

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

Economics

Academic Unit

ECON

Book 3 Listing (e.g., Portuguese)

843 Research Topics in Micro Econometrics

Number

Title

Res. Topics Micro Econometrics

G

05

18-Character Title Abbreviation

Level

Credit Hours

Summer

Autumn

Winter

X

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*): This course surveys and trains advanced Ph.D. students in recent developments in micro econometrics; both theoretical and applied topics in economics will be covered.

Quarter offered: Autumn

Distribution of class time/contact hours: 2-2 hr cl

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

Prerequisite(s): Economics 742, 841 and 842 or their equivalent with instructor's consent

Exclusion or limiting clause:

Repeatable to a maximum of 15 credit hours.

Cross-listed with: NA

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

Other General Course Information:

(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: A comprehensive introduction to micro econometric methods, theory and applications. The course material consists of recent research topics such as spatial econometrics and social interactions models. Since the course content will vary depending on the individual instructor's research specialization and field expertise, this course is repeatable up to three times for credit when thematic topics change.

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:

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:

6. Expected section size: 25 Proposed number of sections per year: 1

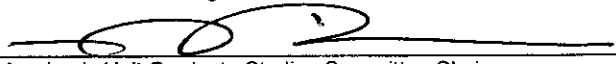

7. Do you want prerequisites enforced electronically (see OAA manual for what can be enforced)? Yes No

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*):

Concurrence pending from Department of Statistics, Department of Agricultural, Environmental and Development Economics, and Department of Finance

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	11/9/2006
2. Academic Unit Graduate Studies Committee Chair	Printed Name	Date
	Masanori HASHIMOTO	11/9/2006
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

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

Economics November 9, 2006

 Initiating Academic Unit Date

ECON

 Book 3 Listing (e.g., Portuguese)

843	Research Topics in Micro Econometrics	G	05
Course Number	Title	Level	Credit Hours

Type of Request: New Course Course Change Course Withdrawal Other

Department of Agricultural, Environmental and Development Economics

 Academic unit asked to review the request

November 30, 2006



 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).

This proposal is part of a revision and updating of the ECON PhD field in econometrics. It will benefit the relatively few AEDE students seeking the econometrics field, and provide us a recruiting advantage among students who are interested in having this option.

AEDE is pleased to concur.

Signatures

 1. Name	Chair Position	Agri, Environ & Development Economics Unit	!/02/07 Date
 2. Name	Grad. Studies Chair Position	Agri, Environ & Development Economics Unit	!/02/07 Date
3. Name	Position	Unit	Date

Please return this form to the ASC Curriculum Office, 105 Brown Hall, 190 W. 17th Avenue or fax to 688-5678.

08/09/05

**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

Economics November 9, 2006

 Initiating Academic Unit Date

ECON

 Book 3 Listing (e.g., Portuguese)

843	Research Topics in Micro Econometrics	G	05
Course Number	Title	Level	Credit Hours

Type of Request: New Course Course Change Course Withdrawal Other

Department of Finance

 Academic unit asked to review the request

November 30, 2006

 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).

Support granted

Signatures

1. Name	Position	Unit	Date
<i>Andrew Karolyn</i>	<i>Professor of Finance</i>		<i>1/2/07</i>
2. Name	Position	Unit	Date
<i>Anil K. Mahajan</i>	<i>Chair, Dept of Finance</i>		<i>1/2/07</i>
3. Name	Position	Unit	Date

~~ECONOMICS 894: GROUP STUDY IN ADVANCED MICRO ECONOMETRICS~~

ECONOMICS 843: RESEARCH TOPICS IN MICRO ECONOMETRICS

05 credit hours

G: course listing

Grade: Letter Grade

Repeatable to a maximum of 15 credit hours

Prerequisites: Graduate econometrics courses at the level of Economics 741, Economics 742 and Economics 842 or their equivalent

Course Abstract: This course explores recent developments in micro econometrics to provide advanced economics students with new techniques and concepts in theoretical as well as applied micro econometrics. The course content will vary depending on the individual instructor's research specialization and field expertise. This course is repeatable up to three times for credit when thematic topics change. The major theme of Autumn 2007 is spatial econometrics and models of social interactions.

Lectures: twice a week, each 108 minutes long

Time and Place (TBA): tentatively Tuesday & Thursday 11:30AM-1:18PM

The Course Topic for the Fall Quarter 2007:

Econometric Models with Spatial and Social Interactions

Instructor: Professor Lung-fei Lee

Office hours (TBA): tentatively Tuesday & Thursday 2:00PM-4:00PM.

Office: Arps Hall 475

Email: lflee@econ.ohio-state.edu Phone: 292-5508

Course Objectives: The main topics of the Autumn 2007 course are spatial econometrics and microeconomic social interactions models, in which economic issues of individual decision makers are analyzed with the use of cross-section and panel data. Individual economic agents such as firms, households and local governments are spatially and economically interrelated, and they make decisions in a game setting that have mutual influences and consequences for one another. This course introduces advanced graduate students in economics to econometric models that deal with aspects of these interactions. These models have broad applications in a variety of fields in economics, such as urban, public, labor and experimental economics, as well as in industrial organization and other fields.

