

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF ECONOMICS

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GRADUATE PROGRAM GUIDEBOOK
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Updated versions of the Graduate Program Guidebook may be available at
<http://economics.uchicago.edu/graduate.shtml>

In keeping with its long-standing traditions and policies, the University of Chicago, in admissions, employment, and access to programs, considers students on the basis of individual merit and without regard to race, color, religion, sex, sexual orientation, national or ethnic origin, age, disability, or other factors irrelevant to participation in the programs of the University. The Affirmative Action Officer (Administration 501, 773-702-5671) is the University's official responsible for coordinating its adherence to this policy, and the related federal and state laws and regulations (including Section 504 of the Rehabilitation Act of 1973, as amended).

ECONOMICS AT CHICAGO

The chief consideration in choosing a department at which to do graduate work in economics must be the quality of its faculty as economists and as teachers of economics. The Department of Economics at Chicago has always ranked among the handful of leading departments in the world. It has claimed a disproportionate share of the honors the economics profession can bestow.

Since 1969, when the Nobel Prize in economic sciences was first awarded, twenty-four recipients of that prize have been faculty, students, or researchers in the Department of Economics, Law School, or Booth School of Business at the University of Chicago, including Milton Friedman and George Stigler. Five Nobel laureates are currently members of the department: Gary S. Becker, Robert W. Fogel, Robert E. Lucas, Jr., James J. Heckman, and Roger B. Myerson. In addition, four of the six recipients of the American Economic Association's Walker Medal were members of the faculty (J. M. Clark, F. H. Knight, Jacob Viner, and T. W. Schultz). The John Bates Clark Medal has been awarded to five Chicago economists: Milton Friedman, Gary S. Becker, James J. Heckman, Steven Levitt, and Kevin M. Murphy. Since World War II, the department has had, relative to its size, a larger number of faculty than any other serving as presidents of the American Economic Association. Former faculty members and students currently hold leading positions as economists inside and outside academic life.

These honors are only one class of testimony to an accepted fact: Chicago is a particularly innovative department of economics. The proportion of new ideas in economics that have emanated from or become associated with Chicago over the last forty years is astonishing. Any definition of the Chicago School would have to find room for the following ideas (in chronological order from the 1940s to the present): the economic theory of socialism, general equilibrium theory, general equilibrium models of foreign trade, simultaneous equation methods in econometrics, consumption as a function of permanent income, the economics of the household, the rationality of peasants in poor countries, the economics of education and other acquired skills (human capital), applied welfare economics, monetarism, sociological economics (entrepreneurship, racial discrimination, crime), the economics of invention and innovation, quantitative economic history, the economics of information, political economy (externalities, property rights, liability, contracts), the monetary approach to international finance, rational expectations in macroeconomics, and mechanism design. The unifying thread in all this is not political or ideological but methodological, the methodological conviction that economics is an incomparably powerful tool for understanding society.

Chicago is known for its leadership not only in using this tool but also in teaching its students how to use it. Chicago has more than its share of gifted teachers, but the two principal reasons for its excellence in teaching are the rigorous system of examinations in the first two years of graduate study and the so-called "workshop" (that is, seminar) system for advanced students. Both are unique to Chicago. In preparing for the examinations by taking courses and working together in study groups, graduate students at Chicago acquire an unmatched mastery of economics. The workshop system then guides them through their Ph.D. dissertations. There are fourteen workshops and ten working groups, in a wide variety of fields of research, meeting in small groups weekly to hear and discuss papers by students, faculty, and leading scholars from inside and outside Chicago. A vigorous placement effort, the wide contacts of a faculty central to the discipline and, above all, the high quality of the economists produced by this program assure students with degrees from Chicago the best academic or non-academic jobs that their efforts and abilities warrant. Chicago has an unexcelled Ph.D. program, with recent graduates employed at numerous top-ranked universities, private firms, and such agencies as the World Bank, the International Monetary Fund, and the Federal Reserve System.

The department has other noteworthy features. It is socially coherent and located in one place, making its thirty faculty members accessible on a casual basis to the students and to each other. The economists at the Chicago Booth School of Business, the Law School, and the Irving B. Harris Graduate School of Public Policy Studies (constituting together a first-rate economics department in their own right) have unusually close relations with the department physically and intellectually, greatly enriching the student experience. For example, Chicago's Booth School is an international center for the study of, among other things, the mathematical theory of corporate finance, as the Law School is for the study of law and economics; both fields can be offered for examinations and dissertations in the department. The *Journal of Political Economy*, ranking second in circulation among American journals in economics only to the *American Economic Review*, is published at Chicago, as are the *Journal of Law and Economics*, the *Journal of Business*, the *Journal of*

Labor Economics, and the *Journal of Legal Studies*, all major journals in their fields of economics. The department is unusually cosmopolitan, with an international faculty, approximately 200 full-time graduate students in residence, and about 290 undergraduate majors graduating each year from all parts of the world. It has been said that the average location of the department is 20,000 feet over the South Atlantic, for a distinguished faculty is naturally involved in the world's thinking and the world's work. The result back home in Chicago, reinforced by the city's role as the air travel center of the United States, is a steady stream of return visitors from other universities, some for visits to a workshop and others for longer-term participation in the intellectual life of the department. Over the academic year more than a hundred outside speakers give papers in workshops. The Chicago student's exposure to new ideas when they are in fact still new is unequalled.

GRADUATE PROGRAM REQUIREMENTS

The Department of Economics offers a program of study leading to the Ph.D. degree. The program includes courses and comprehensive examinations in the three "Core" subjects of Price Theory; the Theory of Income, Employment, and the Price Level; and Quantitative Methods. In addition to the Core, Ph.D. requirements include demonstration of competence in two Specialized Fields of concentration, courses in three elective Fields for the General Distribution requirement, a Research Paper, the approval of a Thesis Proposal, and the completion of the Doctoral Thesis.

The usual load is three courses per quarter for two years; this permits completion of nine courses during the regular academic year. The comprehensive examination for the Core subjects is given in the Summer Quarter. An examination in each Specialized Field of concentration is given once a year.

Ph.D. students may request permission to choose electives outside the Department of Economics for Field or General Distribution requirements. Satisfactory grades on course work done at the graduate level at another institution may also be used to satisfy part of the course requirements for General Distribution by petition to the Director of Graduate Studies.

With good preparation, students commonly take five years to complete the Ph.D. Students who begin with the intention of obtaining the Ph.D. but who change their plans or fail to satisfy the Ph.D. requirements will in most cases find themselves eligible for the M.A. degree. (In addition, successful progress toward the Ph.D. degree normally results in a student meeting requirements for a Master's degree as well.) Requirements for the M.A. are listed below in Section III.

A program of a typical Ph.D. student consists of the following sequence:

First Year:	Courses in price theory, the theory of income, and quantitative methods to prepare for the "Core" examination.
First Summer:	Core examination.
Second Year:	Courses in Specialized Fields and participation in Workshops. Certification in two Specialized Fields, one by exam and one by GPA or exam (see below). Identification of a Research Paper topic.
Third & Fourth Years:	Completion of Research Paper, General Distribution requirement, and participation in Workshops. Decision on a thesis topic, and presentation of a Thesis Proposal Seminar at which the Department formally approves the topic. Admission to Candidacy.
Fifth Year:	Completion of the Doctoral Thesis and presentation of a Public Lecture at which the Department formally approves the thesis.

Students are advised to become completely familiar with the degree requirements contained herein. Requests for clarification of rules should be directed to the Graduate Student Affairs Administrator. The rules are subject to changes by the faculty from time to time, and students in the program are urged to consult the most recent booklet. Any variation in the requirements must be requested in writing and approved by the Department Chairman or the Director of Graduate Studies.

Grading

Quality letter grades and the numeric values used to calculate GPA's and to establish cohort rankings are as follows: A=4.0, A-=3.7, B+=3.3, B=3.0, B-=2.7, C+=2.3, C=2.0, C-=1.7, D+=1.3, D=1.0, D-=1.0, F=0. Students are required to take quality letter grades for the courses used to meet the M.A., the second Specialized Field (the one without written exam), and the General Distribution requirements. The level of quality grades necessary to meet each of these requirements is described in their respective sections below.

The grade of "P" (meaning "Pass") indicates that the student has submitted sufficient evidence to receive a passing grade and may only be used for the fulfillment of the Research Paper Requirement.

The grade of "I" (meaning "Incomplete") indicates that the student has not yet submitted all the evidence required for a final grade and is normally assumed to lead to a letter grade by the completion of the required work; if an "I" grade is not changed to a quality letter grade it has the same meaning as a grade of "R".

The grade of "R" (meaning "Registered") indicates that the student has registered for a course but has submitted no evidence of the quality of his/her work in the course; no other inference can be drawn from the grade.

An "R" grade -- which, it should be noted, cannot be requested after the last class meeting of a course and cannot be changed to a quality grade at a later time (or vice versa) -- should be taken only after careful consideration of the possible consequences. Quality letter grades are useful to both the student and members of the faculty who advise the student. The grades are valuable as predictive devices with respect to the successful completion of the requirements for a degree and are used in making financial aid decisions. Quality grades in the core courses may be considered together with performance on the Core Examination to demonstrate competence equivalent to a Ph.D. Pass on the Ph.D. Core Examination.

I. SPECIALIZED FIELDS OF ECONOMICS FOR THE PH.D. DEGREE

1. Applied Macroeconomics
2. Asset Pricing
3. Behavioral Economics
4. Economic Growth / International Trade
5. Economic History
6. Financial Economics
7. Industrial Organization
8. Labor Econometrics
9. Labor Economics / Human Capital
10. Law and Economics
11. Mathematical Economics
12. Monetary Economics
13. Public Sector Economics
14. Quantitative Study of Inequality
15. Other*

*For the M.A. degree, only one of a student's 9 courses may be counted under field 15. That course must be in the Division of the Social Sciences, the Law School, the Booth School of Business, the Department of Mathematics, the Department of Statistics, or the Harris Graduate School of Public Policy Studies.

II. REQUIREMENTS FOR THE PH.D. DEGREE

A. RESIDENCY REQUIREMENTS

In addition to program requirements specified by the Department of Economics, doctoral students must meet University residence requirements as set forth in the *Student Manual of University Policies and Regulations*. See the section on the “Residence System For Students In Ph.D. Programs” in the Student Manual at:

http://studentmanual.uchicago.edu/academic/index.shtml#residence_phd

B. TEACHING REQUIREMENT

Pedagogical training is a component of our doctoral education and for all students beginning in the Autumn Quarter of 2007 and later, the degree program requires compensated service equivalent to five appropriate teaching assistantships.

C. REQUIREMENTS BEFORE ADMISSION TO CANDIDACY

1. Core and Specialized Field Requirements

- a. Core requirements. The core courses consist of Economics 30100-30200-30300 (Price Theory), 31000-31100-31200 (Quantitative Methods), and 33000-33100-33200 (Theory of Income). The Core Examination, given in the Summer Quarter of each year, tests mastery of material in these nine courses. To be admitted to Ph.D. Candidacy, a student must demonstrate competence in this material either by:

- i. Receiving a grade of Ph.D. Pass on the Core Examination; or by:
- ii. Performance on the Core Examination together with quality grades in Core Courses that the Core Examination Committee judges to demonstrate competence equivalent to (i).

Students must apply to the Department to take the Core Examination by the last Friday of Spring Quarter. No one will be admitted to the Examination without prior application. (See also Section IV. Below.)

No more than two attempts are allowed to earn a Ph.D. Pass on the Core Examination: one in the first year and the other, if necessary, in the second year.

- b. Specialized Field Requirements. Demonstration of competence in two Fields to be chosen from the list in Section I. above. If field 15 is chosen, the program of work must be approved by the Department.

One of the two Specialized Fields must be certified by a Preliminary Examination (see i. below) and the other by taking a sequence of courses for quality letter grades with an average GPA of 3.0 (B) or better, or by taking a second examination (see ii. below).

- i. Exam Field. Successful performance on one written Preliminary Field examination. As preparation for the examination, students are expected to take the courses required for the prelim as listed in the Areas of Study below.

No more than two attempts are allowed to earn a Ph.D. Pass on the field certified by a Preliminary Examination: one in the second year and the other, if necessary, in the third year.* A different field may be chosen for the second attempt at the Exam-Certification at the end of the next program year.

- ii. GPA Field. Successful completion within a single academic year of a required sequence of courses in a second field as listed in the Areas of Study below with

quality letter grades and achievement of a grade point average of 3.0 or better to demonstrate competence in the field.

