Beginning with 2013/14 academic year, upper level courses will typically be taught in half semester modules.
Courses will be numbered by both section (as now), and by session (the semester has two sessions, with session 1 being the first half of the semester, and session 2 being the second half). Within each semester, each course will have a unique section number within each course.
These course descriptions are

1 Fall Second Year Courses

Session 1 meets 8/28/13 - 10/09/13 and Session 2 meets 10/10/13 - 12/10/13.

1.1 Microeconomic theory

- ECON 712-006 Dynamic games and learning [Bohren, 1 CU]
  The first half of the course will focus on continuous time games, while the second will cover information theory, learning and related topics.

- ECON 712-009 (session 1) Topics in game theory [Yamamoto, .5 CU]
  Topics to be covered include common knowledge, hierarchies of beliefs, equilibrium refinements, repeated games, and reputation effects.

- ECON 712-010 (session 2) Decision theory [Dillenberger, .5 CU]
  The von Neumann- Morgenstern, Anscombe-Aumann, and Savage models of decision making under risk and uncertainty, models of nonexpected utility, ambiguity aversion, menu choice, and preference for resolution of uncertainty.

- ECON 750-001 (session 1) Public Economics I [Postlewaite, .5 CU]
  Focuses on topics in mechanism and institutional design, social norms and models of discrimination.

- ESE 680 Submodularity and Discrete Convexity [Vohra, 1 CU]
  The theory of matroids (an abstraction of the notion of linear independence), submodular functions and their properties, and discrete convexity.
1.2 Macroeconomics

1.2.1 Macro theory

- ECON 712-008 (session 2) Search in Macroeconomics [Burdett, 0.5 CU]
  The basic Pissarides equilibrium unemployment model and recent related work such as Mortensen and Pissarides, Violente et al., Coles and, Mortensen, etc will be discussed. Then the (S,s) pricing literature and its various extensions will be presented. The object is to investigate price stickiness and its implications Starting with the early work of Benabou, Weiss, Caplin moving to more recent works such as Golosov and Lucas, Gertler and others.

- ECON 793 Economics of Labor II [Burdett and Menzio, 1 CU]
  Both sessions must be taken together. This course develops a general framework which nests standard equilibrium unemployment models as special cases.

- ECON 712-011 (session 1) Macroeconomics of Financial Markets [Ordonez, 0.5 CU]
  This course will draw on both theoretical models and empirical evidence to better understand the positive and negative macroeconomic consequences of financial markets and to discuss how policies can improve their attributes and reduce their drawbacks. The course begins with a discussion about the foundations of financial contracts, the justification for the existence of financial intermediaries and the characterization of financial relationships. Then, we will study the role of financial frictions in magnifying aggregate fluctuations and the role of bubbles and panics in fueling financial crises. Finally, we will discuss how regulation and reputation concerns shape incentives in financial markets.

1.2.2 Quantitative macro

- ECON 714 (session 1) Quantitative Macroeconomic Theory [Fernandez-Villaverde, 0.5 CU]
  This course is an introduction to the computational techniques required to solve and estimate dynamic models in macroeconomics and empirical microeconomics. The first half of the course will emphasize software engineering techniques for economists, a material that is difficult to find in related textbooks. The second half will cover value function iteration, perturbation methods, and projection methods. Assessment will be based on three homeworks.

1.2.3 Related courses from other fields

- ECON 721 Econometrics III [Todd, 1 CU]

- ECON 712-007 (session 1) International Trade [Fieler, 0.5 CU]

1.3 Econometrics

- ECON 721 Econometrics III [Todd, 1 CU]
  Focuses on microeconometrics. Topics include GMM estimation, binary and multinomial choice models, simulation-based estimation methods, limited dependent variable models, selection models, partially linear models, nonparametric and semi-parametric estimation, panel data and duration analysis.
• ECON 712-004 (session 2) Microeconometrics, with Applications to Industrial Organization and Program Evaluation [Todd, .5 CU]

The course will cover ex post evaluation methods (regression-based, cross-section and longitudinal matching, control function, instrumental variables, regression discontinuity, quantile methods), and ex ante evaluation methods (mainly development and estimation of dynamic discrete choice models and nonparametric structural approaches).