Course Grade: The course grade will be based on occasional assignments (20%) and a term paper (35%), as well as exams (45%), either a midterm or final exam depending on the class size and the instructor preference. The term paper should be at least twenty-five pages long and the instructor must preapprove its topic. A term paper need not be purely theoretical or methodological, but can be an empirical study with applied techniques that are sufficiently relevant to the micro econometric methods featured in the course. The term paper may also take the form of a substantive survey of well-defined topic, subject to the instructor's prior approval.

COURSE OUTLINE

Week 1: Introduction to Spatial Econometrics

- Introduction to models of spatial econometrics with special emphasis on spatial autoregressive models (References: [4, 5])
- Existing statistics that detect the presence of spatial correlation, such as Moran's test and the LM test (Reference [8])

Week 2: Maximum Likelihood and GMM Estimators (1)

- Maximum likelihood method and its computational issues (References [16])
- Generalized method of moments estimation (References [6, 7, 10, 11])

Week 3: Spatial Econometrics

- Regularity conditions in spatial econometric models (References [6, 9])
- Development of essential asymptotic tools, such as the law of large number and central limit theorems, for spatial econometric analysis (References [6, 8, 9, 10])

Week 4 and 5: Maximum Likelihood and GMM Estimators (2)

- Consistency and asymptotic normality of the maximum likelihood and generalized method of moment estimators (References [6, 9, 10, 11])
- Robust analysis of the maximum likelihood and generalized method of moment estimators (References [9, 10, 11])

Week 6: Estimation

- Robust estimation method in the presence of unknown forms of heteroskedasticity (References [10, 11])
- Issues in the estimation of high order spatial lag models (References [10, 11])

Week 7: Social Interaction Models (1)

- Introduction to econometric models with social interactions, rational expectation and spatial autoregression with group structures (References [1, 3, 12, 14, 15])
- Reflection problems in models with social interactions (References [14, 15])

Week 8: Social Interaction Models (2)

- Estimation methods for social interaction models with fixed or random effects (Reference [12])
- Asymptotic analysis of models with large group interactions (References [9, 12])

Week 9: Discrete Choice Models

- Discrete choice models with social interactions (References [1, 2, 13])

Week 10: Open Research Topics

- Discussion on open questions and possible future research issues

Course Material: There will be no standard textbooks for this class, but students are expected to have learned standard materials covered in established textbooks used for Economics 741, 742 and 842. We will make extensive references to journal articles and working papers as well as select chapters from research monographs. In particular, the following papers and book chapters will be discussed in the course. Several more articles may be added as the course evolves.

- [1] Brock, W.A., Durlauf, S.N. (2001) "Interactions base models". In Heckman, J.J., and E.E. Leamer (Eds), *Handbook of Econometrics*, North Holland, Amsterdam, pp. 3297-3380.
- [2] ——— (2001) "Discrete Choice with Social Interaction". *Review of Economic Studies* 68, 235-260.
- [3] Case, A.C. (1991) "Spatial Patterns in Household Demands". *Econometrica* 59, 953-965.
- [4] Anselin, L. (1988) *Spatial Econometrics: Methods and Models*. Kluwer Academic Publishers: The Netherlands.
- [5] Cressie, N. (1993) *Statistics for Spatial Data*. John Wiley: New York.
- [6] Kelejian, H.H., and I.R. Prucha (1998) "A Generalized Spatial Two Stage Least Squares Procedure for Estimating a Spatial Autoregressive Model with Autoregressive Disturbances". *Journal of Real Estate Finance and Economics* 17, 99-121.
- [7] ——— (1999) "A Generalized Moments Estimator for the Autoregressive Parameter in a Spatial Model". *International Economics Review* 40, 509-533.
- [8] ——— (2001) "On the Asymptotic Distribution of the Moran I Test Statistic with Applications". *Journal of Econometrics* 104, 219-257.
- [9] Lee, L.-f. (2004) "Asymptotic Distributions of Quasi-Maximum Likelihood Estimators for Spatial Autoregressive Models". *Econometrica* 72, 1899-1925.
- [10] ——— (2001) "Generalized Method of Moments Estimation of Spatial Autoregressive Processes". Manuscript, Department of Economics, OSU.
- [11] ——— (2004) "GMM and 2SLS Estimation of Mixed Regressive, Spatial Autoregressive Models". Manuscript, Department of Economics, OSU.
- [12] ——— (2004) "Identification and Estimation of Spatial Econometric Models with Group Interactions, Contextual Factors and Fixed Effects", Manuscript, Department of Economics, OSU.

- [13] Li, J., and L-f. Lee (2006) "Binary Choice under Social Interaction: An Empirical Study With and Without Subjective Data of Expectation", Manuscript, Department of Economics, OSU.
- [14] Manski C.F. (1993) "Identification of Endogenous Social Effects: the Reflection Problem". *The Review of Economic Studies* 60, 531-542.
- [15] Moffitt, R.A. (2001) "Policy Interventions, Low-level Equilibria, and Social Interactions". In Durlauf, S., and Peyton Young, H. (Eds.), *Social Dynamics*. MIT Press, Cambridge, MA 45-82.
- [16] Ord, J.K. (1975) "Estimation Methods for Models of Spatial Interaction". *Journal of American Statistical Association* 70, 120-126.

This syllabus and other class materials are available in alternative formats upon request. Any student who needs an accommodation based on the impact of a disability, please contact the instructor as soon as possible and also the OSU Disability Services (292-3307).