Syllabus
AEC 6932 – Applied Data Analysis
2024 Fall Term

Instructor
Dr. J.C. Bunch
Associate Professor
Department of Agricultural Education and Communication
307A Rolfs Hall, University of Florida
352-294-2226
bunchj@ufl.edu

Class Schedule
Tuesdays, 11:45 am – 2:45 pm
Rolfs Hall 306

Office Hours (F2F or Zoom)
By appointment

Course Description
Concepts and methods drawn from the social sciences for analyzing data in the human dimensions of agricultural and natural resource issues (3 credits).

Prerequisites
AEC 6767 or equivalent course and

General Course Objectives
Upon completion of the course students should be able to:

1. Determine appropriate statistical techniques for a given research question and data set.

2. Conduct exploratory analyses to assess data quality and describe distributions of variables.

3. Conduct bi-variate analyses using tabular analysis, correlation, and other methods.

4. Conduct multi-variate analyses using General Linear Model techniques or Log-Linear Models.

5. Conduct an analysis using structural equation models or hierarchal linear models.

6. Prepare reports of results which is suitable for publication.

Required Text
Field, A. (2023). *Discovering statistics using SPSS* (6th ed.). Sage Publications.

Required Data Files
Required data files can be found on the course Canvas page.

SPSS
Can be obtained through UF apps, advisor, or AEC research lab computers.

Assignments and Grading

A total of 1,000 points can be earned in the course. <u>Plus, and minus grades will be used, as follows</u>:

931 and above = A	800-830 = B-	671-699 = D+
900-930 = A-	771-799 = C+	631-670 = D
871-899 = B+	731-770 = C	600-630 = D-
831-870 = B	700-730 = C-	599 and below = E

<u>Readings/Participation</u> – 40 points total. All readings **<u>MUST BE COMPLETED</u>** before the start of class each week.

<u>Weekly Chapter Tasks</u> – 960 points (80 points each chapter). Chapter tasks are found at the end of each chapter. Most chapters include 10-15 tasks. Chapter tasks will be completed each week and turned in during class the following week for overview and discussion. Below is a table which displays start and due dates of chapter tasks.

Data files will be used for some tasks. Some files you are asked to create, but most files have been created for you. The chapter task will specifically state which file is needed for the specific task. These already created files can be found on the course Canvas page. The files are listed alphabetically in the folder.

Chapter(s)	Tasks for each chapter to be completed	Start	Due
1, 2, 3, & 4	All	Pre-course email sent on July 29.	Aug. 27
5	All	Sept. 3	Sept. 10
6	All	Sept. 10	Sept. 17
7	All	Sept. 17	Sept. 24
8 & 9	All	Sept. 24	Oct. 1
10	All	Oct. 1	Oct. 8
11	All	Oct. 8	Oct. 22
12 & 13	All	Oct. 22	Oct. 29
14 & 15	All	Oct. 29	Nov. 5
16	All	Nov. 5	Nov. 12
17 &18	All	Nov. 12	Nov. 19
19 & 20	All	Nov. 19	Dec. 3
21 (Bonus; not required)	All (Bonus Tasks)	Dec. 3	Dec. 6

* Subject to change by instructor decision

Class Attendance and Make-up Assignments
Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies, which can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

UF Grading Policies
Information on current UF grading policies may be found at: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

Online UF Course Evaluations
Students are expected to provide feedback on the quality of instruction in this course by completing the online evaluation at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the summer term, but students will be notified when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

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.

Plagiarism
Plagiarism Definition: A student shall not represent as the student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:
- Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution
- Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authorized by the student
- Unauthorized use of materials or resources
- Prohibited collaboration or consultation
- Submission of paper or academic work purchased or obtained for an outside source

Campus Health and Wellness Resources
U Matter, We Care: If you or a friend is in distress, please send a message to umatter@ufl.edu or call 352-392-1575 so a team member can contact you or your friend.
Counseling and Wellness Center: https://counseling.ufl.edu/, 392-1575
Sexual Assault Recovery Services (SARS) – Student Health Care Center, 392-1161
University Police Department, 392-1111 (or 911 for emergencies).
http://www.police.ufl.edu/

Campus Academic Resources

e-learning technical support: call 352-392-4357 (select option 2) or send an e-mail to learningsupport@ufl.edu. https://lss.at.ufl.edu/help.shtml.

Career Connections Center, Reitz Union: call 392-1601. For career assistance and counseling go to https://career.ufl.edu/.

Library Support: go to http://cms.uflib.ufl.edu/ask. This site provides information on various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall: For general study skills and tutoring call 392-2010 or 392-6420 or go to http://teachingcenter.ufl.edu/.

Writing Studio, 302 Tigert Hall: For help in brainstorming, formatting, and writing papers call 846-1138 or go to http://writing.ufl.edu/writing-studio/.

Student Complaints On-Campus: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

On-Line Student Complaints: http://distance.ufl.edu/student-complaint-process/.

Accommodations for Students with Disabilities
Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter, which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

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Dates	Topics / Learning Experiences	Assignment Due	Readings
Part 1: The Process			
Aug. 27	Doing Research		Chapters 1, 2, 3, & 4.
Part 2: Exploring Data and Fitting Models			
Sept. 3	Visualizing Data		Chapter 5
Sept. 10	Beast of Bias		Chapter 6
Sept. 17	Non-Parametric Models		Chapter 7
Part 3: Linear Models with Continuous Predictors			
Sept. 24	Correlation and The Linear Model (Regression)		Chapters 8 & 9
Part 4: Linear Models with Continuous Predictors or Categorical Predictors			
Oct. 1	Categorical Predictors: Comparing Two Means (T-test)		Chapter 10
Oct. 8	Moderation and Mediation		Chapter 11
Oct. 15	NO CLASS – Dr. Bunch in UK	N/A	N/A
Oct. 22	**GLM 1**: Comparing several Independent Means (ANOVA) & **GLM 2**: Comparing Means Adjusted for Other Predictors (ANCOVA)		Chapters 12 & 13
Oct. 29	**GLM 3**: Factorial Designs & **GLM 4**: Repeated Measures Designs		Chapters 14 & 15
Nov. 5	**GLM 5**: Mixed Designs		Chapter 16
Part 5: Linear Models with Multiple Outcomes			
Nov. 12	Multivariate Analysis (MANOVA) & Exploratory Factor Analysis		Chapters 17 & 18
Part 6: Linear Models with Categorical Outcomes			
Nov. 19	Chi-Square and Loglinear Analysis & Logistic Regression		Chapters 19 & 20
Nov. 26	NO CLASS – Holiday	N/A	N/A
Part 7: Linear Models with Hierarchical Data Structures			
Dec. 3	Multilevel Linear Models		Chapter 21