On rare occasions students may compose their own course sequence for the GPA-certified field, but this must be approved by the Director of Graduate Studies in advance of taking the sequence.

If a student's grade point average is lower than 3.0 in this second field, he or she must earn a Ph.D. Pass on the written preliminary examination for this field, and is allowed only one attempt to do so. That is, there are two attempts total allowed to pass this second field requirement, one via the 3.0 GPA-Certification and the second via a single attempt on the written preliminary exam.

Specialized Fields must be declared on a written Application for Specialized Field Certification by the last Friday of the Spring Quarter of a student's first Post-Core year. At least one field must be declared for Exam-Certification and one for GPA-Certification. The choice of which field is the "Exam Field" and which is the "GPA Field" may be changed at least two days prior to the date of each individual students' earliest scheduled exam.

No course can be counted for credit in more than one field.

A student who cannot Ph.D. Pass the specialized field requirements after two years of field courses may not continue for the Ph.D. degree.

*Unless the student is out-of-sequence. See #6. Completion Time below.

2. Research Paper Requirement

The Research Paper Requirement is designed to introduce the Ph.D. student to the demands and excitement of research, promote early contact with the faculty, and introduce the process of selecting a research topic and writing about it. (The thesis itself comes later and may be on a different topic.) Every student is required to write a research paper under faculty supervision.

- a. Work on the Research Paper should start after the student has achieved a Ph.D. pass on the Core.
 - i. When the student can jointly agree on a Research Paper topic with a faculty member, a Research Paper Registration form signed by this faculty member must then be presented to the Office of Graduate Student Affairs no later than the last Friday of Spring Quarter of the second year.*
 - ii. The final draft of the Research Paper is due no later than the end of the Fall quarter of the third year.* The signing faculty member must approve by giving a grade of "P" (with a grade of "A" allowed for outstanding papers). Unsatisfactory papers or those with requested revisions will be due one quarter later, or no later than the end of the Winter quarter of the third year.*

This is a binding requirement for admission to candidacy, without exception, just as passing the Core or the Specialized Field Requirements in two attempts are binding requirements.

- b. Related, from the second year on into subsequent years the Ph.D. student is required to attend at least one Workshop or faculty supervised Working Group on a regular basis -- though possibly a different one in different quarters or years, if preferred. This includes the standard Workshops as well as certain special gatherings (Working Groups) listed as "600-level" Workshops. The 600-level Workshops require consent of the instructor, and he or she is not obliged to grant permission to everyone.

Students are strongly encouraged to present their Research Paper, or another research idea, in one of these workshops or groups, for the purpose of practice, experience, and general feedback. Standing before a small number of faculty and defending ideas while welcoming constructive criticism is something necessary to learn to do early on.

*Unless the student is out-of-sequence. See #6. Completion Time below.

3. General Distribution Requirement

Demonstration of competence in at least three courses in three different fields outside of the two Specialized Field Requirements chosen from the fields listed in Section I above. Competence is demonstrated with a grade of C- or better.

Students may petition the Director of Graduate Studies to count graduate Ph.D. level courses outside the Department of Economics (in the Booth School of Business, Mathematics, History, Demography, or Statistics, etc.) at the University of Chicago or elsewhere as fulfilling one of these General Distribution Requirements. It is most unusual, however, for us to accept courses taken elsewhere.

4. Fourth Year Registration Requirements

Before registering for their fourth year in the program, students must provide the department with:

- a short (one-page) description of their thesis project;
- a brief (one-paragraph) memo from their (tentative) thesis committee chairman giving his/her view of the project.

5. Thesis Proposal and Thesis Seminar

Students must write a thesis proposal and give a thesis seminar following the procedures described below.

When students have satisfied the requirements under headings 1-3 (in Section II.C.) above, they may form a tentative thesis committee. The thesis committee consists of at least three faculty members. Faculty from related parts of the university may serve, but at least one member must be in the Department of Economics. Other outside members may also serve with the approval of the Director of Graduate Studies.

The student, before appearance at the thesis seminar, shall prepare a thesis proposal (not to exceed 50 double-spaced typewritten pages) explaining the thesis topic, the existing state of knowledge on the topic, its potentialities, and the proposed plan of attack on the research problem. Any thesis proposal exceeding 50 pages will be returned to the student for modification.

When the tentative thesis committee has approved the proposal by completing and signing the Thesis Seminar Form, the candidate shall submit one-hard-copy and one pdf file of the Thesis Proposal paper to the Graduate Student Affairs Administrator, at least two weeks prior to the date of the seminar. The Department shall then circulate the proposal to all faculty members of the Department, two weeks in advance of the thesis proposal seminar. The two-week circulation period and the thesis seminar must occur while the University is in session. This rule must be strictly adhered to.

The student's tentative thesis committee is expected to attend the thesis proposal seminar. The purposes of the seminar are: 1) for the student to present his or her thesis proposal to faculty; 2) to help the student define and solve the research problem; and 3) to assist the Department in evaluating the student. Approval of the thesis proposal shall be determined by a vote of attending faculty at the conclusion of the seminar.

At the start of the seminar, the student must provide the chairman of the thesis committee with a Thesis Proposal Approval Form. This form must be completed and signed by the chairman of the thesis committee in a manner reflecting the outcome of the faculty vote. The student must return this form to the Student Affairs Administrator immediately following the faculty vote.

6. Completion Time, Academic Probation

Students must be admitted to Ph.D. Candidacy by the end of their fourth year in residence.

Students who have not been admitted to candidacy by the end of their fourth year will be placed on academic probation. Such students will remain on academic probation until the start of the first quarter following their admission to candidacy. Students on academic probation will not be eligible for student office spaces in the Department, for the Advanced Residence tuition financial aid, or the AR tuition award for teaching. Students ineligible for AR Tuition aid or awards at the beginning of a quarter remain ineligible throughout that quarter regardless of any changes in their probationary status. No changes in financial aid will be made once an academic quarter has begun.

(NOTE: If a student with Social Sciences Division (SSD) funding for their fifth year is not a Ph.D. candidate by the end of their fourth year of residence, they will not receive their SSD stipend in their fifth year until the quarter after their admission to candidacy. If they are admitted to candidacy during their fifth year, they will be entitled to three full quarters of SSD stipend, beginning with the quarter following admission to candidacy. If they are not admitted to candidacy by the end of their fifth year, they will forfeit one quarter of SSD funding for every quarter they are not yet admitted to candidacy in their sixth year. Thus under no conditions will SSD funding be available in the seventh year.)

For students who have had to take the entire core twice before earning a Ph.D. Pass, these requirements are phased-in in such a way so as to require them to also propose their thesis and be admitted to candidacy as above by the end of the fourth year. Thus the written preliminary Field exam is due by the end of their third academic year, with the second attempt, if necessary, by the end of fourth. The second Field with competence demonstrated by grades only must be done in the third year. The Research Paper Requirement is due by the end of the Spring quarter of the third academic year, so in this case the student will need to find a faculty supervisor in the first quarter of the third year. Revisions, if necessary, are due by the end of the Summer quarter of the third year.

Students who have to retake only one of the parts of the Core Exam will not be allowed to phase-in the requirements and must be on the same timetable as if they had passed the entire Core.

D. REQUIREMENTS AFTER ADMISSION TO CANDIDACY

1. The Eight-Month Requirement

Admission to Ph.D. candidacy must have been granted at least eight months before the awarding of the Ph.D. degree.

2. The Thesis

- a. The final (permanent) thesis committee is ordinarily the same as the tentative thesis committee, but the candidate may request a change in the composition of the committee. Any such request must be approved by the Director of Graduate Studies.
- b. A Ph.D. thesis submitted for final approval by the Department of Economics faculty will ordinarily contain a central core not in excess of 60 double-spaced, typewritten pages. This central core must be self-contained, but may be supplemented by

supporting material. In scope and quality, the central core shall be comparable to a first-rate journal article.

- c. After the central core of a candidate's thesis has been approved by the thesis committee (indicated by their signatures on the *Approval Form for Public Lecture*), the candidate shall prepare copies of the central core and submit them to the Graduate Student Affairs Administrator. The candidate may submit one hard-copy and one pdf file or bear the expense of submitting duplicated copies for distribution to the faculty of the Department. The central core must be circulated for a three-week Reading Period while the University is in session.
- d. Before the three-week Reading Period can begin, a date and a time for the Public Lecture must be set so it can be announced when the central core is circulated. While the Public Lecture may be held at least two days after the beginning of the Reading Period, it is preferable that it be scheduled at the end of this period.

The thesis committee chairman must be present at the Public Lecture. At the end of the Public Lecture, the chairman must indicate that the candidate has obtained a passing grade by signing the *Report of Final Examination for the Degree of Ph.D.* on behalf of the final thesis committee as required by the University.

In special circumstances the Public Lecture can be waived. This requires a formal petition from the thesis committee chairman, stipulating the reason for this course of action. The petition must be approved by the Department faculty.

- e. Final acceptance and approval of the thesis shall follow the Public Lecture and the three-week Reading Period, and will depend upon (a) acceptance of the dissertation by the thesis committee and (b) approval of the core by the Department faculty. At the end of the Reading Period, the chairman of the thesis committee must submit a memo to the Director of Graduate Studies stipulating whether or not there are any faculty objections to approval of the thesis. If objections are raised, the matter will be brought to a faculty vote. The memo must be received before the Department can certify that a candidate has satisfied all departmental requirements for the Ph.D. degree.
- f. One single-sided final copy of the thesis on 8 1/2 x 11 paper, and \$60 (in cash or money order) to cover the cost of binding, must be submitted to the Department through the Graduate Student Affairs Administrator. Failure to do so will result in the removal of one's name from the Convocation List. All final copies of the dissertation must fulfill the "University-wide Requirements for the Ph.D. Dissertation" as specified by the University of Chicago Dissertation Office.
- g. All departmental requirements for the Ph.D. degree must be satisfied no later than the final submission deadline set by the Dissertation Office before the Convocation at which the degree is granted.
- h. In addition, the candidate must fulfill the University-wide convocation and dissertation requirements. These include: application for the degree by the first day of the quarter in which it is to be granted; submission of a copy of the dissertation for review and approval by the Dissertation Office by their Draft Deadline; submission of final corrected copies of the dissertation by the Dissertation Office's final submission deadline; final approval of the thesis by the Department of Economics Chairman indicated on the Dissertation Office's Departmental Approval form; completion of all other forms required by the Dissertation Office; and payment of University publication fees. For additional information about University requirements see <http://www.lib.uchicago.edu/e/phd>

III. REQUIREMENTS FOR THE M.A. DEGREE

NOTE: The Department does not admit students who intend to do only a Master's degree. However, students who choose to leave the program or fail to meet program requirements will in most cases find themselves eligible for the M.A. degree. In addition, successful progress toward the Ph.D. degree normally results in a student meeting requirements for a Master's degree as well.

There are two alternative sets of requirements that can be used for the M.A. degree:

- A. Receiving a passing quality letter grade in the nine Core courses: Economics 30100, 30200, 30300, Economics 31000, 31100, 31200, and Economics 33000, 33100, 33200. At least five of the grades in these courses must be "B-" or better. In addition, a grade of M.A. Pass on the Core Examination is required.
- B. Receiving a passing quality letter grade in nine courses of registration in graduate level courses in economics. At least five of the grades in these courses must be "B-" or better, and the following courses are required: Economics 30100, 31000, and 33000. In addition, two of the courses must be in one Specialized Field as specified in Section I. above, and one preliminary examination must be passed at the M.A. level. Normally this examination is in the field in which the two courses are taken, but an M.A. Pass on the Core Examination may be substituted.

IV. WRITTEN EXAMINATION RULES

Candidates for degrees in economics must complete Core and Preliminary Examinations in a timely manner. It is very important, therefore, that students, before applying for a written examination, consult with their counselors regarding the examination rules and the adequacy of their preparation for the examinations for which they are applying.

A. EXAMINATION GRADES

1. Core Examination

The Core Examination consists of three parts (Price Theory, the Theory of Income, and Quantitative Methods) written on separate days in the same quarter, and students writing the examination for the first time must write all three parts. Students will receive a single grade of Ph.D. Pass, M.A. Pass, or Fail based on their performance on the entire Core examination and their grades in the Core courses. Students receiving a grade of Fail or M.A. Pass on their first writing of the Core Examination must, on their second attempt to pass this examination at the Ph.D. level, rewrite each part unless they are informed in writing, on the occasion of the grading of their first Core examination, that they are required to rewrite only a specific part of the examination.

