New Course Request

Indiana University

Indiana - Matching course Campus

Check Appropriate Boxes: Undergraduate credit ☐  Graduate credit ☑  Professional credit ☐

1. School/Division  Liberal Arts
2. Academic Subject Code  Econ-E
3. Course Number 621 (must be cleared with University Enrollment Services)  4. Instructor TBA
5. Course Title  Theory of Prices and Markets 2
   Recommended Abbreviation (Optional)  Theory of Prices and Markets 2
   (Limited to 32 Characters including spaces)
6. First time this course is to be offered (Semester/Year):  Spring 2010
7. Credit Hours: Fixed at 3 or Variable from _______ to _______
8. Is this course to be graded S-F (only)?  Yes ☐  No ☑
9. Is variable title approval being requested?  Yes ☐  No ☑
10. Course description (not to exceed 50 words) for Bulletin publication:  Analysis of equilibrium, first- and second-order conditions; statistical derivation of demand and cost curves; activity analysis; general equilibrium; welfare economics; microeconomics of capital theory; pure oligopoly and game theory.
11. Lecture Contact Hours: Fixed at 3 or Variable from _______ to _______
12. Non-Lecture Contact Hours: Fixed at _______ or Variable from _______ to _______
13. Estimated enrollment: 5 of which 100 percent are expected to be graduate students.
14. Frequency of scheduling:  annual  Will this course be required for majors?  yes
15. Justification for new course:  Required for new PhD in Economics
16. Are the necessary reading materials currently available in the appropriate library?  Yes
17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:
Date  1-15-10

Dean
Date  2/24/10

University Enrollment Services Final-White; Chancellor/Vice-President-Blue; School/Division-Yellow; Department/Division-Pink, University Enrollment Services Advance--White
Economics 621 : Theory of Prices and Markets 2
Spring 2010

Professor Subir Chakrabarti

Office: CA 525
Telephone: 317-278-7215  E-mail: imxl100@iupui.edu

Office Hours: Specific hours to be determined

Texts:
Lecture notes and handouts
*Advanced Microeconomic Theory*, by Philip J. Reny and Geoffrey A.
Jehle, 2001 (Addison-Wesley, Boston), second edition, paperback
*Game Theory: Analysis of Conflict*, by Roger B. Myerson, 1991, (Harvard University

**General Information**

Economics 621 will focus on three areas:

1. **Classical General Equilibrium Theory and Welfare Economics.** We will focus first
on the issue of existence of equilibrium and then we will consider the relationship between
equilibrium and the core. We will also state and prove the First and Second Theorems of Welfare
Economics. Finally, we will consider the topic of arbitrage and general equilibrium in asset
markets.

2. **Basic Game Theory.** Our emphasis will be on extensive form games and notions of
equilibrium in extensive form games (e.g., subgame perfect equilibrium (Berge 1957), perfect
equilibrium (Selten 1975), and sequential equilibrium (Kreps and Wilson 1982)).

3. **Basic Contract Theory.** Our emphasis here will be on the principal-agent model with
adverse selection, as well as the principal-agent model with moral hazard and adverse selection.
This model has many applications in economics and finance (e.g., optimal auctions, optimal
income taxation, optimal nonlinear pricing, and executive compensation). If time permits we
will also consider common agency contracting games (i.e., the principal-agent model with multiple
principals and one privately informed agent). Common agency contracting games have many
applications in economics and finance (e.g., competitive nonlinear pricing under adverse
selection, jurisdictional competition in local public goods, corporate governance).

**Grading:**
mid-term exam (end of February) 45%
final exam (end of semester) 45%
homework 10%
Attendance Policy: As economics PhD students, your attendance is expected.

The grading scale will be as follows:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>above 85%</td>
</tr>
<tr>
<td>B</td>
<td>70% to 84%</td>
</tr>
<tr>
<td>C</td>
<td>60% to 69%</td>
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</tbody>
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Note: A grade of C is unsatisfactory and the student will need to retake the course to earn graduate
credit.
EDUCATIONAL OBJECTIVES:

The course is designed to provide an advanced and in-depth treatment of topics in general equilibrium theory and welfare economics, the basics of game theory and the concepts of adverse-selection and moral-hazard.

