

Course Syllabus: AEB 3550
Agricultural Data Analysis (3 credits)

Spring 2021

Period 3, Monday, Wednesday, & Friday 9:35 am - 10:25 pm

Monday and Wednesday Classroom: Newins-Ziegler Hall 0112

Friday online stated otherwise in an announcement or in the schedule

Instructor and Contact Information

Dr. Misti Sharp	Email: mistisharp@ufl.edu
Office hours:	Tuesday from 9:30 – 11:00, Thursday from 2:00 – 3:00 and by appointment I intend on being in my office for office hours (MCCA 1189) but I can only meet one student at a time face to face and that requires an appointment (mistisharp@ufl.edu); I will be available on zoom with no appointment necessary: https://ufl.zoom.us/j/902541919

Course Description (from Catalog): This course provides an introduction into analysis of agricultural data and incorporates statistical and agricultural economic theory into the analysis of agricultural problems.

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).

Communication: Email is the best way to reach me. Any issues that require action MUST be handled by email so that there is a written record of need. Phone calls and after class conversations are not likely to result in action. I typically respond to emails within 24 hours if a response is required. Class cancellations, changes in office hours, meeting locations and changes in 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.

Undergraduate Advisor: Ms. Danielle Shu; 1170B McCarty Hall A; (352) 294-7640;
E-mail: dshu@ufl.edu; OH: daily 9:00 am – 12:00 pm

FRE Technology Assistance: Dave Depatie; 1197 McCarty Hall A; (352) 394-7641;
E-mail: ddepatie@ufl.edu

Teaching Assistants: Ms. Fei He; he.fe@ufl.edu; Zoom: <https://ufl.zoom.us/j/6096427860>

Course summary: Unlike previous statistics courses you may have taken, this course is very much an APPLIED statistics course. You will be using real-world data relevant to agriculture, natural resources, and the economy. For some, applied statistics is easier than theoretical statistics; for others, it is incredibly difficult and may take a great deal of time to develop the skills necessary for applied data analysis.

Most real-world problems that are solved using data are not written in a textbook format. Research questions do not always follow intuitive patterns. Nevertheless, as an economist, it is essential that you develop the skills to do applied data analysis while at the same time understanding the theoretical underpinnings of statistical techniques.

Course Syllabus: AEB 3550

This class is a CORE class in the FRE undergraduate program. Mastery of the skills taught in this course is a pre-requisite for upper-level course work in FRE classes. Previous students have found this course to be challenging and time-intensive; however, many of them agree that the rigor introduced in this class is critical in building a strong analytical skillset needed for success in upper-level course work such as price analysis, agricultural finance, econometrics, etc.

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

- Identify different types of data and appropriate statistical methods;
- Differentiate between descriptive and inferential statistics;
- Apply statistical techniques to a variety of economic data;
- Analyze a data set using tools provided in excel;
- Interpret statistical output to aid in economic decision making;
- Communicate the results of statistical analysis including writing professional reports;
- Succeed in the senior-level coursework in the Food and Resource Economics curriculum as students will have acquired the necessary statistical foundations and demonstrated competency in performing statistical analysis.

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.
(<https://www.amazon.com/Essentials-Statistics-Business-Economics-Anderson/dp/1305081595>)
- **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 helpdesk@ufl.edu.
- **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.

Class Structure: This class is considered a “flipped” classroom in that the lectures for the course are pre-recorded to watch asynchronously and class time is spent in “active” learning. The general flow of the modules is that you 1) watch the lectures online (time is set aside on Fridays to do this) 2) come to class prepared to perform data analysis as motivated by the “Individual Readiness Assurance Tests” (typically on Mondays) and 3) practice doing statistics with real-world data in a collaborative learning environment (typically on Wednesdays). See the schedule at the end of the syllabus for the daily break-down of these activities. There will also be projects and exams as indicated in the schedule which will be due online on the date indicated.

Each class we meet (on Mondays and Wednesdays) will have points associated with it. There will be an advantage to being present in the classroom as you will have the opportunity to earn back points missed on your IRAT (on Mondays) and we will work collaboratively on the problem-solving activities (on Wednesdays). If you are sick or have potentially been exposed to someone who is currently sick with an infectious disease (COVID-19 or other), you can complete the activities online as each activity will be submitted on e-learning.

