

**Senior Seminar and Advanced Lecture Preregistration
Fall 2017**

As in previous years preregistration for advanced lecture courses (numbered 401-439) and seminars (numbered 440-489) will take place using an online preference selection system. Use of the system will be restricted to senior majors in economics or EP&E who have not already been admitted to ECON 450a (Investment Analysis). Eligible seniors may express rank-ordered preferences for up to five courses/seminars, and students will be able to enter and revise their preferences from 9:00 am on Monday, August 7 to 5:00 pm Monday, August 14, 2017. [Click here to access preference selection site.](#)

After preregistration closes, all students who preregistered will be assigned to one advanced lecture course or seminar. Every attempt will be made to meet students' preferences, and in cases where caps on enrollment bind, students will be chosen by random lottery. Seniors will receive instructions on how to access the system before it opens.

Senior majors in economics and EP&E who do not preregister, as well as underclassmen and students who are not majors in economics or EP&E, will be able to shop advanced lecture courses or seminars that have not filled up during preregistration. Seniors who did preregister are also welcome to shop additional advanced lectures and seminars at this time. All students must have completed at least two of three core courses in intermediate microeconomics, intermediate macroeconomics, and econometrics before enrolling in an advanced lecture course or seminar. There will not be waiting lists for classes that fill up during preregistration.

The advanced lecture courses and seminars being offered in Fall 2017 are listed below along with brief descriptions.

If you have any questions about the system, please email gazi.azam@yale.edu.

**Econ 407a/
GLBL310**

INTERNATIONAL FINANCE

Zhen Huo

Mondays & Wednesdays, 9:00-10:15

The aim of the course is that the students develop an understanding of the main implications of increasing integration of the world economy. By describing the various ways that countries are affected by each other -through trade linkages, multinational production, or financial markets- the course will try to explain how these forces affect the decisions of individuals and firms.

The course will be divided in two parts. The first part will be more like a traditional lecture class and will focus on theoretical models and empirical facts. The second part will be more like a seminar course with presentations by students and wide discussion on topics in international finance and international macroeconomics.

There will be three problem sets, a presentation, and a final term paper. The first part of the course will provide important tools for the students in order to prepare their presentation and their term paper. In the presentations, students will put forth the main arguments and ideas that will be part of their term paper.

Prerequisite: intermediate macroeconomics or equivalent

Econ 409a FIRM, MARKETS AND COMPETITION

Evangelia Chalioti

Tuesdays & Thursdays, 2:30-3:45

This course explores the theory of imperfectly competitive markets, focusing on the interactions among firm behavior, market structure, and market outcomes.

Topics typically covered include price discrimination, pricing of durable goods, strategic choice of product quality, oligopoly competition, collusion, auctions and procurement, predatory behavior, strategic investment, firm entry and exit, product positioning and pricing, and advertising.

Through class lectures and regular problem sets, students will develop skills in formulating and solving analytical models, often using game theoretic solution concepts.

Prerequisite: After intermediate microeconomics or equivalent.

Econ 413a/AMTH 437/ OPTIMIZATION TECHNIQUES

S&DS 430/EENG 437

Sekhar Tatikonda

Tuesdays and Thursdays 1:00 - 2:15

Fundamental theory and algorithms of optimization, emphasizing convex optimization. The geometry of convex sets, basic convex analysis, the principle of optimality, duality. Numerical algorithms: steepest descent, Newton's method, interior point methods, dynamic programming, unimodal search. Applications from engineering and the sciences.

Prerequisites: MATH 120 and 222, or equivalents. May not be taken after AMTH 237.

Econ 414a ECONOMIC MODELS OF NEW TECHNOLOGY

Evangelia Chalioti

Tuesdays and Thursdays, 1:00-2:15

Analysis of firms' incentives to innovate, focusing on the effects of market power on the intensity of innovative activity. Topics include strategic investment in innovation, patent races, the diffusion of knowledge, intellectual property (IP) protection system, IP licensing, research joint ventures, litigation, venture capital as well as policy issues regarding the conflicts between IP rights and antitrust regulation.

This course intends to provide students with a solid understanding of theoretical models of the effects of market power on the intensity of innovative activity as well as alternative incentive mechanisms such as prizes, patents, copyrights and trade secrecy. Topics include economics of the intellectual property (IP) protection system; IP licensing and research joint ventures; enforcement and litigation; strategic choices in innovation & competition; the value of innovation & patent races; process and product innovation; the diffusion of knowledge; venture capital; network effects; and current policy issues regarding the conflicts between IP rights and antitrust regulation.

