

The Ohio State University
Colleges of the Arts and Sciences New Course Request

Economics

Academic Unit

ECON

Book 3 Listing (e.g., Portuguese)

819 Economic Behavior under Uncertainty

Number Title

Ecn Behavior Uncer

G

05

18-Character Title Abbreviation

Level

Credit Hours

Summer x Autumn Winter Spring Year 2007

Proposed effective date, choose one quarter and put an "X" after it; and fill in the year. See the OAA curriculum manual for deadlines.

A. Course Offerings Bulletin Information

Follow the instructions in the OAA curriculum manual. If this is a course with decimal subdivisions, then use one New Course Request form for the generic information that will apply to all subdivisions; and use separate forms for each new decimal subdivision, including on each form the information that is unique to that subdivision. If the course offered is less than a quarter or a term, please complete the Flexibly Scheduled/Off Campus/Workshop Request form.

Description (*not to exceed 25 words*):

Axiomatic approaches to economic behavior under uncertainty, classical expected utility paradigm, subjective probability, and behavioral theory of economic choice under uncertainty.

Quarter offered: Summer Distribution of class time/contact hours: 108 mins per class meeting, meeting 20 times

Quarter and contact/class time hours information should be omitted from Book 3 publication (yes or no): Yes

Prerequisite(s): Economics 804, 805, and 808, or equivalent of the first-year graduate microeconomics sequence with instructor consent.

Exclusion or limiting clause:

Repeatable to a maximum of 10 credit hours.

Cross-listed with: N/A

Grade Option (Please check): Letter S/U Progress What course is last in the series? _____

Honors Statement: Yes No

GEC: Yes No

Admission Condition

Off-Campus: Yes No

EM: Yes No

Course: Yes No

Embedded Honors Statement: Yes No

Other General Course Information: Letter grade *unless* Director of Graduate Studies in Economics approves S/U. (e.g. "Taught in English." "Credit does not count toward BSBA degree.")

B. General Information

Subject Code 450601 Subsidy Level (V, G, T, B, M, D, or P) D

If you have questions, please email Jed Dickhaut at dickhaut.1@osu.edu.

1. Provide the rationale for proposing this course: This course provides a systematic review and introduction to research topics in economic modeling of behavior under uncertainty. This course is complementary to courses in game theory, economics of information, and economics of mechanism design.

2. Please list Majors/Minors affected by the creation of this new course. Attach revisions of all affected programs.
 This course is (check one): Required on major(s)/minor(s) A choice on major(s)/minors(s)
 An elective within major(s)/minor(s) A general elective:
 N.A.

3. Indicate the nature of the program adjustments, new funding, and/or withdrawals that make possible the implementation of this new course.
 N.A.

4. Is the approval of this request contingent upon the approval of other course requests or curricular requests?
 Yes No List:

5. If this course is part of a sequence, list the number of the other course(s) in the sequence: N.A.



6. Expected section size: 20 Proposed number of sections per year: 1

7. Do you want prerequisites enforced electronically (see OAA manual for what can be enforced)? Yes No

8. This course has been discussed with and has the concurrence of the following academic units needing this course or with academic units having directly related interests (*List units and attach letters and/or forms*):
 Not Applicable
 Concurrence pending from Department of Agricultural, Environmental and Developmental Economics;
 Department of Finance; Department of Statistics; and Department of Mathematics.

9. Attach a course syllabus that includes a topical outline of the course, student learning outcomes and/or course objectives, off-campus field experience, methods of evaluation, and other items as stated in the OAA curriculum manual and e-mail to ascurofc@osu.edu.

Approval Process The signatures on the lines in ALL CAPS (e.g. ACADEMIC UNIT) are required.

1. Academic Unit Undergraduate Studies Committee Chair	Printed Name	Date
	Hajime Miyazaki	03/26/07
2. Academic Unit Graduate Studies Committee Chair	Printed Name	Date
	Masanori Hashimoto	03/26/07
3. ACADEMIC UNIT CHAIR/DIRECTOR	Printed Name	Date
4. After the Academic Unit Chair/Director signs the request, forward the form to the ASC Curriculum Office, 105 Brown Hall, 190 West 17 th Ave. or fax it to 688-5678. Attach the syllabus and any supporting documentation in an e-mail to ascurofc@osu.edu . The ASC Curriculum Office will forward the request to the appropriate committee.		
5. COLLEGE CURRICULUM COMMITTEE	Printed Name	Date
6. ARTS AND SCIENCES EXECUTIVE DEAN	Printed Name	Date
7. Graduate School (if appropriate)	Printed Name	Date
8. University Honors Center (if appropriate)	Printed Name	Date
9. Office of International Education (if appropriate)	Printed Name	Date
10. ACADEMIC AFFAIRS	Printed Name	Date