Course Assignments and Expectations:

Individual Readiness Assurance Test (IRAT) (Best 10 of 12): During class on Mondays (with a few exceptions—see schedule at the end of this syllabus), there will be an individual quiz. This means that you **MUST** do the assigned readings, watch the assigned lectures, and attempt practice problems in the book **PRIOR** to class. This IRAT will include 5 multiple choice questions with a 10-minute time limit on e-Learning beginning promptly at the beginning of class. You must be on time as extra time will not be given to students who are tardy. Each IRAT will be weighted equally, although some weeks will contain more content and difficulty varies significantly from week to week. The tested material will build on itself although the IRATs will not be *explicitly* cumulative. There are no excuses for missed IRATs as you get to drop 2. There will be an additional “make-up day” (see syllabus) for those with 3 or more university excused absences. After the IRAT, students will work together in teams of 2 or 3 on the same quiz and can earn up to half credit for missed questions on the IRAT. For example, if a student misses 1 question on the IRAT but the team gets it correct in-person, then that person would get a 9/10 on their IRAT instead of 8/10.

Problem Solving Activity: This is meant to be an opportunity to apply what you have learned in the module to a real-world significant problem with each team coming to and defending a specific choice under simultaneous report. You must submit the answers and your work online by midnight for full credit.

Applications of Data Analysis (best 4 of 5): These application projects require the use of excel to apply statistical methods to a real-world data set. While it is important to learn how to use excel to apply statistical techniques, interpretation of the data and statistical output will be emphasized in these assignments. The final output of these application projects will be a written report which must be typed and thorough. Late submissions will be penalized 5 points per day late (beginning 24 hours after the deadline). All work completed in excel and written in your final report **MUST** be your own.

Exams (Best 2 of 3): Each exam (2 midterms and 1 final) will consist of 20 multiple choice questions and will be administered through e-learning. These exams will be an open-book, open-note timed individual assessment (60 minutes) with only one allowable attempt.

Composition of Final Score:

Course Assignments	Total Points	% of Total
Applications (best 4/5)	100 points (25 points each)	25%
IRATs (best 10/12)	100 points (10 points each)	25%
Problem Solving	100 points (various assignments)	25%
Exams (best 2/3)	100 points (50 points each)	25%
Total	400 points	100%

Grades and Grade Points: Grades will be assigned as follows

Grade	Percentage	Total points	Grade Points
A	93% or more	≥ 372	4.00
A-	90.0 – 92.9%	360 - 371	3.67
B+	86.0 – 89.9%	344 - 359	3.33
B	83.0 – 85.9%	332 - 343	3.00
B-	80.0 – 82.9%	320 - 331	2.67

Course Syllabus: AEB 3550

C+	76.0 – 79.9%	304 - 319	2.33
C	73.0 – 75.9%	292 - 303	2.00
C-	70.0 – 72.9%	280 - 291	1.67
D+	66.0 – 69.9%	264 - 279	1.33
D	63.0 – 65.9%	252 - 263	1.00
D-	60.0 – 62.9%	240 - 251	0.67
E	59.9% or less	≤ 239	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.

**Please note that grades are not ‘rounded’ or ‘adjusted’ at the end of the term. Haggling over grades at the end of the semester is NOT entertained. Of course, if there is an error in recording a grade, I will gladly give you the correct points. If you believe that your exam is incorrectly graded or that your grade is incorrectly posted, please contact me via e-mail as soon as possible. You have 7 days after a grade has been posted to voice your concern. After 7 days have passed, your posted grade will be assumed to be correct and accurate.

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Academic Performance:

Your grade on e-learning throughout the semester may not reflect your true performance in the course. You will earn points every single week in this semester and it is crucial that you do not “check-out” at any point in the semester. If you fall behind, you MUST come to my office right when you realize this is happening. Do NOT wait until the end of the semester as there is nothing I can do to help at that point. 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.

Services for Students with Disabilities The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Course Syllabus: AEB 3550

Student counseling and support: If something happens in your personal life that has an impact on your academic life, you must go through the Dean of Students Office (contact below) for additional accommodations. If you are experiencing other forms of distress that do not impact your performance in my class, there are several resources available on campus for students (<http://www.umatter.ufl.edu/>).

Service	Location	Phone
GatorWell Health Promotions Services (works on time management, etc.) (gatorwell.ufsa.ufl.edu)	1 st Floor, Reitz Union	273-4450
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
Sexual Assault Recovery Services (SARS)	Infirmiry Building	392-1161
Student health care center (http://shcc.ufl.edu)	Infirmiry Building	392-1161
University Police Department (police.ufl.edu)		392-1111
Career Resource Center (http://www.crc.ufl.edu)	1 st Floor, Reitz Union	392-1601
UF Help Desk—Technical Support (helpdesk@ufl.edu)	1 st Floor, the HUB	392-4357
Library Support (http://cms.uflib.ufl.edu/ask)	online	
Teaching Center (http://teachingcenter.ufl.edu/)	Broward Hall	392-6420
Writing Studio (http://writing.ufl.edu/writing-studio/)	online	846-1138

Academic Honesty: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.*” It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<https://sccr.dso.ufl.edu/process/student-conduct-code/>

Attendance and Make-up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Note: The instructor 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 Gatorlink e-mail listserv, and posted on e-learning as an announcement. It is solely the student’s responsibility to stay informed of any changes.

