

Course Syllabus: AEB 3550
Agricultural Data Analysis

Spring 2019

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

Monday Classroom: McCarty Hall B 3086

Wednesday Classroom: Online (unless stated otherwise)

Friday Classroom: McCarty Hall B G086

Instructor and Contact Information

Dr. Misti Sharp	Email: mistisharp@ufl.edu
Office: 1193 McCarty Hall A	Phone: 352-294-7632
Computer lab hours: Monday from 10:30 – 11:00 (immediately following computer lab class session)	
In-office hours: Monday from 11:00 – 12:35 and Thursday 11:45 – 1:40 and by appointment	
Zoom office hours: Friday from 10:40 – 12:35 (meeting ID: 902 541 919 or +1 646-558-8656) 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.

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: Mr. Jermaine Dunn; 1170 McCarty Hall A; (352) 294-7638;
E-mail: j.dunn@ufl.edu
Office Hours: daily-- 9:00 am – 12:30 pm and 1:30 pm – 4:30 pm

Undergraduate Program Assistant: Ms. Danielle Shu; 1170 McCarty Hall A; (352) 294-7640;
E-mail: dshu@ufl.edu
Office Hours: daily-- 9:00 am – 12:30 pm and 1:30 pm – 4:30 pm

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

Teaching Assistants: Ms. Lauriane Yehouenou; 1172 McCarty Hall A;
E-mail: lyehouenou@ufl.edu
Office Hours: Monday 1:55 pm – 3:50 pm

Ms. Savannah Salter; 1172 McCarty Hall A;
E-mail: savannah.salter@ufl.edu
Office Hours: Monday and Friday 8:15 am – 9:15 am

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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).

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.

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:

- Demonstrate an understanding of descriptive versus inferential statistics;
- Identify different types of data and appropriate statistical methods;
- 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;
- 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 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.
- **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.
- **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.

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Evaluations: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

Resources for disabled students: 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. Requests to the DRC for accommodated exams must be made at least 5 days prior to the exam. Failure to meet this deadline may result in a lack of testing accommodations. All lecture notes will be provided on e-learning after class and lectures may be recorded with prior permission from the professor.

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/>)

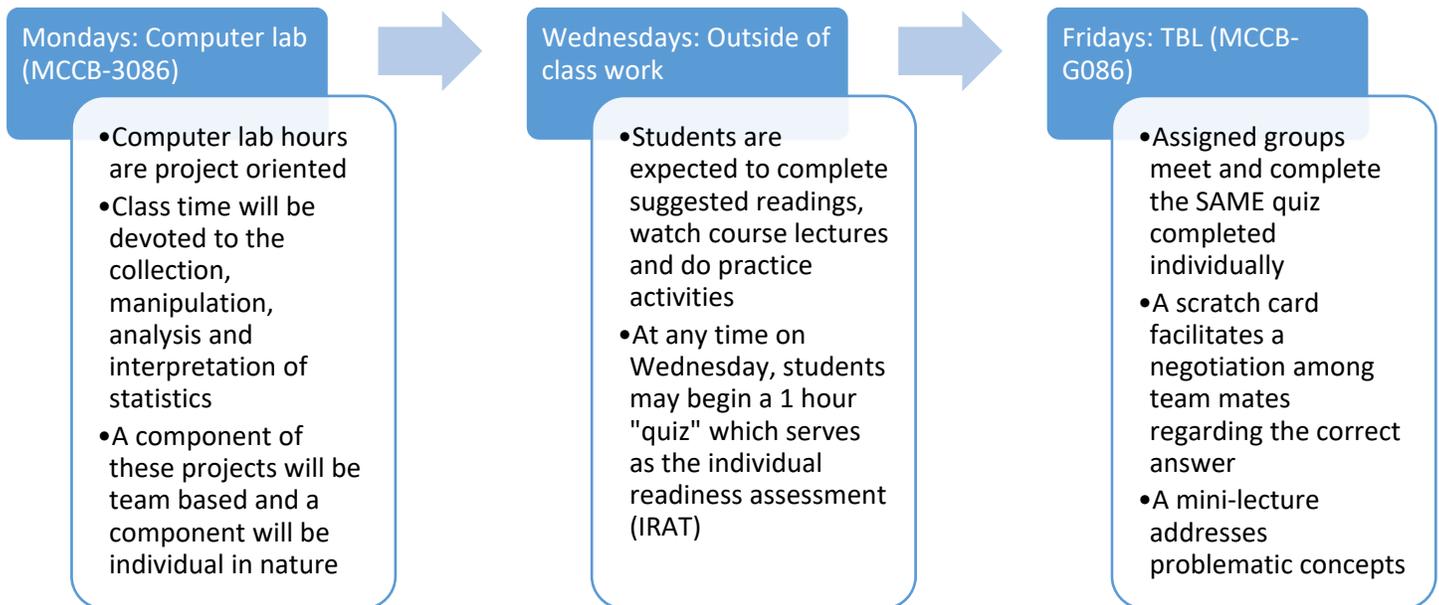
Service	Location	Phone
GatorWell Health Promotions Services (works on time management, etc.) (gatorwell.ufsa.ufl.edu)	1 st Floor, Reitz Union	273-4450
Dean of students (http://www.dso.ufl.edu)	P202 Peabody Hall	392-1261
Counseling and wellness center (http://www.counseling.ufl.edu/cwc/)	2190 Radio Road	392-1575
Sexual Assault Recovery Services (SARS)	Infirmery Building	392-1161
Student health care center (http://shcc.ufl.edu)	Infirmery 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 Integrity: <https://www.dso.ufl.edu/sccr/honorcodes/conductcode.php>