To recapitulate, the possible outcomes of taking the Core Examination are:

- Ph.D. Pass
- M.A. Pass and retake Price Theory
- M.A. Pass and retake Theory of Income
- M.A. Pass and retake Quantitative Methods
- M.A. Pass
- Fail

Students who receive an M.A. Pass or a Fail on their first attempt on the Core examination must retake all three parts of the Core examination to receive a Ph.D. pass.

Students who have not PhD-passed the Core Examinations should not be doing other teaching or research work in the university during the academic year.

2. Specialized Field Preliminary Examinations

Specialized Field Preliminary Examinations are graded Ph.D. Pass, M.A. Pass, or Fail. The grade of M.A. Pass is satisfactory for meeting requirements for the M.A. degree, but not for meeting the Ph.D. Field Examination requirement.

Each Specialized Field is made up of a number of courses. These courses are listed in the section below entitled Areas of Study (see page 13) under their respective Specialized Field heading. Courses marked with an asterisk(*) are intended to provide the basis for the Specialized Field requirements. Students are expected to be familiar with the material covered in these courses, but Field requirements generally do not exceed three courses. When a Field has two or three courses marked with an asterisk, then those courses constitute the required sequence for the Field, whether evaluated by Preliminary Examinations or by GPA. When there are more than three such courses in a Field, familiarity with the material covered in any three of them is often, but not always, sufficient for the Field examination. Students wishing clarification should check with the Chairman of the Examining Committee. A course without an asterisk is an optional course in the Field and may be counted for General Distribution purposes only.

Whenever a course is designated for more than one Field Examination, students can only take the examination in one of the fields.

If a student applies to take a preliminary examination and does not write the examination, a grade of "Fail" is automatically recorded. However, students may withdraw from an examination with the prior approval of the Director of Graduate Studies.

B. EXAMINATION SCHEDULING

1. The scheduling of the Core Examination may not be changed.
2. The scheduling of a Preliminary (Field) Examination may be changed by petition of the chairman of the examination committee. The petition should be made in writing to the Director of Graduate Studies at least six weeks in advance of the examination. It should state the reason for the requested change. The change must be approved by the Director of Graduate Studies before it can go into effect. If the Director considers the request to be valid, a notice will be posted of the proposed change in date outside the department office for ten days. If no written objections to the change are received by the Director within these ten days, the change then will be made. No changes in schedule will be made later than one month prior to the examination.

C. EXAMINATIONS IN ABSENTIA

Students writing an examination in absentia must pay a \$60 service charge for each part of the examination at the time they submit their examination application. Proctors for in absentia examinations will be chosen by the Department. For each examination, students should submit names of proposed Proctors who are University of Chicago graduates or affiliates known to the Department of Economics faculty. The Department will select the Proctor either from among these recommendations or from its own list of proctors. If acceptable proctors are not available, then the examination may not be taken in absentia.

V. SUMMER RESEARCH GRANT DISBURSEMENT POLICY

- A. *Students with Social Sciences Division (SSD) funding of two summer research grants will receive the first grant as an automatic payment their first summer after matriculating. Their second summer research grant will be automatically paid in their second summer only if they Ph.D. Passed the Core on their first attempt the previous summer. If a student must re-take all*

or part of the Core in their second summer, they will receive an automatic payment of their second summer research grant in their third summer.

- B. *Students with Social Sciences Division (SSD) funding that provides tuition only for their first two years and one summer research grant will receive an automatic payment their second summer regardless if they passed the Core their first attempt the previous summer or not.*
- C. *Students without Social Sciences Division (SSD) funding for their first two years but who have one summer research grant as part of SSD funding for their 3rd through 5th years will receive an automatic payment of their summer research grant in their third summer.*

GRADUATE COURSES BY AREAS OF STUDY (2011-12)

THE CORE

Price Theory

- 30100 Price Theory I [=LAWS 43611] -- Murphy / Becker (F)
- 30200 Price Theory II [=LAWS 43621] -- Becker / Murphy / Reny (W)
- 30300 Price Theory III -- Reny / Myerson (Sp)

Theory of Income

- 33000 Theory of Income I -- Alvarez (F)
- 33100 Theory of Income II -- Stokey (W)
- 33200 Theory of Income III -- Mulligan (Sp)

Quantitative Methods

- 30400 Introduction to Mathematical Methods in Economics -- Lima (8/29/11-9/16/11)
- 31000 Empirical Analysis I -- Shaikh / Uhlig (F)
- 31100 Empirical Analysis II -- Uhlig / Hansen (W)
- 31200 Empirical Analysis III -- Neal / Hortaçsu (Sp)

THE SPECIALIZED FIELDS

Mathematical Economics

- 30501* Topics in Theoretical Economics -- Reny (W)
- 30600* The Economics of Information [=BUSF 33911] -- Harris (F)
- 30701* Evolutionary Game Theory -- Szentes (Sp)

Economic History

- 32000* Topics in American Economic History [=ECON 22200] -- Galenson (W)
- 32200* Population and the Economy [=BUSF 33470 =ECON 22500] -- Fogel (F)
- 32300 A Guide to Business Ethics [=BUSF 38114 =ECON 22300] -- Fogel (W)
- 32400 Economics and Demography of Marketing [=BUSF 37104 =ECON 22700] -- Fogel (Sp)

Monetary Economics

- 33502* Monetary Economics I -- Alvarez (F)
- 33602* Monetary Economics II -- Lucas (W)
- 33702* Monetary Economics III [=BUSF 33940] -- Guerrieri / La'O (Sp)

Labor Economics / Human Capital

- 34300* Human Capital [= SOCI 30306] -- Becker (Sp)
- 34702* Aggregate Labor Market Dynamics -- Shimer (F)
- 35002* The Origins and Consequences of Inequality in Capabilities -- Heckman (W)

Quantitative Study of Inequality

- 34901* Social Interactions and Inequality -- Durlauf (Sp)
- 35002* The Origins and Consequences of Inequality in Capabilities -- Heckman (W)
- 37403* Research Seminar on the Quantitative Study on Inequality [=PPHA 48410] -- Heckman (Sp)

Economic Growth / International Trade

- 35700* Firms and International Trade -- Chaney (Sp)
- 35800* Quantitative Analysis in International Trade -- Kortum (W)

Public Sector Economics

- 36200* Public Sector Economics -- Mulligan (F)
- 36301* Public Economics [=PPHA 44000] -- Meyer (W)
- 36500* Advanced Health Economics [=PPHA 47000] -- Philipson (Sp)

Labor Econometrics

- 37200* Analysis of Microeconomic Data I [=PPHA 48200] -- Black (F)
- 37300* Analysis of Microeconomic Data II [=PPHA 48300] -- Lalonde (W)
- 37403* Research Seminar on the Quantitative Study on Inequality [=PPHA 48410] -- Heckman (Sp)

Applied Macroeconomics

- 38001* Applied Macroeconomics: Micro Data for Macro Models [=BUSF 33942] -- Davis / Hurst (F)
38101* Applied Macroeconomics: Methods and Applications [=BUSF 33943] -- Davis / Hurst / Uhlig (W)
38201* Applied Macroeconomics: Inflation [=BUSF 33944] -- Cochrane / Sargent (Sp)

Financial Economics***

- 38900* Theory of Financial Decisions I [=BUSF 35901] -- Fama (F)
39001* Theory of Financial Decisions II [=BUSF 35902] -- Diamond / Rajan / Sufi (W)
39400* Theory of Financial Decisions III [=BUSF 35903] -- Diamond / Zingales (Sp)

***There will not be a Specialized Field examination for Financial Economics in 2011-2012.

Asset Pricing

- 39100* Asset Pricing [=BUSF 35904] -- Cochrane (F)
39200* Topics in Empirical Finance [=BUSF 35905] -- Hansen / Heaton (W)
39600* Topics in Asset Pricing [=BUSF 35907] -- Panageas (Sp)

Law & Economics

- 39802* Advanced Law and Economics [=LAWS 55401] -- Malani (Sp)
42100* An Introduction to Doing Empirical Microeconomic Research [=LAWS 99303] -- Levitt (W)
40301* Advanced Industrial Organization III [=BUSF 33923 =LAWS 99304] -- Carlton (Sp)

Industrial Organization

- 40101* Advanced Industrial Organization I [=BUSF 33921] -- Syverson (F)
40201* Advanced Industrial Organization II [=BUSF 33922] -- Hortacısu (W)
40301* Advanced Industrial Organization III [=BUSF 33923 =LAWS 99304] -- Carlton (Sp)
40402* Advanced Industrial Organization: Topics [=BUSF 33926] -- Hickman (Sp)

Behavioral Economics

- 41001* Behavioral Economics [=BUSF 38912] -- Thaler / Kamenica / Pope (F)
41100* Experimental Economics [=ECON 21800]-- List / Price (W)

OTHER COURSES

- 40603 Market Design [=BUSF 33915 – ½ course] -- Budish (Sp)
40701 Topics in Matching and Market Design -- Kominers (W)
41601 [Discrete Choice and Dynamic Discrete Choice](#) [=ECON 21150] -- Heckman (F)
41701 [Software Engineering for Economics](#) -- Skrainka (Sp)
41800 Numerical Methods in Economics -- Judd (F)
42800 Creativity [=ECON 22650] -- Galenson (W)
42900 Innovators [=ECON 22600] -- Galenson (F)
43400 Topics in Labor Markets and Macroeconomics -- Lopes de Melo (W)
43800 Topics in General Equilibrium, Default, Bankruptcy, and Applications [=LACS 23812, 43812 = LAWS 73704 = PPHA 37030 = [BUSF 33912](#) = [ECON 25100](#)] -- Araujo (Sp)
46000 Topics in Political Economy [=LACS 29412, 39412 =ECON 26950] -- Martinelli (F)
49900- Individual Research (for Required Research Paper: to be arranged between individual faculty and students). See Time Schedule for faculty Section Numbers

Workshops or Working Groups (Required for all Post-Core students)

50000-60000's see Course Descriptions and Time Schedule

- Courses marked with an asterisk(*) are intended to provide the basis for the Specialized Field requirements. Students are expected to be familiar with the material covered in these courses, but Field requirements generally do not exceed three courses. When a Field has two or three courses marked with an asterisk, then those courses constitute the required sequence for the Field, whether evaluated by Preliminary Examinations or by GPA. When there are more than three such courses in a Field, familiarity with the material covered in any three of them is often, but not always, sufficient for the Field examination. Students wishing clarification should check with the Chairman of the Examining Committee. A course without an asterisk is an optional course in the Field and may be counted for General Distribution purposes only.

GRADUATE COURSES BY QUARTER

	<u>Autumn 2011</u>	<u>Winter 2012</u>	<u>Spring 2012</u>
30100	Murphy / Becker		
30200		Becker / Murphy / Reny	
30300			Reny / Myerson
30501		Reny	
30600	Harris		
30701			Szentes
31000	Shaikh / Uhlig		
31100		Uhlig / Hansen	
31200			Neal / Hortaçsu
32000		Galenson	
32200	Fogel		
32300		Fogel	
32400			Fogel
33000	Alvarez		
33100		Stokey	
33200			Mulligan
33502	Alvarez		
33602		Lucas	
33702			Guerrieri / La'O
34300			Becker
34702	Shimer		
34901			Durlauf
35002		Heckman	
35700			Chaney
35800		Kortum	
36200	Mulligan		
36301		Meyer	
36500			Philipson
37200	Black		
37300		Lalonde	
37403			Heckman
38001	Davis / Hurst		
38101		Davis / Hurst / Uhlig	
38201			Cochrane / Sargent
38900	Fama		
39001		Diamond / Rajan / Sufi	
39100	Cochrane		
39200		Hansen / Heaton	
39400			Diamond / Zingales
39600			Panageas
39802			Malani
40101	Syverson		
40201		Hortaçsu	
40301			Carlton
40402			Hickman
40603			Budish
40701		Kominers	
41001	Thaler / Kamenica / Pope		
41100		List / Price	
41601	Heckman		
41701			Skrainka
41800	Judd		
42100		Levitt	
42800		Galenson	
42900	Galenson		
43400		Lopes de Melo	
43800			Araujo
46000	Martinelli		

GRADUATE COURSE DESCRIPTIONS (2011-12)

30100 PRICE THEORY I (Murphy / Becker)

Theory of consumer choice, including household production, indirect utility, and hedonic indices. Models of the firm. Analysis of factor demand and product supply under competitive and monopolistic conditions. Static and dynamic cost curves, including learning by doing and temporary changes. Uncertainty applied to consumer and producer choices. Property rights and the effects of laws. Investment in human and physical capital. (=LAWS 43611)

30200 PRICE THEORY II (Becker / Murphy / Reny)

The first five weeks of this course are a continuation of ECON 30100, *Price Theory I*.

