



ECONOMICS UNDERGRADUATE GUIDE

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I. INTRODUCTION

This pamphlet provides detailed information about the economics major and minor. Section II briefly describes the usefulness of an economics degree. Section III details courses required for an A.B. in Economics, and the steps for declaring a major. The Honors Program and the Minor in Economics are outlined in Sections IV and V, respectively. A variety of topics of interest to economics students follow, including study abroad, transfer credit, the A.B./M.A. degree, and internship and career-planning information. We conclude with a list of faculty and course descriptions. The schedule of course offerings for the coming semester can be found on the department web site (<http://economics.wustl.edu/>).

If you have questions about a departmental policy or questions about how to get started in economics, please contact Ms. Jessica Cain in the economics office, Seigle Hall, room 307, 935-5670, or jcain@arts.wustl.edu. You may also contact Dorothy Petersen, the Academic Coordinator in Economics. Her office is in Seigle Hall, room 307E, and her email address is dottie@wustl.edu. The Director of Undergraduate Studies is Professor Bruce Petersen, and his email address is petersen@wustl.edu.

II. WHY ECONOMICS?

Many, if not most, of the nation's and the world's most significant social problems have an economic dimension. Microeconomics provides the tools to analyze the trade-offs that individuals, firms, and governments confront because of limited resources. It considers the choices that are made, the social context in which they take place and the implications for human welfare. Economists apply these tools to study a wide range of controversial public policy questions, including environmental regulation, government restrictions on domestic and international markets, the structure of the legal system and the design of tax policy. Macroeconomics explores the sources of economic growth and the causes of recessions and inflation. Macroeconomic analysis assesses monetary policy, explains the performance of financial markets, and considers international trade and financial links.

The study of economics is an excellent way to acquire problem-solving skills and develop a logical, ordered way of looking at problems. It leads naturally to careers in business, law, and in economics research and consulting.

Economics is a standard pre-business major, because it provides insight into the operation of individual markets for goods and services, financial markets, and the global economic system, and because it provides the quantitative and analytical skills that enable students to succeed in a wide variety of business activities. Indeed, many of our majors take jobs in finance or business consulting after graduation. Economics provides a solid foundation for students who will pursue an M.B.A. degree.

Many law schools view economics as one of the best undergraduate majors because of its disciplined approach to the analysis of social issues. Some of our economics courses also relate specifically to legal issues. Again, many economics majors enter Law School directly after (or soon after) obtaining their undergraduate degree. Feedback from alumni suggests the relevance of their economics coursework as preparation for their legal studies.

Careers in economics research require graduate work leading to either an M.A. or (more usually) a Ph.D. About half of all economists with graduate training teach at the college level. The other half is employed either in the business sector or works for the government. The demand for economists in the business and government sector is strong. Graduate work in economics requires extensive course work in mathematics and statistics to complement the economics major. See further discussion in Section XI.C below.

III. The Economics Major

A. Declaring an Economics Major

To declare economics as a (first or second) major, fill out a major declaration form available from either the College of Arts & Sciences Office in South Brookings Hall (or 115 Umrath Hall) or the Economics Department Office in Seigle Hall, Room 307. Bring the completed form and an unofficial transcript (i.e., a student record printout) to the Economics department office. The undergraduate administrative assistant will assign a faculty advisor to the student. Students may request a particular faculty member as an advisor. The Department will try to meet this request, but we are not always able to do so because some of our faculty have a large number of advisees. The student normally retains the same advisor in subsequent years.

B. Major Requirements

Beginning in Fall 2009, course titles and numbers have changed. Throughout this guide, Econ 1011 is equivalent to Econ 103B; Econ 1021 is equivalent to Econ 104B; Econ 4011 is equivalent to Econ 401; and Econ 4021 is equivalent to Econ 402.