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 (<http://regulations.ufl.edu/wp-content/uploads/2018/06/4.040-1.pdf>) (updated June 7, 2018) 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 or TAs in this class.

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Class Structure: This is considered a “flipped classroom;” more specifically, this class will be taught using “Team Based Learning-TBL,” a highly effective teaching paradigm that uses carefully designed small groups to facilitate learning and exploration of important course concepts (see the following video: <https://www.youtube.com/watch?v=QudVoyiacuw>). This means that students are expected to learn the course materials using multiple modes including a significant amount of outside of the classroom effort. In this classroom, the flow of each week will be as follows:



Course Assignments and Expectations:

Applications of Data Analysis (best 6 of 7): 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 should be typed and thorough. Late submissions will be penalized 5 points per day late (beginning immediately after the deadline). While collaboration is generally allowed on these assignments, you MAY NOT submit someone else’s work as your own. If you collaborate with a peer, you must indicate this collaboration on your assignment. Any unauthorized collaboration will be addressed through the Dean of Students Conflict Resolution process which may result in a grade penalty, course penalty, and remediation related to plagiarism and unethical behavior.

Individual Readiness Assessment Test (IRAT) (Best 10 of 13): Each Wednesday, you are expected to complete an IRAT accessible on e-learning. Once you begin the IRAT, you will have no more than 1 hour to complete the 15 questions. This means that you MUST do the assigned readings and watch the assigned lectures PRIOR to starting the quiz. This IRAT will include multiple choice questions related to assignments, readings and lectures. 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 3 and they are the subject of class on Friday (allowing make-ups would give those students an unfair advantage). It is in your best interest to do all IRATs as it affects your performance AND group dynamics.

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Team Readiness Assessment Test (TRAT) (Best 10 of 13): These will be the same assessment as provided online each Wednesday BUT they will be completed/discussed as a group. You will be scored based on the group performance on the TRAT. If you do not show up for class on Friday, you will receive a zero on your TRAT for that day. There are no excuses for missed TRATs as you get to drop 3 and group work is not possible to redo.

Peer Feedback: There will be a few times in the semester where you will be able to give your colleagues feedback for the team based learning dynamics. This part of your grade will be based on the value of the feedback you provide for your peers as well as your team's assessment of your contribution to the TRATs.

Final Exam: There will be a required cumulative final exam. This exam will be 25 multiple choice questions with space to show your work to earn partial credit for missed questions. This exam is scheduled for Thursday, May 2nd from 3:00 pm – 5:00 pm in the regular classroom (MCCB-G086).

Composition of Final Score:

Course Assignments	Total Points	% of Total
Applications (best 6)	180 points (30 points each)	36%
IRATs (best 10)	150 points (15 points each)	30%
TRATs (best 10)	100 points (10 points each)	20%
Peer Feedback	20 points	4%
Final Exam	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.

****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.**

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.

Course Topics: This course is broken into four main sections: basic statistics review, probability distributions, hypothesis testing and regression analysis. The first part of the course will largely be a review of descriptive statistics which 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 researcher to become familiar with characteristics of the data that will be relevant for higher order inferential analysis. The second and third sections of the course apply inferential statistics to probability distributions. Inferential statistics involves generating, from a limited data set, information about statistical relationships and estimates about a population. The last part of the course takes inferential analysis a step further to look at associations between multiple variables which is a first step in discussing causal or correlative relationships. The course is cumulative in that a firm understanding of distributions and descriptive statistical techniques is a pre-requisite to inferential analysis.

