Agricultural Data Analysis

Spring 2017

Period 3, Monday, Wednesday & Friday 9:30 am – 10:30 am

Classroom: McCarty B G86

Instructor and Contact Information

Lecturer: Misti Sharp
Office: 1193 McCarty Hall A
Office Hours: Monday and Wednesday: 10:30-12:30, and Tuesday, Thursday and Friday by appointment
Email: mistisharp@ufl.edu (preferred)
Phone: 352-294-7633

Teaching Assistant: Scott Miller
Office: 1171 McCarty Hall A
Office Hours: Friday from 11:45-1:40 And by appointment
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Communication:

Changes in office hours, meeting locations and the syllabus will be announced on e-learning. Be sure that you receive those notifications in a timely manner (controlled in your e-learning settings). Appointments are not necessary during office hours. Groups of students are welcome.

Course Description:

This course provides an introduction into analysis of agricultural data and incorporates statistical and agricultural economic theory into the analysis of agricultural problems.

Expected Student Learning Outcomes: After the successful completion of AEB 3550, a typical student should be able to:

- Demonstrate an understanding of descriptive versus inferential statistics;
- Identify different types of data and relevant analysis for decision making;
- Apply statistical techniques to a variety of economic data;
- Analyze a data set using tools provided in excel;
- Interpret statistical output to aid in decision making in the food and resource economics realm;
- Effectively communicate the results of statistical analysis including writing professional reports;
- Succeed in the senior-level coursework in the Food and Resource Economics Curriculum as they will have acquired the necessary statistical background and foundations.

Prerequisites:

It is the expectation that students have completed introductory Food and Resource Economics coursework including AEB 3103 (Principles of FRE) and AEB 3510 (Quantitative Methods in FRE). It is further expected that students have taken STA 2023 (Introduction to Statistics).

Required Course Materials:

- ***Text:*** *Essentials of Statistics for Business and Economics*, 7th edition by Anderson, Sweeney, Williams, Camm and Cochran. Cengage Learning, copyright 2010. ISBN: 9781133629658.
- ***E-learning:*** There is an E-Learning Canvas webpage for this course. E-learning can be accessed via http://elearning.ufl.edu using your Gatorlink username and password. If you are having difficulties accessing E-learning, please contact the UF Computing Help Desk by calling (352)-392-HELP or via email helpdes@ufl.edu.
- ***REEF polling:*** You can use i>clickers or REEF polling on your smart phone based on your own preferences and budget constraints. I>clickers cost about ~$50, REEF is ~$20 for a 6 month subscription.
- ***Other***: This course combines statistical concepts with practical application and as such, students are required to have a basic knowledge of rudimentary applications of both. If you feel like you do not have an adequate background in statistics or the use of excel, please use resources such as Kahn Academy (https://www.khanacademy.org/math/statistics-probability) or Lynda.com (available from http://elearning.ufl.edu) to supplement the classroom materials.

Resources for disabled students:

If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible to set up the appropriate arrangements. Please do not wait until the day before an exam to request accommodations. Further information can be found at http://www.dso.ufl.edu/drc/.

Student counseling and support:

Several resources are available on campus for students (http://www.umatter.ufl.edu/)

Service		Location		Phone
Dean of students (http://www.dso.ufl.edu)		P202 Peabody Hall		392-1261
Counseling and wellness center (http://www.counseling.ufl.edu/cwc/)		2190 Radio Road		392-1575
Student health care center (http://shcc.ufl.edu)		Infirmary Building		392-1161
Career Resource Center (http://www.crc.ufl.edu)		1st Floor, Reitz Union		392-1601
FRE Undergraduate Staff (http://fred.ifas.ufl.edu/undergrad/)		1170 McCarty A		294-7640

Academic Integrity: *https://www.dso.ufl.edu/sccr/honorcodes/conductcode.php*

This course will adhere to the Academic Integrity Honor Code of the University of Florida: *We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity*. I expect all work that you do in the course to be your own. Violations of the Academic Honesty Guidelines will result in judicial action.

Expectations and feedback:

I expect students to attend every class having done the assigned readings and assignments so that you are prepared to contribute. It is also my expectation that you will be open-minded and considerate of the thoughts and ideas of all of your fellow classmates. I will do my best to conduct organized and insightful class sessions and to treat your intellectual work with fairness and impartiality.

It is your choice to succeed or not succeed in my class and "success" means different things to different students. From my perspective, successful students are those who 1) do the readings, 2) do the assignments including non-graded assignments, 3) attend class and participate, and 4) study for exams. If you begin to struggle, it is your responsibility to come see me to determine what steps should be taken on your part to ensure your success in the class.

Class Structure: This is a traditional lecture class. Nevertheless, there will be opportunities throughout the semester to create an "active" learning environment which will take on multiple forms. I intend to use REEF polling daily (with the exception of exam days) and I expect students to participate in the polls. Some of this REEF activity will be testing learning and some will be activity oriented. Additionally, I intend to facilitate, from time to time, a "lab" environment within the classroom. This will require students to bring laptops to class. You will be informed online prior to class if I expect you to have your laptop. If you do not have a laptop, it may be possible to work in a pair group on one laptop (no more than 2 per laptop).