The requirements for a major in economics are:

1. Math 2200, or an equivalent statistics course (approved by the Mathematics department if taken away from Washington University), such as Math 3200 or ESE 326. This course is a prerequisite for Econ 413. Please refer to Note (x), below. Also, please refer to “Stipulation 4” in Section VII (Transfer Credit), below. Students matriculating in Fall 2009 and who’re interested in the Honors Program in Economics must take Math 3200 or Math 493. On this point, see section IV, “Honors Program,” below.
2. Math 132, or an equivalent Calculus II course or credit (approved by the Mathematics department if taken away from Washington University). Note: the Economics department recommends that its majors take additional mathematics courses. Math 132 is a prerequisite for Econ 4011. Olin students should refer to Note (x), below.
 - a) Students who’ve declared a major prior to June 1, 2009 are encouraged (but not required) to complete Math 132 (i.e., the major requirement remains Math 131 or Math 127 & 128 only). However, students who’ve declared the major prior to June 1, 2009 and who’ve taken only Math 131 **MUST** take Econ 493 prior to, or concurrently with, Econ 4011.
3. Math 233 (Calculus III) or Econ 493 (Mathematical Econ, a 1-credit, 5-week course) prior to, or concurrently with, Econ 4011.
4. Econ 1011, *Introduction to Microeconomics* and Econ 1021, *Introduction to Macroeconomics*. These introductory courses can be taken in any order, typically during a student’s freshman or sophomore year.
5. Six advanced economics courses which must include:
 - a) **Econ 4011** (Econ 401), *Intermediate Microeconomic Theory*, and **Econ 4021** (Econ 402), *Intermediate Macro-economic Theory*. (Econ 4011 is a prerequisite to Econ 4021.) These two courses are the foundation of any economic study. They introduce the student to the basic theoretical framework of economics.
 - b) **Four** 300- and 400-level **elective classes** (having at least Econ 1011 and/or 1021 as a prerequisite). *At least two* of these classes must have Econ 4011 and/or Econ 4021 as a prerequisite.

Notes (Please read carefully):

(i) Econ 413 (econometrics) is not a requirement for the major but is strongly recommended. As noted in Section IV, honors candidates must take Econ 413 prior to the spring semester of their junior year. Additionally, Econ 413 is a prerequisite for Econ 403, 471, Econ 487, Econ 4151, and it is recommended for Econ 426W, 428 and 475.

(ii) Majors must take all required courses, *including calculus and statistics*, for a letter grade, not Credit/No Credit. To count toward the major, students must receive a grade of C- or better in all courses required for the major. Students who have taken Econ 1011 or 1021 with the Credit/No Credit option prior to deciding on an economics major should consult with the department’s Academic

Coordinator.

(iii) The following advanced electives have a math prerequisite *higher than* Math 132: Econ 4111, 4151 and 467.

(iii) Students are advised to take the statistics course before they start taking advanced economics beyond Econ 4011 and 4021.

(iv) 200-level economics courses, Econ 4551, 488, 490, 496, 497, 498 and 499 may ***not*** be used to satisfy major requirements.

(v) Typically, economics courses from University College may not be used to satisfy major requirements, with the exception of Econ 103 and Econ 104, which will transfer for Econ 1011 and Econ 1021, respectively. See the Academic Coordinator for further clarification, as necessary. Note that majors need to be mindful of the maximum allowable transfer credits. See the discussion of transfer credit in Section VII for more information.

(vi) Econ 4011, 4021 and the two required 4011/4021 prerequisite electives ***must*** be taken through the Washington University Economics department during the regular academic year (i.e., Fall and Spring semesters). University College and Washington University Summer School courses may not be used to fulfill the requirements for 4011, 4021 or the two courses with 4011/4021 prerequisites.

(vii) The treatment of AP credit is described in the transfer credit section (VII), below.

(viii) Transfer courses may be used to satisfy advanced economics requirements (300-level or above) only with the written approval of the Academic Coordinator. Majors and minors need to be mindful of the maximum allowable transfer credits. See the discussion of transfer credit in Section VII for more information. See also Section VI for a discussion about coordinating an economics major with study abroad.