Summary: Lectures and readings are provided online. Your grade is based on individual performance on Projects (Monday; location—MCCB 3086), IRATs (Wednesday; online), in-class TRATs (Friday—MCCB G086), peer feedback (online) and the final exam (May 2nd in MCCB-G086).

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!

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Tentative Course Schedule:

Date	Class #	Lecture	Location	Readings/Video	IRAT	TBL	Lab	Project	Week
1/7/2019	1	Syllabus and Course Expectations	MCCB-G086	Syllabus					1
1/9/2019	2	Data and Statistics	Online	Ch. 1	X				1
1/11/2019	3	Data and Statistics	MCCB-G086	Ch. 1		X			1
1/14/2019	4	Data and Statistics	MCCB-3086	Ch. 1			X		2
1/16/2019	5	Descriptive Statistics: Tabular and Graphical	Online	Ch. 2	X				2
1/18/2019	6	Descriptive Statistics: Tabular and Graphical	MCCB-G086	Ch. 2		X			2
1/21/2019	7	No class--Martin Luther King Day							3
1/23/2019	8	Descriptive Statistics: Numerical Measures	Online	Ch. 3	X				3
1/25/2019	9	Descriptive Statistics: Numerical Measures	MCCB-G086	Ch. 3		X			3
1/28/2019	10	Project 1	MCCB-3086				X	Project 1 due	4
1/30/2019	11	Introduction to Probability	Online	Ch. 4	X				4
2/1/2019	12	Introduction to Probability	MCCB-G086	Ch. 4		X			4
2/4/2019	13	Introduction to Probability	MCCB-3086	Ch. 4			X		5
2/6/2019	14	Discrete and Continuous Probability	Online	Ch. 5, 6	X				5
2/8/2019	15	Discrete and Continuous Probability	MCCB-G086	Ch. 5, 6		X			5
2/11/2019	16	Project 2	MCCB-3086				X	Project 2 Due	6
2/13/2019	17	Sampling and Sampling Distributions	Online	Ch. 7	X				6
2/15/2019	18	Sampling and Sampling Distributions	MCCB-G086	Ch. 7		X			6
2/18/2019	19	Sampling and Sampling Distributions	MCCB-3086	Ch. 7			X		7
2/20/2019	20	Interval Estimation	Online	Ch. 8	X				7
2/22/2019	21	Interval Estimation	MCCB-G086	Ch. 8		X			7
2/25/2019	22	Project 3	MCCB-3086				X	Project 3 Due	8
2/27/2019	23	Hypothesis Testing, the z-test	Online	Ch. 9	X				8
3/1/2019	24	Hypothesis Testing, the z-test	MCCB-G086	Ch. 9		X			8
3/4/2019	25	Spring Break							9
3/6/2019	26	Spring Break							9
3/8/2019	27	Spring Break							9
3/11/2019	28	Hypothesis Testing, the t-test	MCCB-3086	Ch. 9			X		10
3/13/2019	29	Hypothesis Testing, the t-test	Online	Ch. 9	X				10
3/15/2019	30	Hypothesis Testing, the t-test	MCCB-G086	Ch. 9		X			10
3/18/2019	31	Project 4	MCCB-3086				X	Project 4 Due	11
3/20/2019	32	Comparisons Involving Means and ANOVA	Online	Ch. 10	X				11
3/22/2019	33	Comparisons Involving Means and ANOVA	MCCB-G086	Ch. 10		X			11
3/25/2019	34	Comparisons Involving Means and ANOVA	MCCB-3086	Ch. 9, 10			X		12
3/27/2019	35	Comparisons Involving Means and ANOVA	Online	Ch. 10	X				12
3/29/2019	36	Comparisons Involving Means and ANOVA	MCCB-G086	Ch. 10		X			12
4/1/2019	37	Project 5	MCCB-3086				X	Project 5 due	13
4/3/2019	38	Simple Linear Regression	Online	Ch. 12	X				13
4/5/2019	39	Simple Linear Regression	MCCB-G086	Ch. 12		X			13
4/8/2019	40	Simple Linear Regression	MCCB-3086	Ch. 12			X		14
4/10/2019	41	Simple Linear Regression	Online	Ch. 12	X				14
4/12/2018	42	Simple Linear Regression	MCCB-G086	Ch. 12		X			14
4/15/2019	43	Project 6	MCCB-3086				X	Project 6 due	15
4/17/2019	44	Multiple Regression	Online	Ch. 13	X				15
4/19/2019	45	Multiple Regression	MCCB-G086	Ch. 13		X			15
4/22/2019	46	Project 7	MCCB-3086				X	Project 7 due	16
4/24/2019	47	Final Exam Review	Online						16
5/2/2019		Final Exam	MCCB-G086			X			16