Course Assignments:

Weekly assignments (best 10 of 12): Each week with the exception of exam weeks, there will be review problems and exercises related to the course material that will be due by 5 pm on Friday. These may be written or typed. These assignments must be uploaded into e-learning before the time they are due. Late submissions will receive a grade of 0. Your final score will be composed of your best 10 of 12 assignments. It is in your best interest to attempt all assignments.

Application projects: There will be 3 assignments that will require the use of excel to apply statistical methods to economic data. These should be typed and thorough. Late submissions will be penalized.

Exams (best 2 out of 3): There will be three exams in this class. Two of these exams will be midterms offered mid-semester (see schedule on last page of this syllabus) and one final exam will be offered during final exam week on Thursday, April 27th from 12:30 pm – 2:30 pm. Each exam will include multiple choice, short answer and essay questions related to assignments, readings and lectures. <u>There will be no makeup exams offered</u>. The lowest exam score will be dropped. If you know you will have a university excused absence on the day of the exam, you should plan to drop that exam. It is in your best interest to attempt all exams.

Attendance: This grade will be based on participation in daily REEF polling and is best facilitated if you register your i>clicker to your name so that I can be sure to connect your work with your name. 5 classes will be "freebies" in case of problems with technology or absence. Do not participate in the poll unless you are in class.

Composition of Final Score

Course Assignments	**Total Points**	**% of Total Grade**
Weekly assignments (best 10 of 12)	100 points (10 points each)	20%
Application projects	150 points (50 points each)	30%
Exams (best 2 of 3)	200 (100 points each)	40%
Attendance (REEF confirmed)	50 points	10%
Total	500 points	100%

Student Evaluation: Grades will be assigned as follows (note no minuses will be awarded)

Grade	Percentage	Total Points	Grade Points
A	90.0% or more	≥ 450	4.00
B+	86.0 – 89.9%	430 – 449	3.33
B	80.0 – 85.9%	400 – 429	3.00
C+	76.0 – 79.9%	380 – 399	2.33
C	70.0 – 75.9%	350 – 379	2.00
D+	66.0 – 69.9%	330 – 349	1.33
D	60.0 – 65.9%	300 – 329	1.00
E	≤ 59.9%	≤ 299	0.00

Your final letter grade will be posted on e-learning after the final exam. The professor has the right to change this point structure at any point so long as it improves the student's final score.

Academic Performance:

Your grade on e-learning throughout the semester may not reflect your true performance in the course. You will earn points for correct assignments and exams throughout the semester and it is up to you to determine your progress in the course. It is my goal to teach students and not to "give grades" as I believe grades are earned. As such, consider the following guidelines when you have questions about your grade or class performance:

- If you have any questions about your score at any point, you may come to the professor during office hours to clarify the number of points you have and what points will be required to achieve your desired grade.
- Do NOT ask for clarification of your grade in class or after class. This type of discussion is reserved for office hours or email correspondence.
- Do NOT email me or come to office hours expecting to change your score on a given assignment unless an egregious error has been made in entering your grade into canvas (i.e. you failed to get credit for a completed assignment or an exam grade was entered incorrectly).
- Do NOT ask for additional points throughout the semester. It may be the case that bonus opportunities to gain additional points will be available; however, this is determined solely by the professor based on an assessment of the relevance of additional activities to course materials and learning objectives.

Course Topics:

This course is broken into two main sections: descriptive statistics and inferential statistics. Descriptive statistics are used to summarize data either graphically, numerically or in tabular form. This is an essential first step in data analysis as it allows the research the become familiar with characteristics of the data that will be relevant for higher order inferential analysis. Inferential statistics involves generating, from a limited data set, information about statistical relationships and estimates about a population. The course is cumulative in that a firm understanding of distributions and descriptive statistical techniques is a pre-requisite to inferential analysis.

Tentative Course Schedule

Topic	Week	Dates	Lecture Material
Part 1: Descriptive Statistics			
Review of Basic Statistics	1	Jan 4, 6	Ch. 1 – 2
Review of Basic Statistics	2	Jan 9, 11, 13	Ch. 3 – 4
Discrete Probability Distributions	3	Jan 18, 20	Ch. 5
Continuous Probability Distributions	4	Jan 23, 25*, 27	Ch. 6
Sampling and Sampling Distributions	5	Jan 30, Feb 1, 3	Ch. 7
Interval Estimation	6	Feb 6, 8, 10	Ch. 8
Review (*exam February 24th*)	7	Feb 20, 22, 24	Review
Part II: Inferential Statistics			
Hypothesis Testing	8	Feb 27, Mar 1, 3	Ch. 9
Spring break	9	Mar 4-12	
Inference About Means	10	Mar 13, 15, 17	Ch. 10
Inference About Variances	11	Mar 20, 22, 23	Ch. 10
Independence Testing	12	Mar 27, 29, 31	Ch. 11
Simple Linear Regression	13	Apr 3, 5, 7	Ch. 12
Multiple Regression	14	Apr 10, 12, 14	Ch. 13
Review (*exam April 19th*)	15	Apr 17, 19	Review
There will be an optional final review study session scheduled April 21st at 9:35 am -11 am			
Final		Final exam April 27th, 12:30 pm – 2:30	

Mrs. Sharp reserves the right to change the terms and dates stated in this course syllabus at any time. Any changes will be communicated in class, via the Gatorlink e-mail listserv, and posted on E-Learning. It is the student's responsibility to stay informed of any changes.