Students are expected to develop a thorough understanding of how markets work to allocate resources and under what conditions such allocations are efficient.

Students would also be expected to become thoroughly familiar with the concepts of strategic form games and extensive form games as well as the central issues, in basic contract theory, of adverse selection and moral hazard.

Reference Books:
- Debreu, G., 1959, Theory of Value: An Axiomatic Analysis of Economic Equilibrium, (Cowles Foundation Monograph 17, Yale University).

Lecture Notes:
- Page, F. H., Jr., 2008, Networks and Extensive Form Games.
- Page, F. H., Jr., 2006, Job Market Screening.
- Page, F. H., Jr., 2006, Delegated Compensation Contracting in Real Brokerages.
- Bernheim, B., Douglas, 2004, Game Theory, Imperfect Competition, and Other Applications.

Mathematics Reference Books:
- Luenberger, D. G., 1969, Optimization by Vector Space Methods, (John Wiley & Sons,
New York).

**Tentative Course Outline**

1. Basic Mathematical Concepts [weeks 1-2]
2. General Equilibrium Theory and Welfare Economics [weeks 3-5]

Classical GE, First and Second Welfare Theorems, and the Core Reny-Jehle, Chapter 5 Arbitrage and Equilibrium in Asset Markets

3. Basic Game Theory
   - **Strategic Form Games:** Myerson, Chapters 1-3 Reny-Jehle, Section 7.2 [weeks 6-7]

   **Test 1** [week 8]
   - **Extensive Form Games:** [weeks 9-11]
     - F. H. Page, Jr., 2008, Lecture Notes, Networks and Extensive Form Games
     - Myerson, Chapter 4-5 Reny-Jehle, Section 7.3

4. Basic Contract Theory [weeks 12-15]
   - **Adverse Selection** Reny-Jehle, Section 8.1
   - F. H. Page, Jr., 2006, Lecture Notes, Job Market Screening
   - **Moral Hazard and the Principal-Agent Problem** Reny-Jehle, Section 8.2
     - F. H. Page, Jr., 2006, Lecture Notes, Delegated Compensation Contracting in Real Brokerages
   - **Auctions** Reny-Jehle, Chapter 9

   **Comprehensive Exam** [week 16]

The syllabus above is closely adapted from the syllabus for the course offered at IU-Bloomington as we propose to adopt their course for the IUPUI Ph.D. program in Indianapolis. Professor Chakrabarti has added a set of learning objectives.

In addition the following items will be inserted:

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**Policies on Academic Misconduct**

Students must follow the Code of Student Rights, Responsibilities, and Conduct (http://life.iupui.edu/rights/docs/CodeofConduct.pdf). Penalties can be applied for cheating, fabrication, plagiarism, or sabotaging the work of other students. In particular, plagiarism occurs when you adopt, reproduce, or paraphrase the ideas, words, or statements of another
person without appropriate acknowledgment. Quotes and paraphrases should include a complete reference. Facts, statistics, and the like should include references unless the information is common knowledge. When in doubt about any of these policies, ask the instructor.

Cheating or plagiarism on any assignment or exam will result in a failing grade for that assignment and, at the instructor’s discretion, depending on the nature of the violation, a failing grade for the course. The misconduct will also be reported to the Dean of Students who will decide on any further appropriate action.

**Americans with Disabilities Act**

If you need any special accommodations due to a disability, please contact Adaptive Educational Services at (317)-274-3241. The office is located in Joseph T. Taylor Hall (UC), Room 137.

**Computer Activity**

Students should be advised that, ultimately, you are responsible for activity on your computer accounts. Please be careful to log off public computers whenever the computer will be unattended and do not leave laptops unattended.

Please Note:
In the final preparation stage to offer the course, we will fill in specifics such as due dates and office hours.