The second half of the course will be devoted to the Walrasian model of general competitive equilibrium as developed by Arrow and Debreu. This will begin with a brief development of the consumer and producer theories, followed by the welfare theorems connecting equilibria and optima and a treatment of the classical existence of equilibrium theorem. The core of an economy, a limit theorem relating the core to the set of competitive equilibria, and models in which agents are small relative to the market will also be considered. Finally we will study general equilibrium under some alternative assumptions; such as, informational asymmetries and rational expectations equilibrium, public goods and Lindahl equilibrium, financial general equilibrium and asset pricing. (=LAWS 43621)

30300 PRICE THEORY III (Reny / Myerson)

The course begins with expected utility theory, and then introduces the fundamental ideas of game theory: strategic-form games, Nash equilibrium, games with incomplete information, extensive-form games, and sequential equilibrium. Then the course will focus on the effects of informational asymmetries in markets and the problems of moral hazard and adverse selection. Topics include: optimal risk sharing, signaling and screening in competitive markets, principal-agent problems, strategic and informational incentive constraints, incentive efficiency, and mechanism design for auctions and bilateral trading.

30400 INTRODUCTION TO MATHEMATICAL METHODS IN ECONOMICS (Lima)

This optional three-week course for incoming graduate students meets August 29 through September 16, 2011 and introduces some basic mathematical concepts used in economic theory: a "briefing" of the math students will encounter in the Core classes. Emphasis is placed on problem-solving, but also on some fairly abstract math you might not see otherwise. Cooperative work is strongly encouraged.

30501 TOPICS IN THEORETICAL ECONOMICS (Reny)

Some of the topics covered in this course are: Nash equilibrium existence in discontinuous games, existence of monotone pure strategy equilibria in Bayesian games, defining sequential equilibrium in infinite extensive form games, efficient auction design, correlated information and mechanism design.

30600 THE ECONOMICS OF INFORMATION (Harris)

This course introduces students to a range of economic tools used to study models explicitly involving strategic behavior, information transmission, and contracting in economics and finance. The intention is to prepare the student to conduct research using these tools. Techniques studied include agency theory, signaling models, and sequential games of incomplete information. In addition, some applications of the tools will be covered. The approach is rigorous and analytical. First class assignment: purchase the required materials, read the syllabus (with special attention to the

section on prerequisites), and read the article "Moral Hazard and Observability" by Bengt Holmström (*Bell Journal*, spring 1979) which can be downloaded from JSTOR. The syllabus is available on the "Booth Syllabi" link on Chalk: https://chalk.uchicago.edu/webapps/portal/frameset.jsp?tab_id=109_1 PQ: ECON 30100-30200. (=BUSF 33911)

30701 EVOLUTIONARY GAME THEORY (Szentes)

The goal of this course is to give an introduction to Evolutionary Economics with a particular focus on the evolution of preferences. The topics covered in this course include altruism, risk-preferences, discounting, happiness and social norms.

31000 EMPIRICAL ANALYSIS I (Shaikh / Uhlig)

This course introduces students to the key tools of econometric analysis. It covers basic OLS regression model, generalized least squares, asymptotic theory and hypothesis testing for maximum likelihood estimation, extremum estimators, instrumental variables, decision theory and Bayesian inference.

31100 EMPIRICAL ANALYSIS II (Uhlig / Hansen)

This course will develop time series methods pertinent for the analysis of dynamic economic models. Vector autoregressive methods for identifying shocks and their transmission and related filtering methods for models with hidden states will be investigated. Generalized method of moments and indirect inference methods will be studied. These econometric methods will be applied to models from macroeconomics and financial economics.

31200 EMPIRICAL ANALYSIS III (Neal / Hortaçsu)

The course will cover methods that economists use in applied microeconomic research. Our focus will be on exploring and understanding data sets, evaluating predictions of economic models, and identifying and estimating the parameters of economic models. The methods discussed will include regression techniques, maximum likelihood, method of moments estimators, as well as some non-parametric methods. Lectures and homework assignments will seek to build proficiency in the correct application of these methods to economic research questions.

32000 TOPICS IN AMERICAN ECONOMIC HISTORY (Galenson)

Economic analysis is applied to important issues in American economic history. Specific topics vary, but may include the following: the economics of colonization, the transatlantic slave trade, the role of indentured servitude and slavery in the colonial labor market, the record and sources of 19th-century economic growth, economic causes and effects of 19th-century immigration, the expansion of education, the economics of westward migration, determinants of long-run trends in the distribution of income and wealth, the quantitative analysis of economic and social mobility, and the economics of racial discrimination in the twentieth-century South. PQ: ECON 20000. (=ECON 22200)

32200 POPULATION AND THE ECONOMY (Fogel)

This course deals with the effects of swings in population on the stability of the economy and on business opportunities. In both the short run and the medium run, shifts in the demographic rates, including migration, probably have been more destabilizing than unwise macroeconomic policy or abrupt political realignments. Population change thus constitutes a major challenge to policy makers in business and in government. Topics covered include: the effects of demographic changes on markets for labor and capital, on savings rates and the structure of investment, on pensions and health care costs, on taxes and government expenditures, and on household behavior. Special attention is given to development in China and India. Problems of planning for the consequences of population changes, including methods of forecasting, are also considered. The grade for this course is based on

problem sets discussed during T.A. sessions, a midterm, and a final examination. PQ: BUSF 33001 or the equivalent. (=ECON 22500 =BUSF 33470)

32300 A GUIDE TO BUSINESS ETHICS (Fogel)

This course examines the way that religious and political movements affect the ethics of business. It focuses on such current issues as the conflict between technical efficiency and morality, the ethical status of property rights, the politics of retirement and intergenerational equity, the ethics of the distribution of income and other conflicts between ethical and economic standards for compensation, the ethics of international trade and finance, globalization, agency problems, and ex post redefinitions of the legal status of de facto business practices. These issues are put into historical perspective by relating them to long cycles in religiosity in America, to the long-term factors influencing political images of business, and to the factors influencing domestic conceptions of the proper economic relationships between the U.S. and the rest of the world. The grade for this course is based on a midterm and a final examination. (=ECON 22300 =BUSF 38114)

32400 ECONOMICS AND DEMOGRAPHY OF MARKETING (Fogel)

This course focuses primarily on problems in strategic marketing forecasts that are related to long-term product development and new technologies. Alternative procedures for estimating variations in the demand over business cycles (3-5 years), intermediate periods (5-15 years) and long periods (15-50 years) for both consumer and producer commodities and services are considered. Much attention is given to the impact of rapid economic growth in China and India on global markets. Attention is also given to the use of existing on-line databases for the estimation of a variety of forecasting models. Students receive hands-on-the-data-training in statistical sections that meet throughout the quarter. In addition, there are two lectures per week that deal with four broad topics: the evolution of markets and of methods of distribution in America and globally since 1800; variations in the life cycles of products; the role of economic and demographic factors in the analysis of long-term trends in product demand; the impact of technological change; and the influence of business cycles on product demand. The grade for this course is based on problem sets discussed in the weekly statistical lab and a final examination. (=ECON 22700 =BUSF 37104)

33000 THE THEORY OF INCOME I (Alvarez)

This course formulates and analyzes aggregate general equilibrium models to study classical questions in macroeconomics. The course starts with the formulation and analysis of competitive equilibrium in the general equilibrium models, including the 1st and 2nd welfare theorem. The first applications of this model are: social security (using an OLEG model), optimal risk sharing, and asset pricing (using a one period model with uncertainty). Most of the remaining applications focus on dynamic models without uncertainty. To do so we study tools to characterize optimal solutions of control problems: Hamiltonian, calculus of variations and dynamic programming. The main application of these tools is the neoclassical growth model in many variations: determinants of steady state and balanced growth path, endogenous growth, effect of variable labor supply, TFP changes and of investment specific technical progress, habit formation, the q-model of investment, taxation of capital and labor, optimal taxation a la Ramsey, among others.

33100 THE THEORY OF INCOME II (Stokey)

This course will focus on the use of recursive general equilibrium models to study various macroeconomic questions. On the substantive side, particular topics include models with idiosyncratic (insurable) and aggregate (uninsurable) risk; issues in dynamic fiscal policy (Ricardian equivalence, tax smoothing, capital taxation); models of asset pricing; issues in monetary policy (money demand, the welfare cost of inflation); time consistency; and aggregate models with price setting. On the methodological side, the course will focus on dynamic programming and other recursive modeling techniques.

33200 THE THEORY OF INCOME III (Mulligan)

The course shares with the other two Theory of Income courses the objectives of (1) explaining human behavior as evidenced by aggregate variables and (2) predicting the aggregate effects of certain government policies. Economics 33200 considers some of the prevailing business cycle theories, and their application to the recession of 2008-9. Some hypotheses to be considered are the q-theory of housing investment, the neoclassical approach to fiscal policy, and whether government spending has a “multiplier.” The course confronts several empirical issues that are also encountered outside the field of macroeconomics such as the construction of aggregate data, choice of data set, and the measurement of expectations.

33502 MONETARY ECONOMICS I (Alvarez)

In this class we will analyze monetary models, focusing on money demand and interest rate determination. In most of the model that we will use real balances will be derived as ways to economize in different transactions. We will study properties of both individual (i.e. households and firms) as well as aggregate money demand. Among the properties we will study are interest rate and expenditure elasticity, and the effect on money demand of changes on transaction technology (i.e. credit card, ATMs, changes in banking, etc). We will use study of some of these properties to empirically evaluate the fit of different models, and some to evaluate the welfare consequence of different policies. We will also study some equilibrium aspects of monetary models. Among these aspects we will feature the liquidity effect of monetary injections, as well as the effect of money on aggregate nominal expenditure, interest rates and exchange rates. While the class will have mostly a theoretical bent, we will also review a selection of the empirical evidence on both long run and short run properties of money demand, as well as properties of interest rates and inflation.

33602 MONETARY ECONOMICS II (Lucas)

This course will be concerned with theoretical models of monetary economies in which government-issued money and privately-issued money substitutes (“outside” and “inside” money) coexist. We will seek frameworks suitable for the study of changes in the relative values of inside and outside money, and of rationales for government insurance and regulation of inside money suppliers. We examine the roles of the central bank in inflation control and as lender of last resort.

33702 MONETARY ECONOMICS III (Guerrieri / La’O)

This course will explore a series of macroeconomic models with frictions, such as dispersed information, asymmetric information, and trading frictions. In particular, we will focus on the interaction of financial markets and the real economy. Topics will include: the effects of dispersed information and noise on the business cycle, the effects of a contraction in credit availability for both households and firms, and sources and effects of illiquidity and fire sales in financial markets. (=BUSF 33940)

34300 HUMAN CAPITAL (Becker)

This course covers both micro and macro aspects of human capital. Investments by parents in the education and other human capital of their children. Intergenerational transmission of inequality. The links between specialization in particular types of human capital and coordination costs, general knowledge, and the extent of the market. The relation between human capital, population change, and economic growth is also emphasized. (=SOC1 30306)

34702 AGGREGATE LABOR MARKET DYNAMICS (Shimer)

This course will examine recent research at the intersection of Macroeconomics and Labor Economics. The first part of the course will look at the determinants of business-cycle-frequency fluctuations in employment and hours worked. We will ask whether search models are capable of addressing empirical inconsistencies in market-clearing models of the labor market. We will also examine how these models can be used to study worker mobility across geographic or occupational

sectors of the economy. The second part of the course will study the determinants of long-run, cross-country differences in employment and hours worked. We will examine the role played by differences in taxes, unemployment insurance, and firing costs. The emphasis throughout the course will be on the use of empirically grounded general equilibrium models to address the key determinants of labor market outcomes.

34901 SOCIAL INTERACTIONS AND INEQUALITY (Durlauf)

This course will examine recent research on social interactions with a focus on their implications for inequality. Our conception of social interactions will be broad and will include studies of social networks, social capital, and racial discrimination. We will examine the effects of social interactions on individual and group outcomes as well as the implications of social interactions for how groups form. The lectures will explore theoretical models and the associated econometric and empirical literatures. Particular attention will be given to identification problems associated with empirical studies of social interactions.