(ix) Students from the John M. Olin School of Business who are completing a second major, or a minor, in Economics may use MEC 290 to replace Econ 1011. Students who have declared their economics major prior to June 1, 2009 may elect to complete MEC 290 and by-pass Econ 4011 by taking an additional economics elective having an Econ 4011 prerequisite. Consult with your major advisor or the Academic Coordinator as to whether this option is available to you. Majors can substitute MEC 292 for Econ 1021, but cannot by-pass Econ 4021. Minors can substitute MEC 292 for Econ 1021 only if they also take Econ 4021.

(x) For Olin students, QBA 120 ***and*** 121 can be used to fulfill the statistics requirement (i.e., Math 2200) and Math 127 ***and*** 128 can be used to fulfill the calculus requirement (i.e., Math 132). Note that students considering an advanced degree in economics, finance, or related fields should be taking math courses beyond Calculus II, and should therefore take Math 131/132 rather than Math 127/128. See Section XI.C for further details.

C. Typical Academic Plans for Economics Majors

Most students find it easy to fulfill the economics major requirements in their four undergraduate years by following a simple four-year plan such as the following.

- *Freshman year:* Econ 1011 and Econ 1021; Math 131; Math 132 (or higher level calculus course).
- *Sophomore year:* Econ 4011 in the fall semester; Econ 4021 in the spring semester. Math 2200 (statistics) should be taken this year (particularly for students anticipating participation in the Honors Program) or during the junior year.
- *Junior and Senior years:* Complete the 4 advanced economics electives. Ideally, students should complete their economics electives by the fall semester of the senior year.

A student who has special circumstances, such as anticipating participation in the Honors Program, study abroad, application to the joint A.B./M.A. program or to a Ph.D. program, or a late start in economics should

consult with their economics advisor and/or the Academic Coordinator for appropriate course sequencing. Additional information can be found in the following Sections: IV (honors), VI (study abroad), VIII (A.B./M.A.), and XI.C (graduate school).

IV. THE HONORS PROGRAM

To receive Latin honors (*cum laude*, *magna cum laude*, or *summa cum laude*), economics majors must participate in the Honors Program during the senior year. Students with a second major cannot participate in the Economics Honors Program if their “prime” major is *not* in Arts & Sciences. Invitation to the Honors Program occurs if, by the mid-point of the junior year, a major has an overall and within-major GPA of at least 3.5 and if s/he has completed: Econ 1011, 1021, 4011, 4021, 413, and one elective having 4011 and/or 4021 as a prerequisite. A student may take Econ 413 or an advanced (4011/4021 prerequisite) elective (4011/4021 prerequisite) in the spring of the junior year and still be admitted to the Honors Program; but this requires a petition to the Director of the Honors Program and/or the Academic Coordinator (see below).

The Honors Program consists of two tracks. A student may elect to meet the requirements for “Honors in Economics” or to meet the requirements for “Honors in Economics with Distinction.” Throughout this discussion, as in the rest of this Guide, “successful completion” means taking a course for a letter grade and receiving a C- or better in the course.

Honors students (in both tracks) matriculating in Fall 2009 or later must successfully complete Math 3200 or Math 493, in addition to the requirements stipulated below.

The requirements for graduation with “Honors in Economics” are:

1. An overall GPA of 3.5 or higher.
2. Successful completion of Econ 413, “Introduction to Econometrics,” as one of the major electives.
3. Successful completion of two *additional* economics electives having 4011 and/or 4021 as a prerequisite. In other words, to obtain “Honors in Economics,” students will complete *four* 4011/4021 prerequisite electives for the Honors Program, rather than the two required for the major.
 - a) The major requirements and (at least) one of the two additional 4011/4021 prerequisite electives must be completed by the end of the fall semester of the senior year. (See note (x), below.)
 - b) One of the additional advanced electives must be: Econ 4111, Econ 4151, Econ 467, Econ 471, Econ 487, Advanced Macro Theory (new course for SP10), Econ 501, Econ 502, Econ 503, Econ 504. (Students selecting Econ 501 or 503 must meet with the Academic Coordinator in the semester prior to their anticipated enrollment.)