This course will often motivate the analysis of economic concepts using case studies and empirical facts. It will also consider simple economic models to explain individual behavior. The primary tool for understanding firm, consumer or government choices is the maximization paradigm which assumes individuals behave as if they maximize an objective function; such functions may represent the level of profits, happiness or social welfare. Thus, much of the course will be devoted to applying that paradigm to various settings. The academic objective of this course is to elaborate students' skills in using theoretical tools to formulate and solve economic problems. The goal is for the students gain a deep understanding of the economic aspects of innovative activity and IP protection system.

Prerequisites: intermediate microeconomics and econometrics

Econ 420a APPLIED MICROECONOMETRICS

Timothy Armstrong

Mondays and Wednesdays 1.00-2.15

Advanced study of econometric theory and applied econometrics, providing students opportunity and ability to conduct high-level empirical research, combining economics, econometrics, and data. Recommended for students planning to write or currently writing an empirical senior essay.

Prerequisites: Econ 121 (Intermediate Micro), and either Econ 132 (Econometrics and Data Analysis II) or Econ 136 (Econometrics).

Econ 421a/CPSC 412 DESIGNING THE DIGITAL ECONOMY

Glen Weyl

Tuesdays 3:30 – 5:30

It used to be common to speak of the “high-tech sector” of the economy, but increasingly information technology is transforming how almost every market works: finance has been transformed by algorithmic trading and bitcoin, ridesharing is changing the nature of public transportation, Amazon is revolutionizing logistics and Airbnb is now the most valuable accommodation provider in the world. This transformation, which has been led by a series of start-ups and newly-dominant technology companies, inherently combines technical and economic aspects, as entrepreneurs take advantage of the potential of technology to facilitate exchanges that were previously infeasible. The exploding opportunities for employment and research in these areas therefore require students to have an exposure to the intersection between the technical possibilities that are opening and the ways in which they can create economic value. This course aims to plunge students into this intersection by offering both a crash course in the key tools from economics and computer science that are being used to design digital markets, and exposing students to a range of concrete and topical practical problems in the area. The overarching aim is to prepare students for careers and/or dissertations in this field.

Prerequisites: Basic computer science as well; any CPSC course is acceptable, but CPSC 201 is preferred.

Econ 422a

NEUROECONOMICS FOR ECONOMISTS

Ifat Levy

Tuesdays and Thursdays, 1:00 – 2:15

Neuroeconomics is a rapidly growing field, bringing together economists, neuroscientists and psychologists. A basic understanding of neurobiology is critical for economists to understand the research in the field and to become involved in such research. The course aims to provide students with basic tools for doing this, by combining frontal lectures, discussions of reading material and designing research proposals.

The course will first provide an introduction to neuroscience and neuroscientific methods, and then will survey prominent studies in the field of neuroeconomics. Neuroscience topics will include neurons, synapses and neurotransmitters, large-scale brain anatomy and function, and cognitive neuroscience techniques, particularly functional MRI. Neuroeconomics topics will include value encoding and computation, risk and uncertainty, value learning, the choice process, social decision-making, and pharmacological and patient studies.

Prerequisites: Intermediate micro and Econometrics

Econ 426a/ECON 739 CLIMATE CHANGE IMPACTS

William Nordhaus & Robert Mendelsohn

Thursday 1:30 - 3:20

The course will review several modern valuation studies that are central to the estimation of the economic damages from climate change. The purpose of this course is to provide students with training in dealing with quantitative economic analysis and modeling. Students will form teams of two and choose a study. They will gather the data and methods of that study from the authors or a journal. They will then reproduce the published results. The teams will (1) study the theory and empirical analysis, (2) gather the data and modeling to replicate the results, and (3) determine how sensitive the results are to the assumptions and specifications. Students need to have taken econometrics and the relevant courses in economics. The course will meet every other week for the entire year to give students time to analyze their studies and present their results to the class.

Prerequisites: Introductory economics, intermediate microeconomics, econometrics.

Econ 441a ECONOMICS OF INFORMATION, LEARNING AND COMMUNICATION

Mira Frick

Tuesdays, 3:30-5:20

This course explores two important topics in information economics. The first half covers models of social learning in which rational agents with limited information about the true state of the world (e.g., the quality of a new product) can learn from other agents' information by observing their behavior (e.g., whether or not they adopt the product). A recurrent theme is that despite (or even because of) the rationality of individual behavior, the process of social learning may be inefficient or even fail completely, giving rise to pathologies such as herding, informational cascades, or strategic delays. The second half considers settings in which an informed agent can communicate his information to a less informed agent. When the two parties' interests are not perfectly aligned, the informed agent has an incentive to distort his information. We explore to what extent effective communication remains possible. Applications of the course include the spread of agricultural innovations in developing countries, financial bubbles and crashes, the optimal design of online recommendation systems, and the economics of writing mystery novels.

