QUANTITATIVE FOOD AND AGRICULTURAL POLICY ANALYSIS

AGEC 56203

FALL 2024

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Meeting Times and location
Tuesday and Thursday 8:00 – 9:15 AM
Room AGRI 0332

Office hours
 2:00-4:00 PM Tuesday and Thursday
or by appointment

Course description
Introduction to applied quantitative analysis of agricultural policies. Students will learn first-hand how to organize and conduct agricultural policy research analysis using mathematical programming. Students will learn the basics of coding in GAMS (*General Algebraic Modeling System*).

This course syllabus/outline is subject to change throughout the semester. Materials for this course can be found on Blackboard. You can access Blackboard at http://learn.uark.edu.

Computer and internet access: this is a hands-on course in which students will learn policy modeling by building models and analyzing the results. Hence, having access to a computer is essential.

Recommended Text: there are numerous books that cover the topics developed in this course. Some of the recommended books include:

Takayama, T., and G.G. Judge. 1971. Spatial and Temporal Price and Allocation models. North-Holland Publishing Company. Amsterdam, London.
Francois, J.F., and K.A. Reinert. 1997. Applied Methods for Trade policy Analysis: a Handbook. Cambridge University Press. Cambridge, U.K.

VII. Student evaluation

Table 1. Estimation of final grade for the class

Class Component	Contribution to Final Grade
Homework	50%

Final research project	50%

Table 2. Grading system

Points	Final Grade
90-100	A
80-89	B
70-79	C
60-70	D
<60	F

VIII. Class Attendance, Office Hours, Disabilities, and Course revisions

Attendance is expected, as class interaction is one of the best ways to learn and challenge our thoughts. Please come ready to participate. If you expect to miss a class please inform the instructor beforehand.

Disabilities. If you need to request accommodations for this class due to a disability, you must first register with the Center for Students with Disabilities (CSD) and hand-deliver an official Accommodation Letter from the CSD to me during my office hours or after class.

Inclement Weather Policy. This course will follow University policy regarding class cancelation if the University is closed. Class periods will be rescheduled to avoid you missing course material or an exam. If an exam if being given, a student who is unable to get to class because of inclement weather will be given the opportunity to make up the exam or take the score received for the final exam as a proxy for the missed exam.

Academic Honesty/Integrity. As a core part of its mission, the University of Arkansas provides students with the opportunity to further their educational goals through programs of study and research in an environment that promotes freedom of inquiry and academic responsibility. Accomplishing this mission is only possible when intellectual honesty and individual integrity prevail. Each University of Arkansas student is required to be familiar with and abide by the University's 'Academic Integrity Policy' which may be found at http://provost.uark.edu/. Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

Use of Generative Artificial Intelligence (AI). The use of generative artificial intelligence tools in any capacity while completing academic work that is submitted for credit, independently or collaboratively, **will be considered academic dishonesty in this course** and reported to the Office of Academic Initiatives and Integrity.

Syllabus Updates. The instructor reserves the right to revise this syllabus/outline during the course of the semester with adequate notice to the students.

Table 3.Course outline.

Section 1

Introduction to food and agricultural policies
Introduction to mathematical programming
      Linear programming
      Integer programming
      Quadratic programming
      Nonlinear programming
Introduction to GAMS

Section 2
Linear programming models   Linear distribution models
Section 3
Spatial price equilibrium models
Section 4

Overview of other policy analysis methods
      Input-output models
      General equilibrium models
      Gravity models
      Household models

Section 5
Class presentations – final project