• ECON 712-005 (session 1) Microeconometrics, with Applications to Industrial Organization and Program Evaluation [Tang, .5 CU]

Topics include (a) semi- and non-parametric identification and inference in single agent qualitative response models (such as binary response, ordered response, censored and truncated regression, and sample selection models); (b) inference in empirical games with complete and incomplete information; and (c) topics in empirical auction models such as nonparametric identification or standard auction models, as well as the semi-parametric inference of various extensions.

1.4 Empirical micro

1.4.1 Public economics and political economy

• ECON 750-001 (session 1) Public Economics I [Postlewaite, .5 CU]

Focuses on topics in mechanism and institutional design, social norms and models of discrimination.

• ECON 750-002 (session 2) Public Economics I [Sieg, .5 CU]

Focuses on theory-based estimation approaches in public finance. Topics include including fiscal federalism, the provision of education and public goods, the political economy of state and local governments, and urban economics.

• ECON 712-003 Topics in Applied Micro [Fang, 1 CU]

This course focuses on empirical and theoretical analyses of the main social insurance programs, including Social Security, Medicare, Medicaid, and unemployment insurance. We will particularly focus on models that capture the interactions between these social insurance programs and the labor market, as well as the interactions between these social insurance programs and private insurance markets.

1.4.2 Labor economics (and related courses)

• ECON 721 Econometrics III

see Econometrics

• ECON 793 Economics of Labor II

See Macro

• ECON 712-004 and -005 Microeconometrics, with Applications to Industrial Organization and Program Evaluation

See Econometrics
### 1.4.3 Industrial organization

- **ECON 781-001 (session 1) Industrial Organization [Sieg, .5 CU]**
  An overview of demand and productivity estimation, dynamic single-agent models, and dynamic games.

- **ECON 781-002 (session 2) Industrial Organization [Tang, .5 CU]**
  Identification and inference in standard auction models.

- **HCMG 902: Industrial Organization in Health Care [Town].**
  This course is offered by Wharton’s Health Care Management Department. The course provides an overview of how industrial organization methods are used in health care.

- **BEPP 931: Numerical Methods in Economics [Doraszelski].**
  Methods for solving dynamic optimization problems and computing equilibria of games. The substantive applications will cover a wide range of problems including industrial organization, game theory, macroeconomics, finance, and econometrics.

### 1.4.4 International trade

- **ECON 712–007 (session 1) International Trade [Fieler, .5 CU]**
  This course provides an introduction to recent quantitative theories and empirical work in international trade. It covers the models of factor proportions, Ricardo and heterogeneous firms. Topics include patterns of specialization, labor market, horizontal and vertical product differentiation.

### 2 Spring Second Year Courses

Section and session numbers for the spring courses have mostly not yet been determined.

#### 2.1 Microeconomic theory

- **ECON 712 Matching and investments [Mailath, .5 CU]**
  The theory of matching (such as housing and marriage) and stability. The theory of optimal transport (matching with a continuum of agents). Incentives for investing in prematch characteristics.

- **ECON 712 Information acquisition and communication [Matthews, .5 CU]**
  The topics to be considered in this course include the recent literature on cheap talk, persuasion and bias, and information acquisition in organizations and markets.

- **ECON 712 Bargaining Models and Applications [Merlo, .5 CU]**
  The course will cover noncooperative bargaining theory and a variety of empirical applications in labor, political economy, real estate, industrial organization and family economics. The course will also have a methodological component on the identification and estimation of bargaining models.
• ECON 712 Market Design [Vohra, .5 CU]
   This is a course about the design of markets. This not a course on auctions and matching by another name. We will discuss IPOs, Credit Default Swaps, Healthcare Exchanges, Bankruptcy, Electricity Markets and Affirmative Action programs.

