AEB 5516
Quantitative Methods in Agribusiness - Summer B, 2017
Syllabus

INSTRUCTOR
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CLASS TIMES & LOCATION
Monday-Friday (Every Weekday) 11:00am-12:15pm
Room: MCCB 3124
No class on July 4, July 31-August 2

OFFICE HOURS
Tuesday and Thursday, 2-4 pm or with appointment
I have an open-door policy besides the regular office hours, feel free to stop by my office, email or call me anytime. I'm gladly meet and solve your questions or problems. If you want to make sure I am in the office other than the official office hours, please set up an appointment with me via email. Many students find that email is an efficient and fast way to reach me and ask questions.

COURSE DESCRIPTION & OBJECTIVES
This course is an applied statistics course and designed to provide students with statistical and regression tools for analyzing the agricultural market. The skill set applies to individual and business decision making beyond agricultural markets. Students will learn skills such as how to develop and test hypotheses, run regressions, interpret the results, and forecast. At the end of this class, each student should be able to apply graphical, statistical, and regression tools to applicable data and forecast the value of variables of interest. We will focus on the practical application of statistical techniques and use of analysis tools within Microsoft Excel.

TEXTBOOK & MATERIAL
Essential of Statistics for Business and Economics, 7th edition, by David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Jeffrey D. Camm, and James J. Cochran. Cengage Learning. Copyright 2015. ISBN: 9781133629658
  - This book is very expensive, so it is not required, and all course materials will be available from the course site on Canvas. However, you are strongly encouraged to get an older edition for reference.

You will need Microsoft Excel for assignments and projects. The laptops should only be used for note-taking and in-class assignments during the class. If the use of the laptop becomes a distraction to other students or the instructor, the student will be asked to turn off the device.

GRADING AND ACTIVITIES

The scale used will be:

Passing Grade	Grade Points	Percent
A	4	93-100%
A-	3.67	90-92.9%
B+	3.33	87-89.9%
B	3	83-86.9%
B-	2.67	80-82.9%
C+	2.33	77-79.9%
C	2	73-76.9%
C-	1.67	70-72.9%
D+	1.33	67-69.9%
D	1	63-66.9%
D-	0.67	60-62.9%
S	0	0-59%

Grading Summary

Homework	20%
Exam 1 (July 10 or 11)	25%
Exam 2 (July 26 or 28)	25%
Project/Presentation	25%
Class participation	5%
Total	100%

In-class/ take home homework
There will be five assignments, typically once a week. Assignments will be assigned during the class and due roughly one week after the assignment is given. The exact due dates will be specified on each assignment. Late assignments are not acceptable. You are encouraged to discuss the questions with others, but what you turn in must be your own work (i.e., do not share or copy files with/from others').

Exam
There will be two in-class exams for this course. Exam dates will be confirmed in advance (tentative July 10 or 11 and July 26 or 28). No make-up exams will be given. If you happen to miss one of the exams for a reasonable, well-documented (court, illness, etc.) reason, then the other exam score will account for 50% of your total grade instead of 25%. If you don't have an acceptable excuse, you will not receive any credit for the missed exam.

Project:
You will be responsible for finding a publicly available dataset for this project (minimum 20 observations). The details and a few deadlines will be given through the semester, and you will submit the

different parts of the project as part of assignments. You will present your project in the last week of the class. Between them, 30% of the grade will be assigned to intermediate deadlines, and 70% to the presentation and final project. Your presentation will be evaluated by both instructor and your classmates.

Class participation:
Class participation is strongly recommended for the understanding of the in-class materials, especially during the intensive class of summer semester. Accounting 5% of the total grade, this portion represents students' physical attendance, active participation in class, etc.

