LONG SIGNATURE SHEET

UNCCHARLOTTE

Proposal Number: ECON 02-27-09b

Proposal Title Establishment of a Graduate Course in

Game Theory and Experimental Economics

Originating Department Economics

TYPE OF PROPOSAL: UNDERGRADUATE_____ GRADUATE__✓___ UNDERGRADUATE & GRADUATE____

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
	2-27-09	3-11-09	Approved	**DEPARTMENT CHAIR** Richal A. Zuler
	3-11-09	3-22-09	Approved	**COLLEGE CURRICULUM COMMITTEE CHAIR**
				TEACHER EDUCATION COMMITTEE CHAIR (Teacher Education Program proposals only)
				COLLEGE FACULTY CHAIR
3-23-09	3-27-09	3-30-09	Approved	**COLLEGE DEAN**
				UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR (for undergraduate courses)
				GRADUATE COUNCIL CHAIR (for graduate courses)
				FACULTY GOVERNANCE SECRETARY (noting Faculty Council approval on Consent Calendar)
				FACULTY EXECUTIVE COMMITTEE (if decision is appealed)

Revised 4/08/03
OAA/jdp

University of North Carolina at Charlotte   ECON 02-27-09b

New Graduate Course Proposal

Course and Curriculum Proposal from the Department of Economics

Establishment of a Graduate Course in Game Theory and Experimental Economics

A. Proposal Summary and Catalog Copy

1. Summary
    The Department of Economics proposes to add a graduate level course in Game Theory and Experimental Economics as part of the MS Econ program.

2. Proposed Catalog Copy

ECON 6206. Game Theory and Experiments. (3) Prerequisite: Permission of the graduate program coordinator. The focus of the course will be on game theoretic analysis and the experimental methodology which can be used to test game theoretic models. The primary topics in game theory covered will be static games with complete information, dynamic games with complete information, static games with incomplete information, and dynamic games with incomplete information. Some topics will be introduced by way of an economic experiment, and the experiment will be followed by a rigorous analysis of the game theoretic solution to the game. The latter part of the course will focus on how to design economic experiments as a means of testing the predictions of game theoretic models. *(Spring)*

B. Justification

1. This will be an elective course in the MS Econ program. Over the past 15 years multiple Nobel prize awards in Economics have been given for the development of game theoretic techniques (1994 – Harsanyi, Nash, and Selten; 2005 – Aumann and Schelling; 2007 – Hurwicz, Maskin, and Myerson) and experimental methods to study economics (2002 – Kahneman and Smith). Given that no course in the MS Economics program currently provides for a concentrated focus on game theory or experimental economics, this course fills a gap in the program and will improve the quality of the program.

2. Permission of the graduate program coordinator.

3. The 6000 level designation is consistent with the courses that are approved for graduate credit. Restricted to graduate students.

4. As stated in part 1, this course fills a gap in the MS Economics program.

C. Impact

1. The course will serve all students in the MS Economics program as well as the MS in Math Finance and graduate students in Finance, Mathematics, and Statistics

2. What effect will this proposal have on existing courses and curricula?
    a. This course will be offered once per year in the spring.
    b. Its availability will not interfere with other offerings but it may draw some students from other elective courses.
    c. The anticipated enrollment is expected to be between 10-15 students.
    d. Its availability will not interfere with other offerings but it may draw some students from other elective courses.
    e. The course has been taught twice under special topics numbers. The first time, in Spring 2007, the course had 2 students enrolled. The second time, in Spring 2008, the course had 10 students enrolled.
    f. Only the listing of Economics graduate courses will be affected.

D. Resources Required to Support Proposal

1. Personnel
    a. No new faculty lines are required to offer the course.
    b. Current graduate faculty members who are qualified to teach it include: Dmitry Shapiro, Arthur Zillante

2. Physical Facility
   The current facilities are adequate.

3. Equipment and Supplies
   Current equipment and supplies are adequate.

4. Computer
   Current computer resources are adequate.

5. Audio-visual
   Current audio-visual resources are adequate.

6. Other resources
   None.

7. Sources of funding
   N/A

E. Consultation with the library and other departments or units

1. Library Consultation
   The J. Murray Atkins Library was consulted regarding general adequacy in Game Theory and Experimental Economics.

2. Consultation with other Departments
   As this course will serve the Master of Science in Economics program and the Master of Science in Mathematical Finance program, the curriculum and objectives for this course were determined in consultation with the Department of Finance, the MSMF coordinator, and the Department of Mathematics and Statistics. Letters of support are attached.

F. Initiation and Consideration of the Proposal

1. Originating unit: Department of Economics, The Belk College of Business, UNC Charlotte.

The Economics Department approved this course on February 27, 2009.