The requirements for graduation with “Honors in Economics with Distinction” are:

1. An overall GPA of 3.5.
2. Successful completion of Econ 413, “Introduction to Econometrics,” as one of the major electives.
3. Successful completion of an Honors Thesis by taking Econ 498 and Econ 499 in the fall and spring semesters, respectively, and earning at least a B in both courses.
4. Completion of the major requirements by the end of the Fall semester of the senior year. (See note (xi), below.)
5. Participation in the following:
 - a) The Honors Conference in February/March of the junior year (except for those studying abroad).
 - b) Defense of the Honors Thesis with faculty in January/February of the senior year.
 - c) The Honors Conference in February/March of the senior year.

Admission into either track of the Honors Program requires a GPA of at least a 3.5, both overall and within

economics through the end of the junior year. Admission into the “Honors in Economics with Distinction” track is particularly selective because the number of positions is limited. Both grades and the rigor of the student’s courses are considered.

Notes (Please read carefully):

- (i) All Honors students must complete Econ 413 (Introduction to Econometrics) as one of their major electives. This means that “Honors in Economics with Distinction” participants will take at least two Econ 4011 and/or 4021 prerequisite electives, Econ 413, and one additional elective at the 300-level or higher. “Honors in Economics” participants will take at least four Econ 4011 and/or 4021 prerequisite electives, Econ 413, and one additional elective at the 300-level or higher.
- (ii) Only students who participate in the “Honors in Economics with Distinction” program track will be eligible for departmental prizes. Awarded prizes are noted on a student’s transcript.
- (iii) For a well-written (but not department prize-winning) thesis, a student participating in the “Honors in Economics with Distinction” track may receive an additional notation on their transcript which reads “Distinction in Economics.”
- (iv) Three levels of honors are possible: *cum laude*, *magna cum laude*, and *summa cum laude*. The Department recommends a level of honors to the Dean of the College of Arts and Sciences, who makes the final decisions about Latin honors.
 - a. The Department’s recommendation for students who participate in the “Honors in Economics” track will depend on the student’s grades, particularly in the advanced electives.
 - b. The Department’s recommendation for students who participate in the “Honors in Economics with Distinction” track depends on the student’s grades and performance in Econ 498, Econ 499, the thesis defense and the Honors Conference.
 - c. The College uses overall GPA to define the level of Latin Honors, subject to the recommendation from the department. For example, if a student has an A+ in all his economics classes (Econ GPA = 4.0), but his overall GPA is 3.6, then his level of Latin Honors earned is *cum laude*. The department can, and occasionally does, recommend students for a level of Latin Honors lower than what the overall GPA allows. For instance, if a student has a 3.8 overall GPA, but has grades in his/her Econ classes in the B range, or if the Honors thesis and/or defense is sub-par, the department could recommend that the student receives a level of honors lower than *summa cum laude*.
- (v) Students who believe they may qualify for honors and who are abroad in their junior year should inform their advisor and the Academic Coordinator to assure that their records are appropriately evaluated.
- (vi) Students not invited to the “Honors in Economics with Distinction” track can petition to be admitted. Permission will be granted by the Director of the Honors Program on a space available basis.
- (vii) Students not formally admitted to the Honors Program by October 1 of the senior year will not be awarded Latin Honors, although College Honors will be awarded for students with a GPA above 3.5 after the spring semester of the senior year.
- (viii) Students cannot earn both Latin Honors and College Honors.
- (ix) Students completing Econ 413 or an advanced (4011/4021 prerequisite) elective in the spring of their junior year can petition to join the Honors Program. Permission will be granted by the Director of the Honors Program on a space available basis.
- (x) In order to make a recommendation of the level of Latin Honors to the College, the department requests completion of the major requirements and at least one of the additional Econ 4011/4021 prerequisite electives by the end of the fall semester of the senior year for “Honors in Economics” participants. If this requirement will not be met, students must notify the Academic Coordinator.
- (xi) In order to make a recommendation of the level of Latin Honors to the College, the department requests completion of the major requirements by the end of the fall semester of the senior year for “Honors in Economics with Distinction” participants. If this requirement will not be met, students must notify the Academic Coordinator.
- (xii) The “Honors in Economics with Distinction” track cannot be completed in time for a December

graduation. Students participating in this track must, therefore, graduate in May, and Honors students must be in residence, paying tuition, and enrolled in Econ 499 during the spring semester of the senior year.

