AGRICULTURAL ECONOMICS 662
AGRICULTURAL RISK ANALYSIS

COURSE SYLLABUS

Summer 1996

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Course Description:

This course presents a survey of risk analysis methods and their application in agricultural economics research. The first topic covered includes theoretical formulations for individual risk response. Then attention is turned to the development of probability distributions. Third, methods for resolving risky choices in agricultural production, marketing and policy decisions are reviewed. Finally attention is turned to the development of measures of risk preference.

This course is intended to be much more literature and student-effort based than most courses. Reading of required material and classroom discussion are required, with an attempt to reduce reliance on the lecture format. Required readings are marked with an asterisk.

GRADING

Midterm and final exams will be given. The midterm will count for 40% of the grade, the final for 40%. Homework assignments and class participation will comprise 20% of the grade.
Course Outline, Readings and List of Resource Materials:

**Section 1 -- Theoretical Foundations of Risk Analysis**


**Section 2 -- A Firm's Optimal Choices Under Price and Output Uncertainty**


**Section 3 -- Applications of Firm's Optimal Choice**


Section 4 -- Probability Distribution Description

Topic One: Types of Distributions

Conditional vs Unconditional
Full Distribution vs Moment Based
Conditional on Discrete Events or a Continuous Level of a Decision Variable
Known, Unknown Distribution Form
Discrete, Continuous

Topic Two Formation of Distributions

A. Objective, Unconditional Distributions


1) Historical, Unwhitened


2) Historical, Whitened


B. Objective, Conditional Distributions


C. Subjective

* Spetzler, C.S. and Carl-Axel Stael von Holstein. "Probability Encoding in


D. Simulated


Section 5 -- Resolving Decisions Among Risky Alternatives

A. Decision Theory


B. Mathematical Programming


C. Stochastic Efficiency Criteria and Analysis


D. Breakeven Stochastic Efficiency Criteria and Analysis


Section 6 -- Estimation of Risk Preferences

A. Interview Based Measurement of Risk Preferences


B. Revealed Preference Measurement (Required Readings to be Announced)


C. Size and Interpretation of Risk Preferences