Prerequisites: Intermediate Microeconomics (either Econ 121 or Econ 125), a course covering basic probability theory such as Econ 131 or Econ 135, as well as the completion of the mathematics requirement of the economics major.

engage the main arguments, often with an institutional focus. At the end of the course students should be able to appreciate better the practice of central banking as it has evolved. There should also be better understanding of the ongoing global economic and financial crisis.

Prerequisite: Intermediate level micro and macroeconomics (Econ 121 or 125; Econ 122 or 126).

Econ 459a BEHAVIORAL MECHANISM DESIGN AND CONTRACT THEORY

Philipp Strack

Tuesdays, 1:30-3:20

This class is a senior seminar on behavioral mechanism design and contract theory. While most of the literature on mechanism design and contract theory restricts attention to “rational” agents, we will explore the recent literature dealing with behavioral or non-rational agents. Broadly speaking we call an agent behavioral if either she behaves according to expected utility preferences, or her beliefs are not consistent with Bayes rule.

Behavioral agents provide a rationale for the existence of various economic institutions which can not easily be explained otherwise.

One such example is corrective taxation: If the agent’s perception of the costs and benefits of an action are biased, she does not choose the actions which maximize her own well being (as perceived by the designer). A paternalistic designer might want to use taxes and restrictions on her actions to increase the agent’s welfare. Examples are taxes on cigarettes, light-bulbs, alcohol, gambling, etc.

Similarly, if the agent is time-inconsistent, the designer might tax present temptations to provide the agent with (partial) commitment to mitigate her self control problem. For example, one might interpret savings accounts like the US401k as such a partial commitment device. Even though a 401k account restricts the agent’s present consumption choices (which can never be beneficial for a rational agent), it might make her better off in the long-run by ensuring that she saves for retirement.

A question we will discuss in class is how optimal institutions are structured when agents are non-rational and how they differ from their counterparts with rational agents.

Basic and intermediate-level microeconomics (ECON 115 or equivalent; ECON 121) are the prerequisites for this class. You should also be familiar with basic calculus such as derivatives as well as with optimization problems such as utility maximization. Prior knowledge of contract theory and/or behavioral economics is strongly recommended.

Prerequisites: ECON 115 or equivalent; ECON 121.

Econ 460a FINANCIAL ECONOMICS, INFORMATION AND PREDICTIONS

Nicolas Lambert

Mondays, 1:30-3:20

Financial economics with special focus on the role of information and the use of markets as forecasting devices.

The course introduces students to the ideas and theoretical tools that economists use to understand the functioning of large markets and their design for prediction purposes. Once familiar with the key concepts, students learn to build intuition that help understand empirical facts.

Topics include choice under uncertainty, asset valuation in multi-period models, arbitrage theory, market microstructure, information aggregation, probability elicitation, prediction markets.

Prerequisites: ECON 121, and completion of all MATH requirements of the economics major. A course covering basic probability theory such as ECON 131 or ECON 135 is recommended.

Econ 465a/EPE 224a/GLBL 330a DEBATING GLOBALIZATION

Ernesto Zedillo

Fridays, 9:25-11:15

This seminar is intended for students interested in studying the main drivers, consequences and challenges of the increasing interaction and interdependence among economies and societies across the world. It will emphasize the economic dimensions of globalization, but it will address some important questions of international governance and geopolitics that could influence the future evolution of the global economy.

The seminar readings and discussions will be based on arguments submitted by both serious proponents and skeptics of globalization. Although significant attention will be devoted to the historical evolution of contemporary globalization, most discussions will center on issues of current debate and relevant policy implications. In addition to reviewing the trends, potential benefits and questions of concern about the three main forces of economic globalization - trade, investment and migration - the seminar will explore some of the key challenges and risks faced by the process of global interdependence. In this respect, issues of globalization's inclusiveness and effects on income inequality, which are central to the skeptics' arguments, will be examined. This semester particular attention will be paid to the question of whether the process of globalization has been stalling or even reversing, as some authors are ready to claim.

Prerequisites: Intermediate Microeconomics, Intermediate Macroeconomics and International Economics.