35002 THE ORIGINS AND CONSEQUENCES OF INEQUALITY IN CAPABILITIES (Heckman)

This course examines human capital as a vector of skills, preferences, and personality traits subsumed under the term “capabilities.” We examine the origins of capabilities—the role of markets, family investment, social interactions, and heritability—in explaining inequality in wages, health, education, participation in risky activities, crime, labor supply, and a variety of other behaviors using a unified approach. The course considers, among other topics, recent work on addiction, self-control, and preference formation, as well as gene-environment interactions and the influence of inequality per se on capability formation. Economic models and econometric tools will be developed.

35700 FIRMS AND INTERNATIONAL TRADE (Chaney)

This course introduces students to recent theories of international trade, with a special emphasis on the role of firms. We will study models of trade with heterogeneous firms, dynamic models of the firm size distribution, as well as the role of networks in international trade.

35800 QUANTITATIVE ANALYSIS IN INTERNATIONAL TRADE (Kortum)

This course is the last in the sequence on International Trade and Growth. It covers recent quantitative work in international trade. It explores the behavior of individual producers in international markets, trade flows between nations, and aggregate growth. It develops theoretical models, evaluates their ability to capture key stylized facts, shows how to estimate their parameters, and demonstrates their use in performing policy experiments. The course involves a mix of theory, data, econometrics, and computation.

36200 PUBLIC SECTOR ECONOMICS (Mulligan)

The concept of "market distortion" is used to formulate measurements, explanations, and consequences of government activities including tax systems, expenditure programs, and regulatory arrangements. Topics include cross-country comparisons of government behavior, predicting microlevel responses to policy, measuring and evaluating the incidence of government activity, alternative models of government decision-making, and the application of public finance to other economics fields.

36301 PUBLIC ECONOMICS (Meyer)

This course covers areas of active empirical research on the design and effects of taxes and government spending. The areas covered are welfare economics, income taxation and labor supply, optimal income taxation, the effects of welfare and social insurance programs including AFDC/TANF, social security, unemployment insurance, workers' compensation, and disability insurance. While the emphasis is primarily empirical, the course begins each topic with the main theoretical work in that area. (=PPHA 44000)

36500 ADVANCED HEALTH ECONOMICS (Philipson)

Most developed economies spend substantial fractions of their incomes on improving health through investments in health enhancing activities, in health care markets, and other means. In particular, in the last half century there has been substantial growth in the amount of income devoted to health care expenditures. Also, in developed and developing countries alike the public sector is heavily involved in both the financing and production of health care; about two thirds of health expenditures on average are made by the public sector. This course will discuss advanced topics in the economic aspects of health and health care markets. The discussion will be focused on, but not limited to, health care markets in the United States. Particular attention will be paid to the effects and role of public sector interventions in health care markets including the subsidization of health care demand and the regulation of health care production. The course is mainly aimed at doctoral students but also open to master's students with an economics background. (=PPHA 47000)

37200 ANALYSIS OF MICROECONOMIC DATA I (Black)

This course covers several substantive issues that affect applied researchers including sampling issues in complex survey design, the problem of nonresponse in surveys, measurement error, latent variables, and the selection problem. Econometric topics include bounds, binary choice models, matching models, nonparametric regression, censored regression models, control function, and introduction to modern instrumental variables methods. (=PPHA 48200)

37300 ANALYSIS OF MICROECONOMIC DATA II (Lalonde)

This course will cover methods for program and policy evaluation using panel data. In the first half of the course we will discuss longitudinal models. In the second half of the course, we will discuss hazard models. (=PPHA 48300)

37403 RESEARCH SEMINAR ON THE QUANTITATIVE STUDY ON INEQUALITY (Heckman)

This course teaches the empirical tools needed to understand inequality in both cross sectional and dynamic settings. This year the course will emphasize the measurement of inequality and the study of dynamic and static choice and outcomes including dynamic treatment models and models for dynamic discrete choice. The course will be run as a seminar with hands on experience in both doing empirical research and in crafting the models to use economics to interpret empirical evidence. (=PPHA 48410)

38001 APPLIED MACROECONOMICS: MICRO DATA FOR MACRO MODELS (Davis / Hurst)

This course considers the use of data on households, workers and producers in research on consumption behavior, labor market fluctuations, business dynamics and other areas of macroeconomics. A key goal is to help students develop the ability to identify interesting research questions and devise promising research strategies. Topics include life cycle consumption behavior, home production and time use, housing market dynamics, wage rigidities and their consequences, unemployment fluctuations, employer behavior on the hiring margin, entrepreneurship, and business productivity dynamics. Lectures treat a mix of important, well-established research contributions and new, often rough, papers that seek to advance the frontier. Homework assignments aim to build proficiency in the use of micro data to address macroeconomic issues, expose students to a variety of useful data sources, and give them first-hand experience in identifying and evaluating research questions and strategies. (=BUSF 33942)

38101 APPLIED MACROECONOMICS: METHODS AND APPLICATIONS (Davis / Hurst / Uhlig)

The first five weeks of this course are a continuation of ECON 38001/ BUSF 33942, *Applied Macroeconomics: Micro Data For Macro Models*.

In the second part of winter quarter, the course will investigate models of financial crises and banking in a macroeconomic context. It will further develop quantitative methods for studying dynamic, stochastic, general equilibrium models. Methods of solution, estimation and characterization of short run and long run model properties will be justified and applied. A variety of applications from economic dynamics, asset pricing as well as fiscal and monetary policy analysis will be considered. (=BUSF 33943)

38201 APPLIED MACROECONOMICS: INFLATION* (Cochrane / Sargent)

The first half of this course will cover the basic issues of how monetary and fiscal policy determine the price level and inflation rate. We will consider a spectrum of theories, including the quantity theory, interest rate targets in new-Keynesian models, and the fiscal theory of the price level. We will also study empirical and historical evidence, and consider various doctrines for the conduct of central banks. Reading list and course outline will be available on the class website <http://faculty.chicagobooth.edu/john.cochrane/teaching/Monetary%20Economics%20PhD%20course/>

The second half of this course will primarily cover how concerns about model uncertainty affect valuations of assets and the design of macroeconomic policy. To set up policy problems, we shall study aspects of the theory of policy design under commitment that are needed to properly formulate government policy problems using ideas from dynamic programming. We will also touch on the econometric implications of model uncertainty. (=BUSF 33944)

38900 THEORY OF FINANCIAL DECISIONS I (Fama)

This course is concerned with models for portfolio decisions by investors and the pricing of securities in capital markets. The material is covered in a rigorous analytical manner, although formal technical requirements are minimal. The reading list is extensive. The expectation is that the average student spends 15+ hours per week on the course, outside of class. Grades are based on weekly take-home exam questions, about five problem sets, and a term paper. Class participation (I cold call) is also used to determine grades. Cannot be taken pass/fail or audited. **Written proof of permission from the Instructor to enroll in this class is required at the time of registration. Attendance at the first class is mandatory.**

This course is intended for (i) first-year Booth Ph.D. students with no finance and (at best) undergraduate economics and statistics backgrounds, and (ii) second-year MBA students with rather minimal economics and statistics backgrounds. Students with stronger backgrounds in economics and statistics are likely to find the pace of the course, and the exam and problem set requirements, somewhat tedious. Such students are better served by the Booth Ph.D. Asset Pricing courses offered by Cochrane, Constantinides, and Heaton. (=BUSF 35901)

39001 THEORY OF FINANCIAL DECISIONS II (Diamond / Rajan / Sufi)

This course provides a theoretical and empirical treatment of major topics in corporate finance, including: capital structure and financial contracting; investment decisions; bankruptcy; and the market for corporate control. The course is designed for Ph.D. students interested in corporate finance. Grades will be based on problem sets, referee reports, and a final examination. PQ: ECON 38900/ BUSF 35901. (=BUSF 35902)

39100 ASSET PRICING (Cochrane)

This is the first course in the Ph.D. asset pricing sequence. We will march through the book *Asset Pricing* as far as possible. Main topics will be: 1) Discount factors and the consumption-based asset pricing model; 2) Mean-variance analysis; 3) Linear factor pricing models CAPM, ICAPM, APT; 4) GMM and regression based tests of asset pricing models; 5) Term structure of interest rates; 6) Black-Scholes and its extensions; 7) Empirical survey: Equity premium, volatility, predictability, and multiple factors; 8) New utility functions; 9) Portfolio theory. (=BUSF 35904)

39200 TOPICS IN EMPIRICAL FINANCE (Hansen / Heaton)

The central question of empirical finance is "what are the real sources of aggregate risk that determine asset prices?" This course focuses on current topics in empirical finance that address this question.

This course begins with a review and synthesis of asset pricing and macroeconomic theory. The emphasis is on the stochastic discount factor framework for thinking about asset pricing, and the course spends some time exploring this framework and relating it to traditional expected return-beta statements of asset pricing models. The class discusses some econometric issues in assessing asset pricing models, including the relationship between GMM and traditional tests. Finally, the course surveys current empirical work in consumption-based models, investment or production based models, volatility tests and predictability, and the effects of individual heterogeneity and frictions in asset markets. (=BUSF 35905)

39400 THEORY OF FINANCIAL DECISIONS III (Diamond / Zingales)

We plan to cover three broad topics in this course: (1) theory of the firm; (2) the development of financial markets and its effects on real markets; and (3) financial intermediaries. We will start by trying to understand why firms exist. This will naturally lead on to questions about their organizational and control structures and about the way they are financed. Financial intermediaries play a key role in financing and we will attempt to understand why they are useful. Among the topics we will examine are the effects of financial contracts and intermediaries on incentives, commitment, and the liquidity of markets and the chance of a financial crisis.

This course is intended for Ph.D. students and advanced M.B.A. students who have a substantial understanding of formal economics and some basic game theory. Grades will be based on problem sets, referee reports and a final examination. PQ: ECON 39001/ BUSF 35902. A solid background in advanced microeconomics is highly recommended. (=BUSF 35903)

39600 TOPICS IN ASSET PRICING (Panageas)

This course covers topics in the area of dynamic asset pricing, with a focus on the development of useful tools. Indicative topics include: Complete markets in discrete and continuous time, portfolio choice with dynamic programming and martingale methods, incomplete markets and portfolio constraints in partial and general equilibrium, limited participation, overlapping generations models, heterogeneous-agents models, investment-based and real-options models in partial and general equilibrium, asymmetric information, non-expected utility theory and asset pricing implications, behavioral models (optimal and rational inattention, hyperbolic discounting, commitment), dynamic global games and coordination. (=BUSF 35907)

39802 ADVANCED LAW AND ECONOMICS (Malani)

This seminar examines theoretical and empirical work in the economic analysis of law. It will cover, among other things, optimal tort rules, models of contract liability and remedies, optimal criminal rules, settlement and plea bargaining, and models of judicial behavior. Familiarity with calculus and either advanced undergraduate microeconomics or graduate microeconomics is expected. Grades will be based on class participation and a major paper. (=LAWS 55401)

- 40101 ADVANCED INDUSTRIAL ORGANIZATION I (Syverson)
40201 ADVANCED INDUSTRIAL ORGANIZATION II (Hortaçsu)

This two-quarter sequence is part of the Industrial Organization Specialized Field taught jointly at the Ph.D. level in the Department of Economics and the Booth School of Business. Topics include modeling consumer demand, production function estimation, static and dynamic models of imperfect competition, pricing strategies, theory of the firm, auctions and market design. Recent theoretical and empirical approaches are emphasized. PQ: Solid background in first year Ph.D. level microeconomics and econometrics, e.g., ECON 30100, 30200, or 30300 and ECON 31000, 31100, or 31200. (=BUSF 33921, 33922)

- 40301 ADVANCED INDUSTRIAL ORGANIZATION III (Carlton)

This course will complement the other courses in the Ph.D. sequence for industrial organization and will focus on topics closely related to antitrust economics and regulation. Topics will include optimal price discrimination, bundling, tie in sales, price fixing, two sided markets including credit cards, the theory of optimal regulation, and the empirical facts of regulation. The course is primarily for PhDs in economics and business, but advanced law students interested in antitrust and regulation plus advanced and interested MBAs are welcome. (=BUSF 33923 =LAWS 99304)

- 40402 ADVANCED INDUSTRIAL ORGANIZATION: TOPICS (Hickman)

~~The course will cover dynamic models in industrial organization. We will cover both theory and theory based estimation methods, with emphasis on the latter. Topics will include models of firm dynamics and entry/exit, industry evolution, R&D/innovation, durable goods markets, the Rust model of bus engine replacement, and technology adoption. If time permits, we may also cover related dynamic discrete choice models on human capital investment.~~

The course will cover theory-based empirical methods in auctions and related models. As a rough outline, the first third of the semester will cover single-object models, the second third will cover multi-object models, and the final third of the course will be an exploration of possible connections between empirical auctions tools and related settings that are not explicitly thought of as auctions (e.g., matching models, rank-order contests, adverse selection). The course will cover theoretical background of various models, model identification within different informational environments, and estimation techniques. Class assignments will include empirical exercises and in-class presentations of recent relevant papers. (=BUSF 33926)

- 40603 MARKET DESIGN (Budish)

This half-course explores the theory and practice of market design, drawing on examples from entry-level labor markets, school choice procedures, kidney exchanges, course allocation procedures, internet marketplaces, and financial exchanges. The main assignment is to write a final paper, due at the end of the quarter, that studies either an existing organized market or an environment with a potential role for an organized market.