2.2 Macroeconomics

2.2.1 Quantitative macro

• ECON 712-012 (session 1) An Introduction to Macroeconomics with Household Heterogeneity [Krueger, 0.5 CU]
   This course presents the benchmark models of macroeconomics with heterogeneous households, starting with the complete markets benchmark, continuing with the standard incomplete markets in partial and general equilibrium, and concluding with complete markets models with informational and enforcement frictions. Numerical techniques to solve these models are discussed, and the predictions of the models are confronted with household-level data sets.
   Prerequisites: ECON 714, Strongly Recommended: ECON 721

• ECON 712 Economic Growth I [Akcigit and Greenwood, 1 CU]
   Both sessions must be taken together. The course first introduces the stylized facts of economic growth to be explained, and then presents the canonical models of exogenous and endogenous growth, with strong emphasis on the latter. The course then centers around 3 topics, a) Financial Development and Economic Development, b) Technological Progress in the Market and c) Technological progress in the Home.

• ECON 712 International Macroeconomics with Incomplete Markets and Financial Frictions [Mendoza, Spring, 1 CU]
   This course studies International Macroeconomics from a perspective that emphasizes financial frictions and incomplete asset markets. After introducing the basic open-economy models, to study issues such as currency crashes, financial crises and sovereign default, the course introduces a novel approach to modeling international macro issues, such as the interaction between financial globalization and financial development, using models with heterogeneous agents and incomplete markets.
   Prerequisites: ECON 714. Strongly recommended: ECON 712 [Ordonez] and/or ECON 712-012 [Krueger]

2.2.2 Related courses from other fields

• ECON 722 Econometrics IV [DiTraglia and Schorfheide, Spring, 1 CU]

• ECON 792 Economics of Labor I [Shephard, Spring, 1 CU]

2.3 Econometrics

• ECON 722 Econometrics IV [DiTraglia and Schorfheide, 1 CU]
   Focuses on macro-econometrics. Topics include comparison of Bayesian and frequentist inference in nonstandard settings (e.g. time series models with persistent roots), Bayesian
inference in VARs and DSGE models including modern computational tools such as Gibbs sampling, MCMC, Sequential Monte Carlo, particle filtering, etc., and tools for evaluating DSGE models, model selection in a variety of contexts including selection for prediction (including model combination and inference post-selection), dynamic factor models and selecting the number of factors, and selecting moment conditions for GMM.

2.4 Empirical micro

2.4.1 Public economics and political economy

- ECON 751-001 Public Economics II [Merlo, .5 CU]
  The political economy of democratic institutions.

- ECON 751-0012 Public Economics II [Garcia, .5 CU]
  This course provides an overview of the frontier research in Political Economy focused on the endogenous nature of political institutions, and in particular on non-democratic politics. Its main purpose is to give a comprehensive overview of both recent theoretical and empirical work. The course relies heavily on dynamic games and dynamic programming on the theory side, and on both reduced-form and structural approaches on the empirical side. It covers topics related to social structure, political compromise, corruption, collective action, revolution, coups, and other forms of institutional change, state-building, autocracy, and coalition formation in non-democracies.

2.4.2 Labor Economics

- ECON 792 Labor Economics [Shephard, 1 CU]
  An introduction to modern empirical labor economics focusing on the estimation of static and dynamic models.
  Prerequisite: ECON 721.

2.4.3 Industrial Organization

- BEPP 987: Regulatory Policy (Houde) is offered in the Spring semester. This course builds on ECON 781 in applying the developed techniques to substantive industrial organization questions. Topics covered include demand estimation in a variety of empirical settings (complementary products; durable goods; experience goods; products with switching costs); the detection of collusion; price discrimination; and static entry models and models of industry evolution.