

AEDECON 3000
Quantitative Methods in Agribusiness and Applied Economics
Autumn 2022

Course Description

Quantitative methods and their applications to problems in agribusiness and applied economics.

Credit Hours

3 semester hours

Lecture Format

On-site classroom lectures
Parker Food Science Building 114
Mondays & Wednesdays, 9:35-10:55am

Important Dates

First Lecture:	Wednesday, August 24
Labor Day:	Monday, September 5 – No lecture
Midterm Examination:	Wednesday, October 19
Thanksgiving Break:	Wednesday, November 23 – No lecture
Last Lecture:	Wednesday, December 7
Final Examination:	Monday, December 12, 10:00am-11:45am

Instructor

Professor Mario J. Miranda
Agricultural Administration Building 222
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Teaching Assistant

Shiqi Zhang
Agricultural Administration Building 344
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Hours: : Tues. 1-2pm, Thu. 2-3pm, or by appointment.

Normal teaching assistant office hours will be conducted virtually via Zoom. To attend, [click here](#) and enter password: 405202. In-person office hours are also available by appointment, upon request.

Communication

I will generally be available to meet with you virtually via CarmenZoom between 9am and 5pm on Tuesdays and Thursdays by appointment, or on other days or in person if necessary. If you wish to meet, simply schedule a one-half hour Zoom chat and email me an invitation at least 3 hours before the desired meeting start time. At my earliest opportunity, I will confirm our meeting via email, unless it conflicts with another meeting, in which case I will get back to you to re-schedule.

Questions pertaining to problem sets or potential errors in the Carmen gradebook should be directed to the teaching assistant first.

Prerequisites

MATH 1130, College Algebra for Business, and either AEDECON 2001, Principles of Food and Resource Economics, or ECON 2001, Principles of Microeconomics, or equivalent.

Objectives

Successful students will have the ability to formulate, solve, and analyze foundational problems in agribusiness and applied economics employing basic quantitative techniques. Students can meet the learning outcomes by attending all lectures, mastering the material covered in lectures, completing all assigned homework sets, and thoroughly preparing for the midterm and final examinations.

Textbooks/Readings

No textbook is required. The overheads presented in lecture and posted on Carmen constitute the textual material for the course. Students wishing to supplement these materials by referencing a published textbook may wish to consider *Intermediate Microeconomics: A Modern Approach, 8th Edition* by Hal Varian. ISBN-13: 978-0393934243.

Lecture Overheads

A preliminary version of the lecture overheads for each section of the course will be posted on Carmen no later than 24 hours prior to the start of coverage of that material. A final version of the lecture notes will be posted on Carmen no later than 48 hours after the conclusion of coverage of that material.

Course Technology

In order to take the course, you will need a personal computer with Microsoft Excel installed. Your installation of Excel should be able to load and run the Solver add-in. Instructions for loading Solver in Excel can be found by clicking [here](#). Unfortunately, the Excel Solver add-in is not supported for iPads. If you regularly use an iPad, you will need to secure access to an alternate personal computer, or otherwise use your iPad to access Microsoft Office On-Line,

which is freely available through our university site license. You are expected to bring your portable computers and iPads to lecture, as we will occasionally perform short exercises in class with Excel.

Course materials will be posted on Carmen. You will need to use BuckeyePass multi-factor authentication to access the course Carmen website. For help with your password, university email, Carmen, BuckeyePass or any other technology issues, contact the IT Service Desk at 614-688-4357 (HELP).

Homework Assignments

Students will be assigned six (6) problem sets during the semester. Each problem set will be posted on Carmen no later than one week before it is due.

Your homework grade for the class will be based on the top five scores you receive on the six homework assignments. Although you may choose not to submit one homework assignment without penalty, you are strongly encouraged to complete all assignments in order to master the course material and adequately prepare for examinations.

Answers to problems sets are due at 11:59pm on the announced due date. Answers submitted late will suffer a 20% deduction for every day or portion thereof that they are late. Homework answers submitted more than 72 hours late will not be accepted. Exceptions to these rules will be considered on a case by case basis and will be granted only under exigent circumstances that can be supported by documentation if requested.

Homework assignment answers must be submitted via Carmen in electronic format (e.g., MS Word) or as a graphic image produced from a scan of handwritten answers, provided the answers are clearly legible.

Examinations

A midterm examination will be administered during the regularly scheduled lecture period on Wednesday, October 19. The examination will cover material introduced in lectures and homework assignments through Wednesday, October 12.