Students are encouraged (though not required) to take Econ 30900 in the Fall on the theory of auction design, and Econ 40201 in the Winter for treatment of empirical methods for auction and matching markets. (=BUSF 33915)

- 40701 TOPICS IN MATCHING AND MARKET DESIGN (Kominers)

This course is a reading seminar on current research in the theory of market design. Recent papers will be discussed alongside their classical antecedents. Topics may include: matching with contracts, couples matching, the Japanese resident match, large-scale kidney exchange, random assignment, spectrum reassembly, and markets for private data. This course complements Economics 40603.

- 41001 BEHAVIORAL ECONOMICS (Thaler / Kamenica / Pope)

This is a research class aimed at Ph.D. students in economics, psychology, or related disciplines.

Traditional economic theory is based on standard working assumptions which include unlimited rationality and complete self-control. Behavioral economics considers what happens in economic contexts when these working assumptions are modified to incorporate more realistic conceptions of human behavior. The role of markets is central to this study. We carefully consider conditions under which rationality of participants influences market outcomes. However, financial markets are not covered in detail, and this is not a finance class.

Students will be asked to write frequent short papers and a more substantial research paper. The research paper is due in March, 2012 to give students time to undertake a serious paper. There will be one course meeting during the Spring quarter, on a date to be arranged, where these papers will be presented. (=BUSF 38912)

41100 EXPERIMENTAL ECONOMICS (List / Price)

This course will provide the student with the necessary tools to be an avid consumer of the experimental literature and eventually a producer of the literature. These issues will be discussed through evaluation of both outstanding papers in the literature, and papers that fail to achieve their full potential. Thus, it will provide a summary of recent experimental findings and detail how to gather and analyze data using experimental methods. Students will be expected to carry out their own original empirical research to meet the course requirements. (=ECON 21800)

41601 DISCRETE CHOICE AND DYNAMIC DISCRETE CHOICE (Heckman)

This course covers discrete choice and dynamic discrete choice. It stresses student participation and engagement. Identification estimation and applications covered. (=ECON 21150)

41701 SOFTWARE ENGINEERING FOR ECONOMISTS (Skranka)

This course provides the essential computational skills needed to solve complex, scientific problems and to use computers more productively. Students will learn how to design and implement numerical software using C++ and Unix/Linux, the current standard for scientific computing. We also focus on using modern software development tools (version control, debugger, make, profiler), common numerical libraries, and Open Source Software to write better code more quickly. The course concludes with an introduction to parallel programming.

Note: this course is a complement to ECON 41800 "Numerical Methods in Economics" and explains how to implement these numerical methods in software.

41800 NUMERICAL METHODS IN ECONOMICS (Judd)

This course introduces a broad range of numerical methods, and then uses them to compute equilibrium in economic models and related econometric estimators. We will study examples of computational techniques in the current economic literature as well as discuss areas of economic analysis where numerical analysis may be useful in future research of dynamic economic problems. Applications will include solution of dynamic stochastic general equilibrium models, life-cycle dynamic programming problems, optimal taxation, nonlinear pricing, Nash equilibrium of dynamic games, and estimation of structural models.

42100 AN INTRODUCTION TO DOING EMPIRICAL MICROECONOMIC RESEARCH (Levitt)

This course is designed to give students early in their graduate careers exposure to carrying out their own empirical micro-focused research. Attention will be paid to every step in the process: idea generation, the use of data, identifying the right tools to answer the question at hand, testing hypotheses, making arguments convincing, etc. These issues will be discussed through evaluation of both outstanding papers in the literature, and papers that fail to achieve their full potential. Students will be expected to carry out their own original empirical research to meet the course requirements. (=LAWS 99303)

42800 CREATIVITY (Galenson)

This seminar will study why and how creative people innovate. The emphasis will be on understanding the process by which innovators work, and measuring the timing of their creativity over the life cycle. Examples will be drawn principally from the arts – important modern painters. Including Cézanne and Picasso; poets, including Eliot and Frost; novelists, including Woolf and Hemingway; movie directors, including Welles and Godard; architects, including Corbusier and Gehry; and songwriters, including Dylan and the Beatles. The principal assignment will be a term paper that will examine the creative life cycle of one or more innovators of the student's choice; students will present this research in progress to the class during the second half of the quarter. The empirical study of individual creativity is a new field, and there are many excellent research opportunities for students. (=ECON 22650)

42900 INNOVATORS (Galenson)

Economists believe that innovation is a primary source of economic growth. Yet although most innovations are made by individuals or small groups, until recently economists have not studied how those exceptional people produce their discoveries. Recent research has shown that there are two very different types of innovators, who have different goals, and follow different processes. This course will survey this research, examining the careers and innovations of important practitioners in a range of modern arts, including painters, novelists, sculptors, poets, movie directors, photographers, songwriters, and architects, as well as entrepreneurs and scientists. The material covered in this course adds a new dimension to our understanding of creativity, and of how innovators in many different activities produce new forms of art and science. (=ECON 22600)

43400 TOPICS IN LABOR MARKETS AND MACROECONOMICS (Lopes de Melo)

The course will cover topics on the Macroeconomics of Labor Markets. We will cover recent advances in the literature, giving emphasis to theory as well as data issues. Topics will include employment fluctuations over the business cycle, partial and general equilibrium search theory, theories of wage formation, job and worker flow analysis, frictional wage dispersion and its interactions with labor market turnover, and firm and worker heterogeneity.

43800 TOPICS IN GENERAL EQUILIBRIUM, DEFAULT, BANKRUPTCY, AND APPLICATIONS (Araujo)

This course will start by motivating the need of good regulation and laws both to avoid excessive economic fluctuation and to induce the enhancement of economic development. We will present formal models of default and bankruptcy. We will prove some theorems but will give numerical results as well, and will be as intuitive as possible. Concrete examples of laws will be given. Therefore, the course will be accessible to students in Law and Latin American studies with some background in economics. Graduate students in Economics will be required to show understanding of the formal models as well as some mathematical proofs. The main goal of the course is to shed some light on Default and Bankruptcy in many important situations such as: Regulation of collateral and banks; Bankruptcy laws for individuals, corporations (emphasis on the recent Brazilian reform) and banks; Default of countries (Latin America and Europe). (=LACS 23800, 43800 = LAWS 73704 = PPHA 37030)

46000 TOPICS IN POLITICAL ECONOMY (Martinelli)

This course is an introduction to the growing literature on the political economy of institutions. The course combines formal models with applications and illustrations from recent Latin American experience. Topics covered include the origins of state capacity, political parties and politicians' selection, division of powers and accountability, media capture and government accountability, crime and violence, and transitions to democracy. (=LACS 29412, 39412 =ECON 26950)

49900 INDIVIDUAL RESEARCH: For Required Research Paper: to be arranged between individual faculty and students – see Time Schedule for faculty Section Numbers.

**THE WORKSHOPS and WORKING GROUPS
(2011-12)
Required for all Post-Core students**

- 50000 WORKSHOP IN ECONOMIC THEORY (Reny, Myerson, Sonnenschein)
Papers on current topics of research in economic theory, mathematical economics, finance, and mathematical problems of interest to economists are presented by the students enrolled, by faculty members, and by visitors from other universities.
- 51200 WORKSHOP IN ECONOMETRICS (Heckman, Hansen, A. Shaikh)
Weekly presentations on current research in econometrics.
- 51400 ECONOMETRICS AND STATISTICS COLLOQUIUM (Staff)
Weekly presentations by faculty, visitors, and advanced students on current research in econometrics and statistics, with particular emphasis on theory, methods and applications. Colloquium meetings are open to all interested faculty and students. (=BUSF 41600).
- 52200 WORKSHOP ON THE ECONOMICS AND BIODEMOGRAPHY OF AGING (Fogel, Bleakley)
This workshop will explore new research dealing with economic, demographic, and biological aspects of aging, including the study of life-cycle patterns in aging, early predictors of health and labor force participation at middle and late ages, and secular trends in these variables, past and future. Speakers will include faculty and graduate students at Chicago and elsewhere who work on measuring the costs and benefits of various public health programs and pension systems, methods of financing them, and alternative statistical procedures for forecasting trends in health status and longevity for the United States, other OECD countries, and the third world. (=BUSF 33670)
- 53000 WORKSHOP IN MONEY AND BANKING (Stokey, Hansen, Alvarez, Cochrane, Lucas)
Discussion of current research in the monetary area. Papers are presented by graduate students who are working on research problems related to money and banking, by University of Chicago faculty and by visitors from outside of Chicago.
- 54300 WORKSHOP IN APPLIED ECONOMICS (Kamenica, Topel, Bertrand, Syverson)
The workshop features presentations of new applied research in microeconomics and related fields by Chicago faculty and Ph.D. students, as well as invited speakers. Papers for all workshops are available in Booth 344 or at <http://www.chicagogsb.edu/research/workshops/AppliedEcon/> (=BUSF 33610)
- 55600 FINANCE WORKSHOP (Diamond, Kelly, Panageas, Pastor, Tsoutsoura)
Advanced topics in finance are discussed in detail and research topics presented. Faculty from other universities are invited to speak at the seminar. (=BUSF 35600)
- 56100 WORKSHOP IN POLITICAL ECONOMY (Myerson, Berry, Bueno de Mesquita)
The Workshop in Political Economy is organized around rational choice and game theoretic approaches to the study of politics and economies, broadly construed. Workshop topics include positive analysis of political, economic and social behavior, as well as normative models of public choice, experimental tests and philosophical critiques. We also expect some of the work presented to focus on empirical and policy applications of political economy models. Thus the workshop is inherently interdisciplinary – combining economic methodology with political science questions, and building political considerations into economic analysis. Workshop sessions will apply these combinations to a broad range of social science issues and substantive topics. (=PLSC 55300).

- 56300 PUBLIC POLICY AND ECONOMICS WORKSHOP (Marinescu, Meyer, Grogger, Heckman, LaLonde, Mulligan, Neal)
This workshop will emphasize empirical and theoretical work with potential public policy implications in the fields of public economics, labor economics and development.
- 57000 MACRO AND INTERNATIONAL ECONOMICS WORKSHOP (Guerrieri, Hachem, Hurst)
This workshop covers theoretical and empirical studies in real and monetary aspects of international trade and monetary policies and institutions. Students, faculty, and invited visitors present papers. (=BUSF 33650)
- 58900 WORKSHOP IN DEMOGRAPHY (Cagney, Allard, Claessens, Ha, Davern, Hill)
Students, faculty and visiting scholars present current demographic research related to social and economic issues. Open to graduate students of the Committee on Demographic Training and the social science departments. (=SOCI 60001).
- 59000 WORKSHOP IN APPLICATIONS OF ECONOMICS (Becker, Mulligan, Neal, Syverson)
This workshop deals with applications of economic analysis, with special reference to labor economics, human capital, and family economics. It often considers subjects traditionally treated by other social scientists that can be understood by applying the tools of modern analysis.
- 59200 WORKSHOP IN ECONOMIC POLICY AND PUBLIC FINANCE (Tolley, Leitzel, List, S. Shaikh, Sjaastad)
The workshop is concerned with use of rigorous economic analysis, both theoretical and empirical, that has important implications for policy. The subject matter includes taxation, the environment, economic development, international economics, finance, energy, urban economics, and other areas depending on student and faculty interests. Workshop presentations include Ph.D. research being undertaken by graduate students in the Department of Economics and the Harris Graduate School of Public Policy Studies. Presentations are also made by resident faculty and invited distinguished visitors.
- 59300 WORKSHOP IN APPLIED PRICE THEORY (Telser)
Advanced students discuss their thesis research. Topics have included economics of information, theory of the core and related concepts, organized markets, bank failures, bias in price indexes, origin of the weather bureau.
- 60200 APPLIED MICRO WORKING GROUP (Levitt, Syverson)
This Working Group provides students and faculty with an informal setting in which to present work in progress on a broad array of empirical-micro topics. The focus of the workshop is on getting early feedback about the viability of projects, and gathering peer feedback on possible ways to improve research. PQ: Consent of instructor.
- 60300 ECONOMIC DYNAMICS WORKING GROUP (Hansen, Alvarez)
We will study frontier research in economic dynamics, including recent contributions by outsider researchers and newly initiated work by students. Students will be required to give regular presentations and to comment on the work of others. PQ: Consent of instructor.
- 60400 FORMAL THEORY WORKING GROUP (Sonnenschein, Myerson, Reny)
The goal of this Working Group is to encourage and help graduate students to do “formal” economic theory and to present their work at the pre workshop level. The “style” is in the “mathematical mode,” but we welcome work in all areas, including portions of “theses to be” that are primarily substantive and/or empirical. PQ: Consent of instructor.