Date: Fri, 06 Apr 2007 15:48:14 -0400
From: Doug Wolfe <daw@stat.osu.edu>
Subject: Concurrence on Econ 819
To: miyazaki.1@osu.edu, Hashimoto.1@osu.edu
X-Mailer: Apple Mail (2.752.3)
X-MIMEDefang-Relay-89167b66339720c294cd81d33948afd6488b114f: 128.146.6.30
X-Spam-Score: 0.00 () [Tag at 4.50]
X-CanItPRO-Stream: 11_tagonly_no_subject
X-Canit-Stats-ID: Bayes signature not available
X-Scanned-By: CanIt (www.roaringpenguin.com) on 128.146.216.89
X-Authentication-warning: defang8.it.ohio-state.edu: defang set sender to
<daw@stat.osu.edu> using -f

Dear Hajime and Masanori,

The signed concurrence form from the Department of Statistics in support of your proposed course Econ 819 is in the Campus Mail to the ASC Curriculum office. Good luck with the course--it might be of interest to a few of our graduate students.

Doug

Doug Wolfe
Professor and Chair
Department of Statistics

**The Ohio State University
Colleges of the Arts and Sciences Concurrence Form**

The purpose of this form is to provide a simple system of obtaining departmental reactions to course requests. A letter may be substituted for this form.

An academic unit initiating a request should complete Section A of this form and send a copy of the form, course request, and syllabus to each of the academic units that might have related interests in the course. Initiating units should be allowed two weeks for responses.

Academic units receiving this form should respond to Section B and return the form to the initiating unit. Overlap of course content and other problems should be resolved by the academic units before this form and all other accompanying documentation may be forwarded to the Office of Academic Affairs.

A. Information from the academic unit *initiating* the request

Department of Economics 3/26/07

 Initiating Academic Unit Date

Economics

 Book 3 Listing (e.g., Portuguese)

819 Economic Behavior under Uncertainty G 5

Course Number Title Level Credit Hours

Type of Request (Circle): New Course Course Change Course Withdrawal Other

Department of Finance

 Academic unit asked to review the request

April 16, 2007

 Date response is needed (within two weeks of above date)

B. Information from the academic unit *reviewing* the request should include a reaction to the proposal, including a statement of support or non-support (continued on the back of this form or a separate sheet, if necessary).

Happy to support!

Signatures

Anil K. Markhija

1.	Name <i>ANIL K. MARKHISA</i>	Position <i>Dept. Chair, Dept. of Finance, Fisher College of Bus.</i>	Unit <i>Fisher College of Bus.</i>	Date
2.	Name	Position	Unit	Date
3.	Name	Position	Unit	Date

ECONOMICS 819: ECONOMIC BEHAVIOR UNDER UNCERTAINTY

Course Abstract: Axiomatic approaches to economic behavior under uncertainty, scope, limits and extensions of classical expected utility paradigm, subjective probability and its extensions, and behavioral theory of economic choice under uncertainty.

Prerequisites: Economics 804, 805 and 808, or equivalent of the first-year graduate microeconomics sequence with instructor consent.

Listing (G) for graduate course only

Credit Hours 5

Lectures: 20 class meetings, each meeting 108 minutes

Grade Letter Grade or S/U with the approval of Economics Director of Graduate Studies

Instructor: Professor David Schmeidler
Email dschmeid@ecolan.sbs.ohio-state.edu
Office: 439 Arps Hall. (292-1148)
Office Hours: MW: 1:30-3:18PM. (tentative)
Classroom TBA

Course Objective: This course provides a systematic review and introduction to research topics in economic modeling of behavior under uncertainty. This course is complementary to courses in game theory, economics of information, and economics of mechanism design. Students are expected to possess the technical level of David Kreps' textbook, *A Course in Microeconomic Theory*, Princeton University Press, 1990, ISBN: 0-691-04264-0. Familiarity with measure theory and integration is helpful but not required. Emphasis is on, but not limited to, axiomatic approaches to economic behavior under uncertainty. The course will review the scope, limits and extensions of the expected utility paradigm; examine the notion of subjective probability; and investigate behavioral theories of economic choice under uncertainty. Contributions by de Finetti, von Neumann and Morgenstern, Savage, Allais, Ellsberg, Kahneman and Tversky, Schmeidler and others will be covered.