A final examination will be administered in our regular classroom, Parker Food Science Building 114, during Examination Week, on Monday, December 12, 10:00am-11:45am. The final examination will be comprehensive and cover material introduced in lectures and homework assignments during the entire semester.

Attendance Policies

Attending lectures is critical to success in this class. Lectures provide a forum for interactive discussion of important concepts and methods covered in the course. During lectures, the instructor will randomly pose questions to students individually to test how effectively key concepts are being conveyed by the instructor and are being understood by students.

A portion of your grade will be based on the frequency with which you attend lectures. Students will be allowed up to 4 absences for any reason. Students who miss more than 4 lectures without a documented excuse will see a 1% deduction in their final course grade for each such absence, up to a maximum of 10% of their final course grade.

We will be using Top Hat to take attendance at every lecture. I will send you an email prior to the start of classes inviting you to join the Top Hat site for our course, AEDE 3000 AU22. You will be given directions there on how to register as a participant in the class using the Top Hat Join Code **061155** and password **AEDE3000au22**. If you miss that email or enroll the class late in week one, you can simply navigate to www.TopHat.com, click “Sign Up” and follow instructions. When you register, you will be given instructions on how to upload the Top Hat app on your cell phone or tablet. If you need assistance, please contact [support@Top Hat.com](mailto:support@TopHat.com) or the course Teaching Assistant.

When you arrive at class, the Top Hat code for attendance that day will be posted on the screen or the whiteboard in the front of the room. You will use your cell phone or tablet to enter the code into Top Hat in order to record your attendance. Sharing the code for attendance is not permitted. If you do not have your cell phone or tablet with you or arrive late and after I have closed Top Hat, just sign in with me after the conclusion of class.

Evaluation

Your final course grade will be based on the following weights

Category	Percentage of Course Grade
Homework Assignments (top 5)	25%
Midterm Examination	25%
Final Examination	40%
Attendance	10%

and your final course grade will be determined as follows

Percentage	Grade	Percentage	Grade	Percentage	Grade
93-100	A	80-82.9	B-	67-69.9	D+
90-92.9	A-	77-79.9	C+	60-66.9	D
87-89.9	B+	73-76.9	C	<60	E
83-86.9	B	70-72.9	C-		

The midterm and final examinations will be initially graded on a 0-100 scale. However, only the percentage contribution to your final grade will be recorded in the Carmen gradebook. Thus, if you receive a score of 100 on the midterm, 25% will be recorded in the Carmen gradebook, and if you receive an 80 on the final examination, a 36% will be recorded.

Each homework assignment will be graded on a 0-10 point scale. However, only the percentage contribution to your final grade will be recorded in the Carmen gradebook. Each homework assignment accounts for 5% of your final course grade. Thus, if you receive a grade of 10 on a homework, 5% will be recorded in the Carmen gradebook and if you fail to turn in a homework assignment, 0% will be recorded in the Carmen gradebook. However, only the top five grades received on your homework sets will count toward your overall course grade.

Course Topics

1. Basic Algebra
2. Graphs and Functions
3. Linear Algebra
4. Financial Mathematics
5. Derivatives and Optimization
6. Linear Programming
7. Integer Programming
8. Other Topics

University, College and Departmental Policies

Academic Misconduct

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. All students are expected to have read the Ohio State University Code of Student Conduct, and to comply with its provisions. The Code of Student Conduct defines academic misconduct as any activity that tends to compromise the academic integrity of the University or subvert the educational process. If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct, the sanctions for could include a failing grade in this course and suspension or dismissal from the University.

Disability Accommodations

The university strives to make all learning experiences as accessible as possible. If you anticipate barriers to your success in the course based on a disability (including mental health, chronic, or temporary medical conditions), please contact Student Life Disability Services: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Diversity and Discrimination

The Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy, race, religion, sex, sexual orientation, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

Members of the university community have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation. To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity.

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are documented at <https://go.osu.edu/principlesofcommunity>. For additional information on diversity, equity, and inclusion, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>).

Grievances

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning by speaking first with the instructor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Mental Health

Mental health concerns or stressful events can lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292- 5766. CCS is located on the 4th Floor of the Younkun Success Center and 10th Floor of Lincoln Tower.

Safety and Health

All students, faculty and staff are required to comply with and stay informed university safety and health guidance (<https://safeandhealthy.osu.edu>). Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

Copyright

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.