60501 ECONOMICS OF INEQUALITY AND HUMAN DEVELOPMENT WORKING GROUP (Heckman)

This group will meet to discuss a diverse set of topics, including: studies of the origins and dynamics of human inequality and public policies to alleviate inequality; the origins of the socioeconomic gradient in health, the evolution of health status, and the dynamic relationships among health, cognitive skills, and noncognitive skills; the economics of education, with an emphasis on the technology of skill formation; and econometric and statistical analyses of longitudinal data and human growth curves. PQ: Consent of instructor.

~~60503 LABOR ECONOMICS WORKING GROUP (Heckman, Becker)~~

~~This group provides a forum for students to discuss their research in labor economics, broadly defined, at various stages of completion. The informal environment is meant to encourage student participation. Students in all areas of labor economics are encouraged to attend and present their work. PQ: Consent of instructor.~~

~~60504 COMPUTATIONAL ECONOMICS WORKING GROUP (Heckman, Skrainka)~~

~~The objectives of the Computational Economics Working Group are to provide PhD students with the foundation and skills to use modern software engineering tools in their research projects. Topics include: using Unix/Linux for data analysis and software development, the C programming language, setting up a productive software development environment (version control, debugging, and performance optimization), software design methods for scientists (defensive programming, coding conventions), and high performance/throughput computing (Condor, MPI). This course focuses on teaching practical methods to make students more productive. Much of the course will involve guided readings and real-world programming exercises.~~

60605 CHILDHOOD INTERVENTIONS METHODOLOGY WORKING GROUP (Heckman)

This working group compares early childhood intervention studies, and the methodologies used. Some of the interventions that will be studied are Perry Preschool Study, Head Start, Abecedarian, Nurse-Family Partnership, Child-Parent Centers, and Reggio (Italy). While hosted by researchers at the Department of Economics, this working group is open to other departments, such as the Harris School of Public Policy, Sociology, Human Development.

60600 CAPITAL THEORY WORKING GROUP (Stokey, Alvarez, Shimer)

Discussion of current research in macroeconomics and related areas. Papers are presented by graduate students who are working on research problems related to capital theory, labor, monetary and fiscal policy, and growth. PQ: Consent of instructor.

60800 INTERNATIONAL ECONOMICS WORKING GROUP (Kortum)

The purpose of this Working Group is to provide students with an informal setting in which to present preliminary work (or further along if you have it) on a broad array of International Economics topics. You will get early feedback about the viability of projects, and gather peer feedback on possible ways to improve your research. PQ: Consent of instructor.

60900 APPLIED MACROECONOMIC THEORY WORKING GROUP (Alvarez)

The aim of the working group is for students to present preliminary research material of their own. Participation in the group will require the consent of the faculty organizer(s). The topics on which research will be discussed are macroeconomic theory broadly defined, including pure theoretical pieces, but mostly concentrated in applied theory work. Two senior students will be designated as organizers of the group to coordinate the logistics, including the assignment of dates and compliance with other rules (such as monitoring active participation of all members). PQ: Consent of instructor.

61000 DEMOGRAPHY WORKSHOP POST-MORTEM WORKING GROUP (Cagney, Allard, Claessens, Ha, Davern, Hill)

The Post-Mortem of the Demography Workshop will meet immediately following the workshop each week. One of the faculty members responsible for organizing the Workshop will lead the Post-Mortem. The class will begin with a discussion of the issues raised by the presentation in terms of the responsible conduct of research. It will discuss ethical standards for dealing with these issues and evaluate the presentation on how well it addressed them. Then the class will discuss the research presented and the presentation itself. This will be conducted as a seminar, with different trainees assigned to critique each presentation and to lead the discussion on the work. PQ: Consent of instructor. (= SOCI 60015)

THE ECONOMICS FACULTY (2011-12)

Alvarez, Fernando. *Ph.D., University of Minnesota, 1994.* Professor in Economics and the College (at Chicago since 1996).

Recent Research: Dynamic general equilibrium models applied to asset pricing, search and insurance.

Becker, Gary S. *Ph.D., University of Chicago, 1955.* University Professor in Economics, Booth School of Business, and Sociology; Chair, Becker Friedman Institute for Research in Economics (at Chicago 1954-1957 and since 1970). Fellow, Econometric Society, 1967; John Bates Clark Medal Winner, 1967; Member, American Academy of Arts and Sciences, 1972; Member, National Academy of Sciences, 1975; President, American Economic Association, 1987; Nobel Prize in Economic Sciences, 1992; National Medal of Science, 2000; Presidential Medal of Freedom, 2007; Bradley Prize for Outstanding Achievement, 2008; Alumni Medal, University of Chicago, 2010. Many honorary degrees.

Recent Research: Analysis of worldwide boom in higher education, especially for women; old age support; investment in human capital and the family; the value of extending life at old age; human capital and technology.

Bondarenko, Peter. *M.A., Princeton University, 2004.* Lecturer in Economics and the College (at Chicago since 2005).

Recent Research: Output volatility; monetary policy.

Chaney, Thomas. *Ph.D., Massachusetts Institute of Technology, 2005.* Assistant Professor in Economics and the College and Thornber Research Fellow (at Chicago since 2005).

Recent Research: International trade; firm networks; liquidity constraints.

Fogel, Robert W. *Ph.D., Johns Hopkins, 1963.* The Charles R. Walgreen Distinguished Service Professor of American Institutions and Director of the Center for Population Economics (at Chicago since 1981). Fellow, Econometric Society, 1971; Member, American Academy of Arts and Sciences, 1972; Member, National Academy of Sciences, 1973; Nobel Prize in Economic Sciences, 1993; President, American Economic Association, 1998; Indispensable Person of the Year in Health Research, Alliance for Aging Research, 2006.

Recent Research: An examination of the role of Simon Kuznets in twentieth-century economic thought; forecasts of global economic growth (especially with respect to China and India); forecasts of the U.S. demand for health care; changes in human physiology and health.

Galenson, David W. *Ph.D., Harvard University, 1979.* Professor in Economics and the College (at Chicago since 1978). Fellow, John Simon Guggenheim Memorial Foundation, 2008; Academic Director of the Centro De Economía De La Creatividad, Universidad del CEMA (Centro de Estudios Macroeconómicos de Argentina), Buenos Aires, Argentina, 2010

Recent Research: The life cycles of human creativity; art markets.

Gay, Sebastien. *Ph.D., University of Chicago, 2006.* Lecturer in Economics and the College (at Chicago since 2008).

Recent Research: Health economics; antitrust; intellectual property; education; behavioral economics; environment.

Hansen, Lars Peter. *Ph.D., University of Minnesota, 1978.* The David Rockefeller Distinguished Service Professor in Economics, Statistics and the College; Research Director of the Becker Friedman Institute for Research in Economics (at Chicago since 1982). Fellow, Econometric Society, 1984; Frisch Prize Medal Co-winner, 1984; Member, American Academy of Arts and Sciences, 1993; Member, National Academy of Sciences, 1999; Erwin Plein Nemmers Prize in Economics, 2006; President, Econometric Society, 2007; CME Group – MSRI Prize in Innovative Quantitative Applications, 2008; Frontiers of Knowledge Award in Economics, Finance and Management, Fundación BBVA, 2010.

Recent Research: Time series econometrics; quantitative analysis of dynamic equilibrium models; asset pricing.

Harberger, Arnold C. *Ph.D., University of Chicago, 1950.* The Gustavus F. and Ann M. Swift Distinguished Service Professor Emeritus in Economics (at Chicago since 1953). Fellow, Econometric Society, 1967; Member, American Academy of Arts and Sciences, 1972; President, American Economic Association, 1997-8; Member, National Academy of Sciences, 1992; Bradley Prize for Outstanding Achievement, 2009.

Recent Research: The inflation syndrome; distributional weights, basic needs and other systematic ways of incorporating non-economic considerations into economic analysis, taxation and international capital flows; international comparisons of rates of return to capital.

Heckman, James J. *Ph.D., Princeton University, 1971.* The Henry Schultz Distinguished Service Professor in Economics and the College; Director of the Economics Research Center, Department of Economics; and Director of the Center for Social Program Evaluation, Harris Graduate School of Public Policy Studies (at Chicago since 1973). Fellow, Econometric Society, 1980; John Bates Clark Medal Winner, 1983; Member, American Academy of Arts and Sciences, 1985; Member, National Academy of Sciences, 1992; Nobel Prize in Economic Sciences, 2000; Fellow, American Statistical Association, 2001; Fellow, Society of Labor Economists, 2004; Jacob Mincer Award from the Society of Labor Economists, 2005; Fellow, Journal of Econometrics, 2005; Ulysses Medal from the University College Dublin, 2005; Member, American Philosophical Society, 2008; Fellow, International Statistical Institute, 2008; Fellow, American Association for the Advancement of Science, 2009; Honorary Academician, Academia Sinica, 2010; Member, National Academy of Education, 2010; President, Econometric Society, 2013. Editor, *Journal of Political Economy*.

Recent Research: Economic models of life cycle skill formation; the origins of inequality; origins and consequences of preferences; behavioral economics; the economics of personality; evaluation of social programs; microeconometrics; labor economics; alternative models of the distribution of income; public economics; regulation and policy reform; hedonic models and pricing of heterogeneous goods and characteristics; heterogeneity in general equilibrium models.

Hickman, Brent. *Ph.D., University of Iowa, 2010.* Assistant Professor in Economics and the College; Co-Director of Graduate Admissions (at Chicago since 2010).

Recent Research: Auctions; eBay; higher education markets; affirmative action.

Hortaçsu, Ali. *Ph.D., Stanford University, 2001.* Professor in Economics and the College; Co-Director of Graduate Admissions (at Chicago since 2001). Co-editor, *RAND Journal of Economics*; Associate editor, *American Economic Review*.

Recent Research: Industrial organization; auctions; search and matching models; applications in finance, energy markets, and e-commerce.

Kortum, Samuel S. *Ph.D., Yale University, 1992.* Professor in Economics and the College (at Chicago since 2006). Frisch Prize Medal Co-winner, 2004. Editor, *Journal of Political Economy*.

Recent Research: Quantitative models of international trade, technology diffusion, and firm dynamics.

Levitt, Steven. *Ph.D., Massachusetts Institute of Technology, 1994.* The William B. Ogden Distinguished Service Professor in Economics and the College (at Chicago since 1997). Member, American Academy of Arts and Sciences, 2002; Fellow, Econometric Society, 2004; John Bates Clark Medal Winner, 2004.

Recent Research: Economic models of crime and corruption; the criminal justice system; abortion legalization; school choice; how businesses make decisions.

Lima, Victor O. *Ph.D., University of Chicago, 2001.* Senior Lecturer in Economics and the College and Director of Undergraduate Studies in Economics (at Chicago since 2001).

Recent Research: Monetary economics; social effects; unemployment effects of labor regulation.

List, John. *Ph.D., University of Wyoming, 1996.* Homer J. Livingston Professor in Economics and the College; Director of Graduate Studies and Co-Director of Graduate Admissions (at Chicago since 2005). Kenneth Galbraith Award, Agricultural and Applied Economics Association, 2010; Member, American Academy of Arts and Sciences, 2011. Editor, *Journal of Economic Perspectives*; Associate Editor, *American Economic Review*; Associate Editor, *Journal of Economic Literature*.

Recent Research: Experimental economics; field experiments; education; youth violence; economics of charity; environmental economics; experiments in firms; multi-unit auctions; neuro-economics.

Lopes de Melo, Rafael. *Ph.D., Yale University, 2009.* Assistant Professor in Economics and the College (at Chicago since 2009).