Econ 469a/GLBL 325a

HEALTH INEQUALITY AND DEVELOPMENT

Nicoli Natrass

Wednesdays, 3:30-5:20

This course considers the relationship between health and development through the lens of development policy (in particular anti-poverty policy and the role of aid), inequality of access to primary health care, and the HIV/ AIDS epidemic. Students are expected to write two short essays, conduct an exploratory analysis of inequality in access to primary health care, and (based on demographic modelling of AIDS) write a term paper on the impact of AIDS and related policy responses in an African country.

Pre-requisites: First year microeconomics

Econ 475a/EPE 286

DISCRIMINATION IN LAW: THEORY AND PRACTICE

Gerald Jaynes

Wednesday, 9:25-11:15 am

This seminar seeks to sharpen students' research, writing, and oral presentation skills through examination of several related questions:

- How do law and economic theory define and conceptualize economic discrimination.
- How adequately does the behavior of discriminators implied by economic models describe behaviors documented in court cases and government hearings?
- To what extent do economic theory and econometric techniques aid our understanding of marketplace discrimination in actual practice?

Topics include: Racial, ethnic, and gender discrimination in labor markets, housing markets, education, and financial services such as mortgage lending and insurance redlining. Demographic groups covered in the case material include Asian-, African-, Hispanic-, and Native Americans. Reading materials are drawn from written court opinions, congressional hearings, and academic literatures including economics, law, history, African American Studies, Ethnic Studies, and Gender Studies.

Prerequisites: 1. Economics 115 or equivalent; 2. any 200 level course or higher in any of following: Economics, African American studies, Ethnicity, Race, & Migration, Women's, Gender & Sexuality Studies

Econ 476a THE THEORY AND APPLICATION OF CORPORATE CREDIT INVESTING
John Rapaport Mondays, 2:30-4:20

The course will endeavor to impart students with core concepts of the corporate debt markets and the decision making process behind credit investments, with the goal of both preparing individuals for careers in finance and providing a deeper understanding of how our increasingly credit driven economy operates. The primary topics will be pricing credit risk, valuation through the lens of a credit investor and the impact of the US bankruptcy code on corporate debt and companies. The course will use *Distressed Debt Analysis* by Stephen Moyer, but will focus on case studies and primary source materials. The course will culminate in group based presentations on live credit investment opportunities.

Prerequisites: Intermediate micro and econometrics

Econ 478a BOUNDED RATIONALITY
Ryota Iijima Wednesdays, 9:25 - 11:15

Standard economic theory assumes that decision-makers have unlimited ability to reason and remember; that they can calculate with perfect precision; and that they are unaffected by the context or framing of a decision problem. These assumptions, which are both normative ideals and technically convenient, have been debunked by the experimental literature. Theorists are now looking for ways that these assumptions can be relaxed and still yield tractable, insightful economic models. This course explores some of the advances that literature has made. We will begin by understand what it means, in the language of economists, to be rational, and the ways in which people have been found to violate rationality. Next, we will study some simple and general approaches that have been successful in modeling bounded rationality, under which individuals take a procedural approach to decision-making. Finally, we will examine how particular deviations from rationality (such as complexity constraints, framing effects, limited memory, and inconsistencies in preference) have been modeled in the literature, and how these deviations from rationality impact markets.

The course will begin with a more lecture-based format. There will be growing student participation through the term, by way of presentations of the existing literature. The course grade will depend on participation, the quality of these presentations, and the quality of the written work, which will consist of a critical evaluation of a paper in the literature (a "referee report") and one short paper surveying the literature on a topic of interest chosen by each student. The course will have two main books, "Modeling Bounded Rationality" by Ariel Rubinstein, and "Bounded Rationality and Industrial Organization" by Rani Spiegler, but will also rely on individual articles relevant to the topics at hand.

Prerequisites: Participants should feel comfortable with mathematical arguments and should have already taken intermediate microeconomics (ECON 121 or 125).

Econ 481a/EP&E 298

EMPIRICAL MICROECONOMICS

Jessica Wolpaw Reyes

Fridays, 9:25-11:15

Empirical microeconomists take economic theories and methodologies out into the world, applying them to interesting questions of individual behavior and societal outcomes. This upper-level seminar will start with an overview of the field and its methodologies, followed by foundational material in economic theory and econometric identification. We will then spend the bulk of the semester addressing substantive areas of inquiry such as environmental effects on health, the fetal origins hypothesis, and the economics of crime, gender, and race.

Most of our time will be devoted to close reading of research papers, including discussion of the relative merits of particular methodologies. Students will participate actively in class discussion, engage with cutting-edge research, evaluate empirical data, and write an analytical paper. The goal of the course is to enable students to develop and enhance their own skills and interests as applied microeconomists.

Prerequisites: Intermediate Microeconomics or equivalent, and Econometrics.