- (xiii) It is possible for a student electing the “Honors in Economics” track to graduate in December of the senior year.
- (xiv) Students invited to participate in the Honors Program will be invited to join the National Honorary Society in economics, *Omicron Delta Epsilon*. Invitees will be contacted in the spring of the senior year by the Academic Coordinator. The activities of the Washington University chapter are the responsibility of the students with the assistance of a faculty advisor.

V. THE ECONOMICS MINOR

Beginning in Fall 2009, course titles and numbers have changed. Throughout this guide, Econ 1011 is equivalent to Econ 103B; Econ 1021 is equivalent to Econ 104B; Econ 4011 is equivalent to Econ 401; and Econ 4021 is equivalent to Econ 402.

A. Declaring an Economics Minor

To declare a minor in Economics, a student should complete a minor declaration form available from either the Dean’s office of the College in which the student is enrolled (i.e., Arts & Sciences, Engineering, Business...) or the Economics Department office in Seigle Hall, Room 307. This form details courses completed and to be taken and the minor “track” the student plans to complete. *The form must be signed by the student’s major advisor.* Bring the completed form and an unofficial transcript (i.e., a student record printout) to the Economics department office. The undergraduate administrative assistant will assign a faculty advisor to the student. Students may request a particular faculty member as an advisor. The Department will try to meet this request, but we are not always able to do so because some of our faculty have a large number of advisees. The student normally retains the same advisor in subsequent years. The form is then returned to the Dean of the College in which the student is enrolled.

For further advice on the undergraduate minor in Economics, please consult the Undergraduate Administrative Assistant in the Economics department office or the Academic Coordinator.

B. Minor Requirements

At least five economics courses (and mathematics courses, as described below) are required for the minor, and there are two minor “tracks”:

- *The Minor in General Economics:* Econ 1011, 1021, 4011, 4021 and one additional elective having at least Econ 1011 and/or 1021 as a prerequisite.
- *The Minor in Applied Microeconomics:* Econ 1011, 1021, 4011, one elective having Econ 4011 as a prerequisite, and one elective having at least Econ 1011 and/or 1021 as a prerequisite.
- In addition to the economics courses listed above, both tracks of the minor require the completion of Math 131/132 (or Math 127/128, for Olin students) as Math 132 is a prerequisite for Econ 4011.

Notes (Please read carefully):

- (i) Econ 4011 is a prerequisite to Econ 4021.
- (ii) Students must take either Econ 493 (*Mathematical Econ., a 1-credit, 5-week course*) or Math 233 (*Calculus III*) prior to, or concurrent with, enrollment in Econ 4011.
- (iii) Students who’ve declared a minor prior to June 1, 2009 are encouraged (but not required) to complete Math 132. However, students who’ve declared the minor prior to June 1, 2009 and who’ve taken only Math 131 MUST take Econ 493 prior to, or concurrently with, Econ 4011.
- (iv) Completion of the Math 127/128 sequence is an acceptable substitute for Olin students for the Math

132 prerequisite; however, students interested in advanced study in economics are encouraged to complete the Math 131/132 sequence.