Recent Research: Labor market sorting; wage dynamics; search models.

Lucas, Robert E., Jr. *Ph.D., University of Chicago, 1964.* The John Dewey Distinguished Service Professor in Economics and the College (at Chicago since 1974). Fellow, Econometric Society, 1975; Member, American Academy of Arts and Sciences, 1980; Member, National Academy of Sciences, 1981; Nobel Prize in Economic Sciences, 1995; President, Econometric Society, 1997; President, American Economic Association, 2002. [On-Leave Autumn Quarter 2011]

Recent Research: Monetary theory; growth and development.

Mulligan, Casey. *Ph.D., University of Chicago, 1993.* Professor in Economics and the College (at Chicago since 1993).

Recent Research: Non-pecuniary incentives to save and work; how economy affects policy.

Murphy, Kevin M. *Ph.D., University of Chicago, 1986.* The George J. Stigler Distinguished Service Professor in Economics, Booth School of Business and the Law School (at Chicago since 1984). Fellow, Econometric Society, 1993; John Bates Clark Medal Winner, 1997; Member, American Academy of Arts and Sciences, 1998; Fellow, The John D. and Catherine T. MacArthur Foundation, 2005.

Recent Research: Empirical analysis of inequality, unemployment and relative wages; economics of growth and development; addiction; the economic value of improvements in health and longevity.

Myerson, Roger B. *Ph.D., Harvard University, 1976.* The Glen A. Lloyd Distinguished Service Professor in Economics and the College; Co-Director of Graduate Placement (at Chicago since 2001). Fellow, Econometric Society, 1983; Member, American Academy of Arts and Sciences, 1993; Nobel Prize in Economic Sciences, 2007; Member, National Academy of Sciences, 2009; President, Econometric Society, 2009; Jean-Jacques Laffont Prize, the city of Toulouse, France, 2009; Member, Council on Foreign Relations, 2010.

Recent Research: Game theory; information economics; economic models of voting and politics.

Neal, Derek A. *Ph.D., University of Virginia, 1992.* Professor in Economics and the College; Co-Director of Graduate Placement (at Chicago 1991-1998 and since 2001). Fellow, Society of Labor Economists, 2008; President of the Midwest Economics Association, 2009-10. Editor, *Journal of Political Economy*.

Recent Research: Labor; black-white wage inequality; education policy.

Reny, Philip J. *Ph.D., Princeton University, 1988.* The William C. Norby Professor in Economics and the College (at Chicago since 1999). Fellow, Econometric Society, 1996; Charter Member, Game Theory Society, 1999. Associate Editor, *Econometrica*; Editor, *Journal of Political Economy*.

Recent Research: Multi-unit auction theory; equilibrium existence in discontinuous games; implementation theory.

Sanderson, Allen R. *M.A., University of Chicago, 1970.* Senior Lecturer in Economics and the College (at Chicago since 1984).

Recent Research: The economics of sports; economic impact analysis; education and labor markets.

Shaikh, Azeem. *Ph.D., Stanford University, 2006.* Associate Professor in Economics and the College and Thornber Research Fellow (at Chicago since 2007).

Recent Research: Econometric theory; partial identification; multiple testing; resampling methods; empirical likelihood.

Shimer, Robert. *Ph.D., Massachusetts Institute of Technology, 1996.* The Alvin H. Baum Professor in Economics and the College (at Chicago since 2003). Fellow, Econometric Society, 2006; Member, American Academy of Arts and Sciences, 2010; Sherwin Rosen Prize for outstanding contributions in the field of Labor Economics, The Society of Labor Economists, 2010. Editor, *Journal of Political Economy*.

Recent Research: Labor markets; search theory; mismatch between workers and jobs.

Sjaastad, Larry A. *Ph.D., University of Chicago, 1961.* Professor Emeritus in Economics and the College [at Chicago since 1962].

Recent Research: Commercial policy and macro-economic stability; exchange rate behavior in small countries; real exchange rate analysis.

Sonnenschein, Hugo F. *Ph.D., Purdue University, 1964.* The Adam Smith Distinguished Service Professor in Economics and the College (at Chicago since 1993). Fellow, Econometric Society, 1972; Member, American Academy of Arts and Sciences, 1984; President, Econometric Society, 1988-1989; Member, National Academy of Sciences, 1990; President and Trustee of the University of Chicago, 1993-2000; Distinguished Fellow of the American Economics Association, 2006; Frontiers of Knowledge Award in Economics, Finance and Management, Fundación BBVA, 2009.

Recent Research: Theories of consumer and firm behavior; general economic equilibrium; game theory; social choice.

Stokey, Nancy L. *Ph.D., Harvard University, 1978.* The Frederick Henry Prince Distinguished Service Professor in Economics and the College (at Chicago since 1990). Fellow, Econometric Society, 1987; Member, American Academy of Arts and Sciences, 1993; Member, National Academy of Sciences, 2004. [On-Leave Autumn Quarter 2011]

Recent Research: Growth theory; economic dynamics; fiscal and monetary policy.

Telser, Lester G. *Ph.D., University of Chicago, 1956.* Professor Emeritus in Economics and the College (at Chicago since 1958). Fellow American Statistical Association, 1967; Fellow, Econometric Society, 1968; St. Clair Drake award for outstanding scholarship from Roosevelt University, 2005.

Recent Research: Theory of the core; Federal Reserve policy; integer programming; the Great Depression; Von Neumann growth model.

Tolley, George S. *Ph.D., University of Chicago, 1955.* Professor Emeritus in Economics and the College (at Chicago 1950-1955 and since 1966). Fellow, American Association for the Advancement of Science, 2003. Honorary Editor, *Resource and Energy Economics*. Honorary Ph.D., North Carolina State University, 2006.

Recent Research: Energy, resources and environment; urban economics; regional economics; agricultural economics; development; monetary economics; tax and tax policy; finance.

Tsiang, Grace. *Ph.D., University of Chicago, 1991.* Senior Lecturer in Economics and the College (at Chicago since 1990).

Recent Research: Labor economics; economics of developing countries; human capital and spatial wage distributions.

Uhlig, Harald. *Ph.D., University of Minnesota, 1990.* Professor in Economics and the College and Chairman of the Department of Economics (at Chicago since 2007). Gossen Preis, Verein für Socialpolitik, 2003; Fellow, Econometric Society, 2003.

Recent Research: Applied quantitative theory and applied dynamic, stochastic general equilibrium theory; the intersection of macroeconomics and financial economics; Bayesian time series analysis and macroeconomic applications.

Van Weelden, Richard. *Ph.D., Yale University, 2010.* Assistant Professor in Economics and the College (at Chicago since 2011).

Recent Research: Microeconomic theory, applied game theory and political economy; specifically: voting, candidate competition, communication, and political agency models.

Weyl, E. Glen. *Ph.D., Princeton University, 2008.* Assistant Professor in Economics and the College (at Chicago since 2011).

Recent Research: Multi-dimensional screening; mechanisms for collective decisions; the effect of tax policy on the allocation of talent; demand systems; joint design of competition, industrial and regulatory policy from a mechanism design perspective.

**RESEARCH ASSOCIATES, VISITING FACULTY, &
OTHER ACADEMIC PERSONNEL (2011-12)**

RESEARCH ASSOCIATES

Menendez, Alicia	Research Associate (Associate Professor), Harris Graduate School of Public Policy Studies
Townsend, Robert	Research Associate (Professor), Massachusetts Institute of Technology

VISITING FACULTY

Araujo, Aloisio Pessoa De	Tinker Visiting Professor from the Fundação Getúlio Vargas and IMPA, Brazil
Durlauf, Steven	Visiting Professor from the University of Wisconsin-Madison
Judd, Kenneth L.	Visiting Professor from the Hoover Institution, Stanford University
Martinelli, César	Tinker Visiting Professor from the Centro de Investigación Económica, Instituto Tecnológico Autónomo de México
Price, Michael	Visiting Associate Professor from the University of Tennessee.
Sargent, Thomas	Visiting Professor from New York University
Szentes, Balázs	Visiting Professor from the London School of Economics

OTHER ACADEMIC PERSONNEL

Lecturers and Instructors

Felkner, John	Part-time Lecturer from NORC
Ierulli, Kathryn	Part-time Lecturer, University of Chicago
Kominers, Scott Duke	Instructor, Department of Economics, University of Chicago
Shaikh, Sabina	Part-time Lecturer from RCF, Inc.

Post-Doctoral Fellows and Scholars

Mader, Nicolaus	Post Doctoral Scholar, Department of Economics, University of Chicago
Piatek, Remi	Post Doctoral Scholar, Department of Economics, University of Chicago

Visiting Scholars

Helin, Zhang	Business School of Zhengzhou University
Tamer, Elie	Northwestern University

ASSOCIATED FACULTY (2011-12)

Black, Dan	Harris Graduate School of Public Policy Studies
Budish, Eric	Chicago Booth School of Business
Carlton, Dennis W.	Chicago Booth School of Business
Cochrane, John H.	Chicago Booth School of Business
Davis, Steven J.	Chicago Booth School of Business
Diamond, Douglas W.	Chicago Booth School of Business
Fama, Eugene F.	Chicago Booth School of Business
Guerrieri, Veronica	Chicago Booth School of Business
Harris, Milton	Chicago Booth School of Business
Heaton, John C.	Chicago Booth School of Business
Hurst, Erik	Chicago Booth School of Business
Kamenica, Emir	Chicago Booth School of Business
La'O, Jennifer	Chicago Booth School of Business
LaLonde, Robert	Harris Graduate School of Public Policy Studies
Malani, Anup	University of Chicago Law School
Meltzer, David Dr.	Harris Graduate School of Public Policy Studies
Meyer, Bruce D.	Harris Graduate School of Public Policy Studies
Panageas, Stavros	Chicago Booth School of Business
Philipson, Tomas J.	Harris Graduate School of Public Policy Studies
Pope, Devin G.	Chicago Booth School of Business
Rajan, Raghuram G.	Chicago Booth School of Business
Sufi, Amir	Chicago Booth School of Business
Syverson, Chad	Chicago Booth School of Business
Thaler, Richard H.	Chicago Booth School of Business
Zingales, Luigi	Chicago Booth School of Business

UNIVERSITY CALENDAR

AUTUMN QUARTER

Math Camp (for Incoming 1st Years)	<u>2011</u> August 29-Sept. 16
Orientation for New Students begins	September 19
Registration for Autumn Quarter	September 21-23
Teaching Clinic for First-time Lecturers	To Be Announced
Classes meet	Monday, Sept. 26
Registration for Winter Quarter (8th week)	November 14-17
Thanksgiving Holiday	November 24-25
Final Exam Week (11th week)	December 5-9
Autumn Convocation	December 9
Autumn Quarter ends	December 10
Application Deadline	December 28

2012

To Be Announced
September 24
September 26-28
To Be Announced
Monday, Oct. 1
November 19-21
November 22-23
December 10-14
December 14
December 15
December 28

WINTER QUARTER

Classes meet	<u>2012</u> Tuesday, Jan. 3
Martin Luther King, Jr. Holiday	Monday, Jan. 16
Registration for Spring Quarter (8th week)	February 20-23
Final Exam Week (11th week)	March 12-16
Winter Convocation	March 16
Winter Quarter ends	March 17

2013

Monday, Jan. 7
Monday, Jan. 21
February 25-28
March 18-22
March 22
March 23

SPRING QUARTER

Classes meet	<u>2012</u> March 26
Campus Day for Prospective Students	March 30
Memorial Day Holiday	May 28
Final Exam Week (11th week)	June 4-8
Spring Convocation	June 9
Spring Quarter ends	June 9

2013

April 1
April 5
May 27
June 10-14
June 15
June 15

SUMMER QUARTER

Registration for Summer Quarter	<u>2012</u> June 18
Classes meet	June 18
Independence Day Holiday	July 4
Summer Convocation	August 24
Summer Quarter ends	August 25

2013

June 24
June 24
July 4
August 30
August 31

CONVOCATION DEADLINES

	<u>Autumn'11</u>	<u>Winter'12</u>	<u>Spring'12</u>	<u>Summer'12</u>
Application for Degree due on cMore:	Sept. 26	Jan. 3	March 26	June 18
Dept. Reading Period/Public Lecture Deadline:	Oct. 21	Jan. 27	April 20	July 6
University Dissertation Draft Deadline:	Oct. 26	Feb. 1	April 25	July 11
University Dissertation Deadline:	Nov. 11	Feb. 17	May 11	July 27