UNIVERSITY POLICIES

Academic Honesty, Software Use, Services for Students with Disabilities, UF Counseling Services
The University of Florida requires all members of its community to be honest in all endeavors. Cheating, plagiarism, and other acts diminish the process of learning. When students enroll at UF, they commit themselves to honesty and integrity. Your instructor fully expects you to adhere to the academic honesty guidelines you signed when you were admitted to UF.
As a result of completing the registration form at the University of Florida, every student has signed the following statement:
"I understand the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."
Furthermore, on work submitted for credit by UF students, the following pledge is either required or implied:
"*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*"
It is to be assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the professor. This policy will be vigorously upheld at all times in this course.

Software Use:
All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources
Students experiencing crisis or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. Both the Counseling Center and Student Mental Health provide confidential counseling services at no cost for currently enrolled students. Resources are available on-campus for students having personal or lacking clear career and academic goals, which interfere with their academic performance. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health is located on the second floor of the Student Health Services in the Infirmary.
1. *University Counseling Center*, 301 Peabody Hall,
392-1575; personal and career counseling: **www.counsel.ufl.edu**
2. *Student Mental Health*, Student Health Care Center,
392-1171, personal counseling: **www.hsc.ufl.edu/shcc/smhs.htm**
3. *Sexual Assault Recovery Services (SARS)*, Student Health Care Center,
392-1161, sexual assault counseling; and
4. *Career Resource Center*, Reitz Union, 392-1601, career development assistance and counseling.

Students with Disabilities Act
The Dean of Students Office coordinates the needed accommodations for students with disabilities. This includes the registration of disabilities, academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faulty-student disability related issues. *Dean of Students Office*, 202 Peabody Hall, 392-7066, www.dso.ufl.edu**.**

BRIEF COURSE OUTLINE

Chapter 1. Introduction
    a. Introduction to the field of statistics.
    b. Qualitative and quantitative data
    c. Population and samples
    d. Descriptive statistics
    e. Inferential statistics

Chapter 2. Descriptive Statistics: Tabular and Graphical Presentations
    a. Summarizing data for a single variable
    b. Frequency distributions
    c. Graphical analysis
    d. Summarizing data for two variables

Chapter 3. Descriptive Statistics: Numerical Measures
    a. Central tendency measures
    b. Variation measures
    c. Skewness and symmetry
    d. Z score
    e. Empirical rule

Chapter 4. Introduction to Probability
    a. Counting rules
    b. Experiments, outcomes, and assigning probabilities
    c. Events and assigning probabilities

Chapter 5. Discrete Probability Distributions
    a. Random variables: discrete variables vs. continuous variables
    b. Discrete probability distributions and probability functions
    c. Expected value and variance
    d. Binomial probability distribution

Chapter 6. Continuous Probability Distributions
    a. Probability density function
    b. Uniform probability distribution
    c. Normal probability distribution
    d. Standard normal probability distribution and Z-distribution

Exam 1, Chapter 1-6

Chapter 7. Sampling and Sampling Distributions
    a. Sampling
    b. Point estimation
    c. Sampling distributions

Chapter 8. Interval Estimation
    a. Marginal of error
    b. Confidence intervals
    c. Determination of appropriate sample size
    d. T-distribution vs. Z-distribution

Chapter 9. Hypothesis Tests
    a. Null and alternative hypotheses
    b. Type I and Type II errors
    c. One-tailed and two-tailed tests

Chapter 10. Comparisons involving Means and Analysis of Variance
    a. Interval estimation
    b. Differences across population means
    c. Analysis of variance
    d. F-distribution

Chapter 11. Simple Linear Regression
    a. Regression models and regression equations
    b. Least squared estimation method
    c. Coefficient of determination
    d. Testing for significance (t-test)
    e. Prediction and forecasting

Chapter 12. Multiple Regression
    a. Multiple regression models
    b. Least squares method
    c. Coefficient of determination
    d. Testing for significance (t-test and F-test)
    e. Prediction and forecasting

Exam 2, Chapter 7-12

Disclaimer:
The syllabus is a general plan for the course; deviations might be necessary. Please note that the instructor reserves the right to change the syllabus during the semester as circumstances warrant.