- (v) Math 2200 (or QBA 120 & 121) is a prerequisite for Econ 413, which itself is a prerequisite (or strongly recommended) for several advanced, Econ 4011/4021 prerequisite electives.
- (vi) The following Economics courses have mathematics prerequisites higher than Math 132: Econ 4111, 4151, 467.
- (vii) Minors must take the required economics courses and calculus for a letter grade, not Credit / No Credit. (Students who have taken Econ 1011 or 1021 with the Credit / No Credit option prior to deciding to declare an economics minor should see the department's Academic Coordinator.) To count toward the minor, you must receive a grade of C- or better in the required economics courses.
- (viii) Typically, economics courses from University College may not be used to satisfy minor requirements, with the exception of Econ 103 and Econ 104, which will transfer for Econ 1011 and Econ 1021, respectively. See the Academic Coordinator for further clarification, as necessary. Note that minors need to be mindful of the maximum allowable transfer credits. See the discussion of transfer credit in Section VII for more information.
- (ix) 200-level economics courses, Econ 4551, 488, 490, 496, 497, 498 and 499 may not be used to satisfy minor requirements.
- (x) Econ 4011, Econ 4021, and/or the required 4011/4021 prerequisite elective must be taken through the Washington University Economics department during the regular academic year (i.e., Fall and Spring semesters). University College and Washington University Summer School courses may not be used to fulfill the requirements for 4011, 4021 or the course with 4011/4021 prerequisites. Note: Econ 4011 is a prerequisite to Econ 4021.
- (xi) Transfer courses from other schools (and AP/IB/British A-Level credit) that qualify for Arts and Sciences credit may be used to replace Economics 1011, 1021, and Math 131/132; but minors need to be mindful of the maximum allowable transfer credits. See the discussion of transfer credit in Section VII for more information.
- (xii) Transfer courses may be used to satisfy advanced economics requirements (300-level or above) only with the written approval of the Academic Coordinator. Minors need to be mindful of the maximum allowable transfer credits. See the discussion of transfer credit in Section VII for more information. The Study Abroad section (Section VI) may also be relevant.
- (xiii) Students from the John M. Olin School of Business who are completing a minor in Economics should refer to Notes (ix) and (x) above, in Section II of this guide.

VI. STUDY ABROAD

The Economics Department views study abroad as highly desirable and strongly encourages Economics majors to consider it. Students interested in Study Abroad should keep in mind the following.

- WU Economics has an exchange program with Bocconi in Milan, Italy. The program is fall semester only. Although classes at Bocconi are taught in English, students interested in the program must take one year of Italian.
- Carlos III, in Madrid, Spain, is a demanding study abroad program. Students taking economics courses should plan carefully, with the Academic Coordinator as needed. Students nominated to this program as exchange students may earn "Study Abroad with Distinction," a notation on their academic transcript.
- For students interested in studying in an English language country, the preferred options are University College London, the London School of Economics (LSE), Oxford, and Auckland (New

Zealand). LSE is one year only, and students must sit for exams in the third trimester to receive academic transfer credit at WU. (Similar rules apply to any other year-long programs abroad where there is an option to take exams at the end of the year.)

- For many overseas programs, all or nearly all economics electives effectively have Econ 4011 or 4021 prerequisites. For such programs, therefore, students should take Econ 4011 and 4021 before going abroad. A few programs are more flexible. Consult with the Academic Coordinator for details.
- Students can do both study abroad and honors provided they start early, plan carefully, and get the necessary prerequisites out of the way. Consult with your advisor and the Academic Coordinator immediately.
- Similarly, students can do study abroad and prepare for application to economics Ph.D. programs, but again this requires an early start and careful planning.

For procedures and available programs, visit the Overseas Programs website <http://www.artsci.wustl.edu/%7Eoverseas/overseas.html> Talk to your advisor and the Academic Coordinator for additional information about specific programs.

Majors who study abroad are subject to the same ceiling of 6 units of overall economics transfer credit that applies to all economics majors. (See the next section for further details.) Thus, for example, if you have already transferred introductory micro and macro from another school then you will not be able to transfer additional economics credit from study abroad. (You may, however, still take calculus and statistics abroad, provided these courses meet the approval of the Academic Coordinator.) Students who study abroad do, however, have some extra flexibility.

First, students who study abroad for one semester may apply up to two economics classes toward the major requirement of two 300-level electives (in contrast, the normal limit is one such class). In practice, study abroad economics electives are often *higher* than 300-level (400-level or even grad level), but the department counts these courses as 300-level for the purpose of major requirements.

Second, students who study abroad for a year may use study abroad coursework to fulfill either the Econ 4011 or Econ 4021 requirement (but not both). Note that the Economics department allows Econ 4011 or 4021 transfers only from a select group of study abroad programs, and students must file a petition with the Academic Coordinator. Students who take Econ 4011 or 4021 abroad must take an additional 400-level class at WU. All majors must take four 400 level courses from the WU Economics department during the regular term. (400 level means 4011, 4021, or any class with a 4011 or 4021 prerequisite.)

