

Course Information

Course Information

Course Number: AGEC 622
Course Title: Agribusiness Analysis and Forecasting
Section: 600
Time: Tuesday & Thursday, 12:45 to 02:00 pm
Location: AGLS 111ABC
Credit Hours: 3

Instructor Details

First Half (Linear Programming)

Instructor: Chengcheng Fei
Office: AGLS 375
E-Mail: Chengcheng.fe@ag.tamu.edu
Office Hours: Monday & Wednesday, 2:00-3:30 pm or by appointment

Lab Instructor & TA: Jingyi Liu

Office: AGLS 361
E-Mail: jingyi@tamu.edu
Office Hours: Monday, 10:00 am to 12:00 pm

Second Half (Forecasting and Simulation)

Instructor: Aleks Maisashvili
Office: AGLS 353
E-Mail: aleks@tamu.edu
Office Hours: Monday & Wednesday, 9:30 to 11:00 am

Course Description

Design, construction, use, and evaluation of simulation, forecasting, and optimization models to solve applied problems confronting decision-makers in agribusiness.

Course Prerequisites

AGEC 621 or approval of instructor.

Course Learning Outcomes

Upon completion of the course, students will be able to:

- Identify economics and business problems that can be analyzed using optimization, forecasting, and simulation approaches
- Design and build complex optimization, forecasting, and simulation models
- Interpret output from constructed models for economics and business decision-making

Textbook and/or Resource Materials

- Man-Keun Kim, Bruce A. McCarl, and Thomas H. Spreen, Applied Mathematical Programming: link https://digitalcommons.usu.edu/oer_textbooks/6/
- Richardson, J.W. Simetar reference materials: <https://simetar.com/wp-content/uploads/2021/03/Simetar-2011-Users-Manual.pdf>
- Many materials for the second half of the course will appear on this web page: <https://www.afpc.tamu.edu/courses/622/>

Grading Policy

Your total point score in this course is comprised of the following elements:

- LP iClicker Quiz 10%
- LP group homework 15%
- LP exam 25%
- Forecasting and simulation exercises 25%
- Forecasting and simulation exam 25%

Your final letter grade for the course is determined by your total point score according to the following schedule:

- A: points ≥ 90
- B: $80 \leq \text{points} < 90$
- C: $70 \leq \text{points} < 80$
- D: $60 \leq \text{points} < 70$
- F: points < 60

Notes:

- LP iClicker grade is calculated as the average percentage score of quizzes after removing the **lowest 3 quizzes** (in percentage).
- Teamwork is encouraged for LP homework. No more than 3 students can work as one group on LP homework. An equal score will be given to all team members. The students can reassemble the team at any time.
- 1-page cheat sheet (double-sided letter size paper) is allowed for the LP exam.

Late Work Policy

Late work will not be accepted (note that makeup work associated with an **excused** absence is not considered late, per *Student Rule 7*).

Course Schedule

The **first 7 weeks** will be devoted to the fundamentals of linear programming (LP). Emphasis is on constructing, solving, and interpreting different mathematical programming models for business decision-making and risk analysis. Microsoft Excel will be used as an analysis tool and solver, but it is not the focus of this course.

Weeks 8 through 10 will focus on different quantitative techniques for forecasting economic data. Emphasis will be on developing forecasts for making better economic decisions in a business context.

Weeks 11 through 16 of the semester are devoted to the fundamentals of risk analysis and decision analysis using simulation. Emphasis is on constructing, validating, and using stochastic simulation models to incorporate risk into business decision making. The Simetar© Add-In will be used extensively for this section of the course.

The forecasting and simulation portions of the course will be taught using a “flipped” approach. You will be responsible for watching lecture videos **before** each class meeting, and during class times, you will work on exercises with the benefit of immediate help and feedback.

Important dates:

- January 13: first day of class
- January 17: Last day to add/drop classes
- January 20: Martin Luther King, Jr. Day, No class.
- **February 27 (Thursday): LP exam**
- March 4: Forecasting and simulation portion of class begins
- March 10-14: no class (spring break)
- April 24: last regular class meeting
- May 6: Forecasting and simulation exam, 8:00 - 10:00 am

Other Course Information Items

Students need to set up the iclicker account using the link sent to you by the first day of class.

Excel and the built-in solver will be used for the first half of the course. In the lab session, you will learn how to install and use the solver to solve mathematical programming problems.

An Excel Add-In, named Simetar[©], will be used for the second half of the course. Simetar[©] is available on the computers in the Department’s graduate lab, in all Open Access Lab computers, and via the virtual Open Access Lab (link). Also, Simetar[©] download instructions will be given to you in class so you may load it on your personal and work computers. This latter option requires a local installation of Microsoft Excel (not a cloud/subscription version) running on Microsoft Windows.

University Policies

This section outlines the university level policies. The TAMU Faculty Senate established the wording of these policies.

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to Student Rule 7 in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the instructor.

Please refer to Student Rule 7 in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" (Student Rule 7, Section 7.4.1).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" (Student Rule 7, Section 7.4.2).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See Student Rule 24.)

Academic Integrity Statement and Policy

"An Aggie does not lie, cheat or steal, or tolerate those who do."

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" (Section 20.1.2.3, Student Rule 20).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see University Rule 08.01.01.M1):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, you will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with Counseling and Psychological Services (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's Title IX webpage.

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall well-being. Students are encouraged to engage in proper self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00

p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline

College and Department Policies

College and departmental units may establish their own policies and minimum syllabus requirements. As long as these policies and requirements do not contradict the university level requirements, colleges and departments can add them in this section.

Click **here** (<https://facultysenate.tamu.edu/Quick-Links/Minimum-Syllabus-Requirements>) for more information on Texas A&M University's new syllabus requirements.