Course Requirements: Occasional Homework (35%), In-class Presentation (30%), and Final Exam (35%). Depending on the size and composition of students, the occasional home work may be replaced by a Term Paper (35%).

Academic Misconduct: It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed;

illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (http://studentaffairs.osu.edu/info_for_students/csc.asp).

READINGS

Anscombe, F. J., and R. J. Aumann, "A Definition of Subjective Probability," *The Annals of Mathematical Statistics*, 34 (1963), 199-205.

De Finetti, B., "La Prevision: Ses Lois Logiques, Ses Sources Subjectives," *Annales de l'Institut Henri Poincare*, 7 (1937), 1-68.

Dempster, A.P., "A generalization of Bayesian inference," *Journal of the Royal Statistical Society, Series B* 30 (1968), 205-247.

Ellsberg, D. "Risk, Ambiguity and Savage Axioms," *Quarterly Journal of Economics*, 75 (1961), 643-669.

Gigerenzer, Gerd, "How to Make Cognitive Illusions Disappear: Beyond Heuristics and Biases", *European Review of Social Psychology*, 1991

Gilboa, I. And D. Schmeidler, "Maximin expected utility with a non-unique prior", *Journal of Mathematical Economics*, 18 (1989), 141-153.

Gilboa, I. and D. Schmeidler, "Updating ambiguous beliefs", *Journal of Economic Theory*, (1993), vol. 59, 33-49.

Gilboa, I. and D. Schmeidler. *A Theory of Case-Based Decisions*. Cambridge University Press (2002).

Kahneman, D., and Tversky, A. "Prospect theory: an analysis of decisions under risk", *Econometrica*, 1979, 47, 313-327.

Kahneman, D., and Tversky, A. On the reality of cognitive illusions: A reply to Gigerenzer's critique. *Psychological Review*, 103, 1996. 582-591.

Kreps, D. *Notes on the Theory of Choice*, Westview Press, (1988), the essential portion of this monograph included in Kreps' textbook *A Course in Microeconomic Theory* (1990).

Savage, L. J. *The Foundations of Statistics*, Wiley (1954), New York.

Schmeidler, D. "Subjective probability and expected utility without additivity"

Econometrica 57 (1989), 571-587.

Shafer, Glenn. *A Mathematical Theory of Evidence*. Princeton University Press (1976).

Tversky, A., and Kahneman, D. "The framing of decisions and the psychology of choice", *Science*, 1981, 211, 453-8.

Tversky, Amos. and Kahneman, Daniel, "Judgment under uncertainty: heuristics and biases", *Science*, (1974), 185, 1124-31.

Von Neumann, J., and O. Morgenstern. *Theory of Games and Economic Behavior*, 2nd Ed. Princeton University Press (1947).

COURSE OUTLINE

In each block of lecture topics, students will prepare and present referee reports of noteworthy articles from relatively recent publications in economic journals. The instructor selects and assigns articles to present in consultation with individual students.

Class Meetings 1-2

Outline of Decision Theory

- Uncertainty, ambiguity and risk
- Subjective probability
- Expected utility
- Attitude toward risk

Class Meetings 3-5

From Qualitative To Quantitative Probability

- Axioms by de Finetti
- Counterexamples
- Nonatomicity
- Savage's subjective probability

Class Meetings 6-8

von Neumann-Morgenstern Expected Utility

- Lotteries and preferences
- Axiomatic methods
- Expected utility theorem
- Expected utility in the horse-lotteries model

Class Meetings 9-11

Savage's Subjective Expected Utility

- Acts and preferences

- Savage's axioms
- Outline of the results
- Ellsberg paradox

Class Meetings 12-14
Nonadditive Probabilities

- Anscombe-Aumann model
- Co-monotonic acts and co-monotonic independence
- Nonadditive expected utility

Class Meetings 15-17
Multiple Priors

- Ambiguity aversion
- Constant-independence
- Maxmin expected utility

Class Meetings 18-20
Updating Ambiguous Beliefs

- Demster-Shaffer model
- Axiomatic approaches
- Rationality of decision-makers
- Concluding remarks

Any student who needs an accommodation based on the impact of a disability should contact the instructor as soon as possible, to discuss ways to meet his or her special needs. Such students should also contact the OSU Office for Disability Services (292-3307).