For a class taken on a study abroad program to count toward the major, it must be at least 300-level and be taught in an economics department. Students must verify with the Academic Coordinator that a course potentially qualifies *before* taking the course. The Academic Coordinator will then evaluate the course after the student returns. The student should be prepared to present the course syllabus, documenting the course prerequisites, as well course materials (homework, exams). To get transfer credit, the student must get the equivalent of a C- or better. See Section VII for additional discussion of transfer rules.

VII. TRANSFER CREDIT FOR COURSEWORK TAKEN OUTSIDE THE ECONOMICS DEPARTMENT AT WASHINGTON UNIVERSITY

Note that all Economics majors, including transfer students, must take at least four 400-level courses from the WU Economics department during the regular school year. All Economics minors must take both 400-level courses from the WU Economics department during the regular school year. 400-level means Econ 4011, 4021, or any class with a 4011 or 4021 prerequisite.

A. Students entering WU as freshmen

For students declaring an economics major and entering Washington University as freshmen, the Economics Department will accept at most 2 economics courses (= 6 credit hours) as transfer credit from outside the Economics Department, subject to the stipulations below.

For students declaring an economics minor and entering Washington University as freshmen, the Economics Department will accept at most 1 economics course (= 3 credit hours) as transfer credit from outside the Economics Department, subject to the stipulations below.

All transfer credit requests require the written approval of the Academic Coordinator of the Economics Department, except as noted below.

“Outside the Economics Department” includes, but is not limited to, AP credit, study abroad credit, courses from the Olin School of Business, University College, etc.

STIPULATIONS (Please read carefully):

1) Advanced Placement (AP)

- a.** Students matriculating in Fall 2009 or later, or students who declare the major/minor after June 1, 2009, will not receive academic credit for AP Economics coursework. If a student receives a 5 on the Microeconomics or the Macroeconomics AP exam, s/he may elect to by-pass the corresponding principles course (Econ 1011 or Econ 1021, respectively), but the credits will have to be made up with elective coursework. Whether it's appropriate to by-pass principles is a decision that should be made after consultation with the Director of Undergraduate Studies or the Academic Coordinator. Students receiving a 4 on either AP exam are advised to complete the corresponding principles class.
- b.** Students matriculating prior to Fall 2009 or who declared the major/minor prior to June 1, 2009 face the following rules regarding AP credit:
 - An economics major or minor who receives a 4 or 5 on the Microeconomics [Macroeconomics] AP Exam may take courses that have a 1011 [1021] prerequisite without taking 1011 [1021], assuming other prerequisites, if any, are satisfied.
 - An economics major or minor who receives a 5 on either the Microeconomics or the Macroeconomics AP Exam will receive 3 additional units of credit upon completing the corresponding intermediate theory class (Econ 4011 in the case of a 5 on the Microeconomics AP Exam, and Econ 4021 in the case of a 5 on the Macroeconomics AP Exam) *with a grade of B or better*.
 - NOTE: The 3 credits awarded for a 5 on an AP exam constitute ½ of the total transferable credits for an economics major.
 - *For students who've earned a 5 on both the Microeconomics and Macroeconomics AP exams...*
 - Minors cannot apply more than 3 units of transfer credit toward the minor degree requirements. When a student has earned a 5 on both the Microeconomics and Macroeconomics AP exams and subsequently chooses to minor in economics, the limit of 3 units of transfer credit does **not** mean that the student must take one of the principles classes. Instead, what **is** necessary is that a student takes a minimum number of economics classes from the Washington University Economics department. Minors must take a minimum of 4 economics classes from WU, including two 400-level economics classes (which depend on the type of minor being earned).
 - Majors cannot apply more than 6 units of transfer credit toward the major degree requirements. When a student has earned a 5 on both the Microeconomics and Macroeconomics AP exams and subsequently chooses to major in economics, the limit of 6 units of transfer credit, does **not** mean that the student cannot receive transfer credit from, for example, economics classes taken as part of study abroad. Instead, what **is** necessary is that a student takes a minimum number of economics classes from the

Washington University Economics department. Majors must take a minimum of six economics classes from the WU Economics department, including four 400-level economics classes (4011, 4021 and the two electives having 4011 and/or 4021 as prerequisites).

