semester course. The course introduces students to statistical concepts and techniques that can assist them in evaluating research and in engaging in research on the graduate level. The techniques allow one to discover relationships between variables of interest and to infer population parameters based on sample statistics. Both simple and multiple linear regression techniques will provide the main content for the course. Students will also manipulate, analyze, and interpret data using SPSS.

2.0 Accessing Canvas

This is a lecture course with online components in Canvas. The students access Canvas at <https://tamuct.onecampus.com/>.

3.0 General Course Objectives

1. Students will be able to select an appropriate statistic for a given set of data.
2. Students will acquire the ability to use, analyze, and interpret statistical tests.
3. Students will learn the basic, technical vocabulary of intermediate social statistics.
4. Students will be able to interpret the use of intermediate statistics in social research.
5. Students will demonstrate calculator proficiency for all statistical formulas.
6. Students will employ SPSS for data manipulation, analysis, and interpretation.
7. Students will gain some appreciation for the role of statistics in the research process.

4.0 Textbooks/Calculator

Required for Course

Berry, W. D. (1993). *Understanding regression assumptions*. Newbury Park, CA: Sage.

Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (2nd ed.). Thousand Oaks, CA: Sage.

Lewis-Beck, C., & Lewis-Beck, M. (2016). *Applied regression: An introduction*. Los Angeles: Sage.

Hand Calculator

The student is required to use a simple **hand calculator** in this course. The calculator should be able to compute squares and square roots. The student should not purchase or use a calculator that is too technical for the needs of this course, and the instructor is unable to assist the student in interpreting an owner's manual. Calculator features on a cell phone or other device will hinder a student's progress in this course rather than aid it. The calculator needed for this course may be purchased for about \$12. Students are required to bring their calculators to each class.

Not-required Texts Related to Specific Course Content:

- Agresti, A., & Finlay, B. (2009). *Statistical methods for the social sciences* (4th ed.). Upper Saddle River, NJ: Pearson.
- Agresti, A., Franklin, C., & Klingenberg, M. (2017). *Statistics: the art and science of learning from data* (4th ed.). Boston: Pearson.
- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.
- Judd, C. M., McClelland, G. H., & Ryan, C. S. (2017). *Data analysis: A model comparison approach* (3rd ed.). New York: Routledge.
- Kahane, L. H. (2008). *Regression basics* (2nd ed.). Los Angeles: Sage.
- Osborne, J. W. (2013). *Best practices in data cleaning: A complete guide to everything you need to do before and after collecting your data*. Los Angeles: Sage.

5.0 Course Requirements5.1 Exams (600 pts)

The student will complete two take-home exams that are due, as hard copies, at the beginning of the next class. Exams consist of a cover sheet, a main prose section, and an SPSS output. The paper shall conform to APA guidelines. Neatness, organization, and thoroughness contribute to better scores. NOTE: If students have difficulty in writing at a graduate level, then they are strongly advised to consult a writing manual of some kind (the APA Manual, chs 3-4 is a good first source). The student must write in complete sentences, avoiding run-ons, excessive use of metaphorical language, the use of pronouns without antecedents, the use of bulleted items that are not part of a sentence, and dangling modifiers. Points are deducted for deficient prose, especially if the sense is unclear to the reader. The quality of the exams shall conform to graduate-level expectations, having a *similar appearance* to articles that are published in peer-reviewed journals. Students are expected to convey more information in description and interpretation than might be required for publication in the real world, however, because the instructor wishes to know if they understand, and are able to explain, results. The following rubric will guide the instructor in grading exams:

Qualities & Criteria	Poor	Good	Excellent
Content <ul style="list-style-type: none"> • Elements of topics to be addressed • Information is correct • Coherency <i>(Weight: 70%)</i>	Essay is not objective and poorly addresses the issues. The information provided is unnecessary or insufficient to discuss the issues. (0-164 pts)	Essay is mostly objective and addresses most of the issues. Provided information is mostly necessary and sufficient to discuss the issues. (165-197 pts)	Essay is objective and addresses all the issues. Provided information is necessary and sufficient to discuss the issues. (198-210 pts)
Quality of Writing <ul style="list-style-type: none"> • Clarity • Grammar and English usage • Organization and coherence <i>(Weight: 30%)</i>	Essay is poorly written and contains flagrant spelling and grammatical errors. Essay is poorly organized, lacks clarity, and incoherent. (0-61 pts)	Essay is mostly well-written, without spelling or grammatical errors. Essay is well organized, clear, and ideas are presented in coherent ways. (62-83 pts)	Essay is well-written, without spelling or grammatical errors. Essay is well organized, clear, and ideas are presented in coherent ways. (84-90 pts)

5.2 Class Participation (400 pts)

The student is expected to participate in class discussions. The students earn a point for full attendance on a specific day (if they appear on time and do not leave early). They earn another point for participating in class discussion. Thus, the student earns 0-2 points on each class day (total of 13 days), which translate into the following grade for class participation in the course:

Points	Grade	Points	Grade
26	400	14	160
25	380	13	140
24	360	12	120
23	340	11	100
22	320	10	80
21	300	9	60
20	280	8	40
19	260	7	20
18	240	0-6	0
17	220		
16	200		
15	180		

NOTE: If students are tardy (appear in class after roll is called), it is their responsibility to notify the instructor, at the conclusion of class (before leaving the classroom), that they arrived in class and would like to receive some credit for class participation. Failure to notify the instructor may result in an absence for that class day. The student is allowed to miss a class without major reduction in points. **If the student misses two classes, the final letter grade will be reduced by one letter grade (e.g., A becomes a B, B becomes a C).**

Cell phone use is forbidden during class, and such behavior is not awarded class participation points.