2. Other considering units - None

3. Council on general education: n/a

G. Attachments

1. Library consultation

2. Sample syllabus

3. Letters of Support

TO: PROF. ZUBER, DEPT. OF ECONOMICS

FROM: JEANIE M. WELCH, BUSINESS REFERENCE LIBRARIAN

DATE: DEC. 16, 2008

SUBJ: ECON 6206 GAME THEORY AND EXPERIMENTS

I have reviewed the course proposal for ECON 6202 and found library holdings to be adequate. While the library does not currently have the required texts (as a rule the library does not buy required texts), we have all of the titles listed in the tentative course outline.

The online catalog lists 29 titles on game theory published within the last 5 years.

We currently provide access to the following game theory journals:

Games and Economic Behavior

International Game Theory Research (publisher blocks electronic access to current year)

International Journal of Game Theory

International Journal of Mathematics, Game Theory, and Algebra

Review of Economic Design

I also checked the following electronic databases for citations to articles on game theory published within the last five years. Here are the results:

Business Source Premier	1610 citations in academic journals
	748 articles full-text within the database
EconLit	576 citations
	79 articles full-text within the database
MathSciNet (Amer. Mathematical Soc.)	39 citations

Game Theory and Experiments
ECON 6206-001

Class meeting time and place:	3:30pm-4:45pm TR, Friday 010
Instructor:	Artie Zillante
Office location and phone:	221 Friday, (704) 687-7589
Office hours:	2pm-3:30pm TR and by appointment
e-mail:	azillant@uncc.edu
Web-site:	http://www.belkcollege.uncc.edu/azillant

Course Description

ECON 6206. Game Theory and Experiments. (3) Prerequisite: Permission of the graduate program coordinator. The focus of the course will be on game theoretic analysis and the experimental methodology which can be used to test game theoretic models. The primary topics in game theory covered will be static games with complete information, dynamic games with complete information, static games with incomplete information, and dynamic games with incomplete information. Some topics will be introduced by way of an economic experiment, and the experiment will be followed by a rigorous analysis of the game theoretic solution to the game. The latter part of the course will focus on how to design economic experiments as a means of testing the predictions of game theoretic models. *(Spring)*

Course Objectives

By the end of the course, students should:
1. Be familiar with the fundamental solution concepts of game theory
2. Be able to use the solution concepts in analyzing strategic situations that differ in the timing of the players' moves and the amount of information available
3. Be able to design laboratory economic experiments to test theoretical predictions of game theory
4. Be able to detect the limitations of game theoretic predictions
5. Be able to distinguish well designed economic experiments from poorly designed ones
6. Be able to suggest how experimental methods may be beneficial to policy makers

Web-site

The course web site is at http://www.belkcollege.uncc.edu/azillant. From this site you may obtain a copy of the course syllabus, a course calendar that will be updated after every lecture, lecture outlines, and problem sets. Other materials may be added during the semester.

Grading

Grades for the course will be based on 3 exams and a series of 6 problem sets. Exams each count for 30% of the final grade, and homework assignments will count for a cumulative amount of 10% of the final grade. Grades are determined as follows:

85%-100% – A
70%-84% – B
55%-69% – C
0%-54% – U

Books and Materials

Required:

Gibbons, Robert. *Game Theory for Applied Economists.* Princeton University Press, 1992.

Friedman, Dan and Alessandra Cassar. *Economics Lab: An Intensive Course in Experimental Economics.* Routledge, 2004.

Supplemental texts and articles are listed throughout the syllabus.

Tentative Course Outline

Week 1: Introduction to models

*Varian, Hal. "How to Build an Economic Model in Your Spare Time" *American Economist* 41 (1997) 3-10.

Weeks 2-3: Static Games of Complete Information
*Gibbons, Ch. 1

Nash, John. "Equilibrium Points in n-Person Games" *Proceedings of the National Academy of Sciences* 36 (1950) 48-49.

Nash, John. "Non-Cooperative Games" *Annals of Mathematics* 54 (1951) 286-295.

Weeks 4-5: Dynamic Games of Complete Information
*Gibbons, Ch. 2

Kuhn, H.W. "Extensive Games and the Problem of Information" *Contributions to the Theory of Games II* (1953) 193-216.

Selten, R. "Reexamination of the Perfectness Concept for Equilibrium Points in Extensive Games" *International Journal of Game Theory* 4 (1975) 25-55.

Weeks 6-7: Static Games of Incomplete Information
    *Gibbons, Ch. 3

    Harsanyi, J. "Games with Incomplete Information Played by Bayesian Players, I-III. Part I. The Basic Model" *Management Science* 14 (1967) 159-182.

    Harsanyi, J. "Games with Incomplete Information Played by Bayesian Players, I-III. Part II. Bayesian Equilibrium Points" *Management Science* 14 (1968) 320-334.

    Harsanyi, J. "Games with Incomplete Information Played by Bayesian Players, I-III. Part III. The Basic Probability Distribution of the Game" *Management Science* 14 (1968) 486-502.