*****By enrolling in this course, you are agreeing to the terms outlined in this syllabus!*****

I look forward to a fun and productive semester with you all!

Course Syllabus: AEB 3550

AEB 3550: Agricultural Data Analysis Tentative Schedule						
D	Date	Class #	Lecture	Location	Module	Assignments
M	1/11/2021	1	Syllabus and Course Expectations	NZH 0112	Module 0	
W	1/13/2021	2	Data and Statistics	NZH 0112	Module 1	RAT 1/PS 1
F	1/15/2021	3	Descriptive Statistics: Tabular and Graphical	Online	Module 2	
M	1/18/2021	4	No class--Martin Luther King Day	--	Module 2	
W	1/20/2021	5	Descriptive Statistics: Tabular and Graphical	NZH 0112	Module 2	RAT 2/PS 2
F	1/22/2021	6	Numerical Descriptive Statistics	Online	Module 3	
M	1/25/2021	7	Numerical Descriptive Statistics	NZH 0112	Module 3	RAT 3
W	1/27/2021	8	Numerical Descriptive Statistics	NZH 0112	Module 3	PS 3
F	1/29/2021	9	Probability and Probability Distributions	Online	Module 4	Project 1 due
M	2/1/2021	10	Probability and Probability Distributions	NZH 0112	Module 4	RAT 4
W	2/3/2021	11	Probability and Probability Distributions	NZH 0112	Module 4	PS 4
F	2/5/2021	12	The Normal and Sampling Distributions	Online	Module 4	
M	2/8/2021	13	The Normal and Sampling Distributions	NZH 0112	Module 4	RAT 5
W	2/10/2021	14	The Normal and Sampling Distributions	NZH 0112	Module 5	PS 5
F	2/12/2021	15	Interval Estimation	Online	Module 6	Project 2 due
M	2/15/2021	16	Interval Estimation	NZH 0112	Module 6	RAT 6
W	2/17/2021	17	Interval Estimation	NZH 0112	Module 6	PS 6
F	2/19/2021	18	Midterm 1 Study	Online	Modules 1-6	
M	2/22/2021	19	Midterm 1 Review	NZH 0112	Modules 1-6	
W	2/24/2021	20	Midterm 1	Online	Modules 1-6	Midterm 1
F	2/26/2021	21	Hypothesis Testing, Part 1	Online	Module 7	
M	3/1/2021	22	Hypothesis Testing, Part 1	NZH 0112	Module 7	RAT 7
W	3/3/2021	23	Hypothesis Testing, Part 1	NZH 0112	Module 7	PS 7
F	3/5/2021	24	Hypothesis Testing, Part 2	Online	Module 8	
M	3/8/2021	25	Hypothesis Testing, Part 2	NZH 0112	Module 8	RAT 8
W	3/10/2021	27	Hypothesis Testing, Part 2	NZH 0112	Module 8	PS 8
F	3/12/2021	28	Comparisons Involving Means and ANOVA	Online	Module 9	Project 3 due
M	3/15/2021	29	Comparisons Involving Means and ANOVA	NZH 0112	Module 9	RAT 9
W	3/17/2021	30	Comparisons Involving Means and ANOVA	NZH 0112	Module 9	PS 9
F	3/19/2021	31	Simple Linear Regression, Part 1	Online	Module 10	
M	3/22/2021	32	Simple Linear Regression, Part 1	NZH 0112	Module 10	RAT 10
W	3/24/2021	33	Simple Linear Regression, Part 1	NZH 0112	Module 10	PS 10
F	3/26/2021	34	Simple Linear Regression, part 2	Online	Module 11	Project 4 Due
M	3/29/2021	35	Simple Linear Regression, part 2	NZH 0112	Module 11	RAT 11
W	3/31/2021	36	Simple Linear Regression, part 2	NZH 0112	Module 11	PS 11
F	4/2/2021	37	Multiple Regression	Online	Module 12	
M	4/5/2021	38	Multiple Regression	NZH 0112	Module 12	RAT 12
W	4/7/2021	39	Multiple Regression	NZH 0112	Module 12	PS 12
F	4/9/2021	40	Midterm 2 Study	Online	Modules 7-12	Project 5 Due
M	4/12/2021	41	Midterm 2 Review	NZH 0112	Modules 7-12	
W	4/14/2021	42	Midterm 2	Online	Modules 7-12	Midterm 2
F	4/16/2021	43	Free-day	--		
M	4/19/2021	44	Make-up day	NZH 0112	Cumulative	RAT 13/PS 13
W	4/21/2021	45	Final Exam Review	NZH 0112	Cumulative	
M	4/26/2021	46	Final Exam (10:00 - 12:00)	Online	Exam Week	Final Exam