5.3 Academic Integrity Document

During the first week of class, the student is to read the section in the syllabus on Academic Integrity and the link provided in that section regarding plagiarism. The student must sign the document (also in Canvas, under Modules) pertaining to Academic Integrity and return it to the instructor. **NOTE: Students will not be allowed to continue in the course without notifying the instructor of their comprehension of this material (by signing the document and submitting it to the instructor).**

6.0 **Grading Matrix and Conversion**

6.1 Matrix

	Points
Exams (2 @ 300)	600
Class Participation	400
Academic Integrity Document	-----
<i>Total:</i>	1000

6.2 Conversion to Course Letter Grade

Points	%	Grade
900 – 1000	90 – 100	A
800 – 899	80 – 89	B
700 – 799	70 – 79	C
600 – 699	60 – 69	D
0 – 599	0 – 59	F

7.0 **Course Calendar¹**

Date	Topics/Activities	Readings ²	Assignments Due ³
8/27	Academic Integrity	Academic Integrity/plagiarism readings (sect. 8.0 of syllabus)	
(cont)	Course requirements Review of Basic Statistics	Syllabus	

9/3	No class		
9/10	SPSS	Canvas: databases and codebooks	Academic Integrity document due (hard copy)
9/17	Bivariate regression	L, ch 1 (pp 1-14)	
9/24	Bivariate regression (cont.)		
10/1	Model assessment	L, ch 1 (pp 14-21)	
10/8	Review		Mid-term exam passed out
10/15	Multiple regression	L, ch 3	Mid-term exam due
10/22	Multiple regression (cont.)		
10/29	Dummy variables	L, pp 64-69	
11/5	Interaction effects Mean Centering	L, pp 69-71 J, chs 1-2	
11/12	No class		
11/19	Interaction effects (cont.)		
11/26	Regression assumptions Syntax	L, pp 23-28 B, chs 2, 5	
12/3	Review		Final exam passed out
12/10	Final exam due (hard copy)		Final exam due

¹ Events are subject to minor revision

² B = Berry, *Understanding Regression Assumptions*

J = Jaccard et al., *Interaction Effects* (2nd ed.)

L = Lewis-Beck et al., *Applied Regression* (2nd ed.)

ch = chapter, chs = chapters, pp = pages

³ All assignment at due at 6:00 p.m.

8.0 Academic Integrity

TAMUCT expects all students to maintain high standards of personal and scholarly conduct. Students guilty of academic dishonesty are subject to disciplinary action. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, self-plagiarism ("recycling"), or collusion. The instructor shall initiate action for each case of academic dishonesty and report it to the Associate Director of Student Conduct. Zero points will be assigned for any course product that violates academic honesty. The student should access this link for more information: <https://www.tamuct.edu/student-affairs/student-conduct.html>.

9.0 Disability Support

If students believe that this course may present barriers to learning due to a disability, they must contact Access and Inclusion at (254) 501-5831 in Warrior Hall, Ste. 212. For more information, students may visit their website at <https://www.tamuct.edu/student-affairs/access-inclusion.html>. Any information that the student provides is private and confidential and will be treated as such. The instructor cannot accommodate students' disabilities unless they first communicate with Access and Inclusion.

10.0 Diversity in the Classroom

Respect for cultural and human biological diversity are core concepts within the social sciences. In this course, each voice in the classroom has value in contributing to class discussion. The student should respect the different experiences, beliefs, and values expressed by one's fellow students and instructor, and refrain from derogatory comments about other individuals, cultures, groups, or viewpoints. In this course we welcome individuals of all ages, backgrounds, citizenships, disabilities, education, ethnicities, family statuses, genders, gender identities, geographical locations, languages, military experiences, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences.

11.0 Writing Center

The University Writing Center (UWC) at Texas A&M University-Central Texas is a free workspace open to all TAMUCT students. The UWC is located in Warrior Hall, Rm 416. One may contact Dr. Bruce Bowles at bruce.bowles@tamuct.edu for more information.

12.0 Late Work

As a rule, make-up work for the two exams will not be accepted. In some cases, however, the mid-term exam may be accepted late, but with deductions, 10 points for every day late. *In no instance will a make-up be offered for the final exam, and in no instance will a make-up for the mid-term exam be given after two weeks from the original exam date.* To be considered as a prospect for making up the mid-term exam, the student must contact the instructor within 24 hours of having missed the exam for purposes of making it up. The final course grade will be posted within a few days of the final exam; therefore, no incompletes will be awarded for this course. If students foresee that they will be unable to complete the course, then they should either drop the course or accept the posted grade.

13.0 Modification of the Syllabus

This syllabus may be revised in minor ways at the discretion of the instructor. The student is responsible for noting any changes in the syllabus. More than likely, a change in the syllabus will pertain to events in the Course Calendar (sect. 7.0). A Revised Course Calendar will be posted in Canvas.

14.0 Contact with the Instructor

The student should contact the instructor via the message feature of Canvas about any topic or issue that pertains to the course.

15.0 Announcements

The student is responsible for checking Canvas for ongoing announcements or messages pertaining to the course.