Weeks 8-9: Dynamic Games of Incomplete Information
    *Gibbons, Ch. 4

Weeks 10-12: Designing and Running Experiments
    *Friedman and Cassar, Ch. 2-7

    Smith, V. "An Experimental Study of Competitive Market Behavior" *Journal of Political Economy* 70 (1962) 111-137. Also, see Errata on pages 322-323 of the next issue of the journal.

    *Smith, V. "Microeconomic Systems as Experimental Science" *American Economic Review* 72 (1982) 923-955.

    Plott, C. "Economics in 2090: The Views of an Experimentalist" *Economic Journal* 101 (1991) 88-93.

    Smith, V. "Constructivist and Ecological Rationality in Economics" *American Economic Review* 93 (2003) 465-508.

    Kahneman, D. "Maps of Bounded Rationality: Psychology for Behavioral Economics" *American Economic Review* 93 (2003) 1449-1475.

Weeks 13-16: Topics based on class interest

Throughout the semester I may come across other readings that I believe will be beneficial to you. These will be supplemental readings to enhance your understanding of where the field is heading today.

Attendance

Attendance is not required, but given the rigorous nature of the course it is suggested that students attend all lectures. It will be particularly beneficial if you attend on the days of the experiments.

Academic Integrity

Students have the responsibility to know and observe the requirements of The UNC Charlotte Code of Student Academic Integrity (Catalog, page 275). This code forbids cheating, fabrication, or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. Any special requirements or permission regarding academic integrity in this course will be stated by the instructor and are binding on the students. Academic evaluations include a judgment that the student's work is free from academic dishonesty of any type; and grades in this course therefore should be and will be adversely affected by academic dishonesty. Students who violate the code can be expelled from UNC Charlotte. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases the course grade is reduced to F. Copies of the code can be obtained from the Dean of Students Office. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the instructor.

Letter of Support from the Department of Finance

From: Clark, Steven
Sent: Tuesday, December 30, 2008 2:16 PM
To: Sealey, Bill; Zuber, Rick; McGregor, Rob
Subject: RE: consultation request

These courses look fine.

My only comment is that "Cross Section and Time Series Econometrics" is a very broad title and may suggest more coverage, particularly for time series, than is actually promised in the course description. It doesn't really matter that much, but I would just throw out the suggestion that perhaps a title like "Advanced Econometrics with Time Series" may be more appropriate.

Steven

Steven P. Clark, Ph.D.
Associate Professor of Finance
and Director of the M.S. Program in Mathematical Finance
Department of Finance
University of North Carolina at Charlotte
9201 University City Blvd.
Charlotte, NC 28223
(704)-687-7689

From: Sealey, Bill
Sent: Wednesday, December 17, 2008 12:18 PM
To: Clark, Steven
Subject: FW: consultation request

Steven, do you have any problems with these courses? Bill

From: Zuber, Rick
Sent: Monday, December 15, 2008 1:02 PM
To: Sealey, Bill; Clark, Steven
Cc: McGregor, Rob
Subject: consultation request

Bill and Steve: Hello. Attached are proposals for two new graduate courses in economics: ECON 6206 (Game Theory and Experiments) and ECON 6113 (Cross Section and Time Series Econometrics). As I understand, we should have a consultation with both the Department of Finance and the M.S. in Mathematical Finance Program on these two course proposals. If possible, would you please send your consultation report to me by January 15, 2009? Please let me know if you all have any questions on either of these two course proposals. Many thanks, Rick

Rick Zuber
Chair and Professor of Economics
Department of Economics
9201 University City Blvd.
UNC Charlotte
Charlotte, NC 28223
704-687-7588
razuber@uncc.edu

Letter of Support from the Department of Mathematics and Statistics

From: Dow, Alan
Sent: Tuesday, January 06, 2009 4:24 PM
To: Zuber, Rick
Subject: Re: consultation request

Hi Rick,

Thanks for the courtesy of consulting the Mathematics and Statistics
department regarding the course proposals

   ECON 6206 Game Theory and Experiments

and

  ECON 6113 Cross Section and Time Series Econometrics

I am pleased to be able to confirm that our department has no objections or
concerns about the creation of these courses.

Sincerely,
Alan Dow

On Mon, 2008-12-15 at 13:01 -0500, Zuber, Rick wrote:
> Alan: Hello. Attached are proposals for two new graduate courses in
> economics: ECON 6206 (Game Theory and Experiments) and ECON 6113
> (Cross Section and Time Series Econometrics). As I understand, we
> should have a consultation with both the Department of Mathematics and
> Statistics on these two course proposals. If possible, would you
> please send your consultation report to me by January 15, 2009?
> Please let me know if you have any questions on either of these two
> course proposals. Many thanks, Rick
>
>
> Rick Zuber
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