- A student who receives a 4 on an AP exam receives no credit for the corresponding principles course. If a student has a 4 on the microeconomics AP and elects not to take Econ 1011 then the student is short 3 units toward the major or minor. The student must make up these 3 units by taking a course with a prerequisite of 1011 (or 4011). The corresponding statement holds if the student has a 4 on the macroeconomics AP and elects not to take Econ 1021.

2) International Baccalaureate (IB) & British A-level exams

- a. Students matriculating in Fall 2009 or later, or students who declare the major/minor after June 1, 2009, will not receive academic credit for successful completion of the IB or the British A-level exams.
 - If a student receives a 6 or a 7 on the IB exam, then s/he may elect to by-pass one or both principles courses (Econ 1011 or Econ 1021, respectively), but the credits will have to be made up with elective coursework. Whether it's appropriate to by-pass principles is a decision that should be made after consultation with the Director of Undergraduate Studies or the Academic Coordinator. Students receiving a 5 on the IB exam are advised to complete the principles classes.
 - If a student receives a grade of "A" on the British A-level exam (Cambridge exams) in economics, then s/he may elect to by-pass one or both principles courses (Econ 1011 or Econ 1021, respectively), but the credits will have to be made up with elective coursework. Whether it's appropriate to by-pass principles is a decision that should be made after consultation with the Director of Undergraduate Studies or the Academic Coordinator. Students receiving grades other than "A" on the British A-level exam must complete the two principles classes.
- b. Students matriculating prior to Fall 2009 or who declared the major/minor prior to June 1, 2009 face the following rules regarding the IB and British A-level exams:
 - For students who have taken the International Baccalaureate (IB) exam in economics, the Economics Department treats an IB 6 or 7 like an AP 5 and IB 5 like an AP 4. Note that the IB covers both microeconomics and macroeconomics. As such, the student can apply the IB exam score to either Econ 1011 or 1021, but not both. Transfer requests pertaining to the IB exam must receive the written approval of the Academic Coordinator.
 - For students who have taken the British A-level exam (Cambridge exams) in economics, the Economics Department treats a grade of "A" like an AP 5 and a grade of "B" like an AP 4. Note that this exam covers both microeconomics and macroeconomics. As such, the student can apply the British A-level exam to either Econ 1011 or 1021, but not both. Transfer requests pertaining to this exam must receive the written approval of the Academic Coordinator.

3) Additional General Comments:

- Transfer credit for Econ 1011 and/or Econ 1021 from other institutions will be accepted; but will 'use up' some, or all, of the allowable limit. Permission for transfer credit must be obtained from the Academic Coordinator. Students should have an official course description and, if possible, a syllabus for the proposed transfer course. The policies described here also apply to courses taken from the Washington University Summer School and University College.
- For students who spend eight semesters on the Washington University campus, the Academic Coordinator will normally approve a maximum of one transfer course to satisfy an advanced course requirement, at the 300-level, subject to the allowable limit. Students should have an official course description and, if possible, a syllabus for the proposed transfer course. The policies described here also apply to courses taken from the Washington University Summer School and University College.
- *The Department will not accept transfer or summer school courses to satisfy major or minor requirements for Econ 4011, Econ 4021, or courses with 4011 or 4021 prerequisites.*

- Exceptions to these policies are granted only when there is a compelling reason why a student cannot complete the advanced courses during the fall or spring semesters at Washington University. Students should submit a petition to the Academic Coordinator.
- Special rules apply to MEC 290, taught in the John M. Olin School of Business. See Section III.B., note (ix), above.

4) **Transfer credit for the statistics requirement (Math 2200):**

Students may use an appropriate transfer course to satisfy the statistics requirement, Math 2200, *with the written approval of the Academic Coordinator*, except as noted below.

- Most introductory statistics courses offered at other institutions are not adequate to satisfy this requirement. Acceptable courses must have a prerequisite of one semester of calculus. Students must have a detailed course description for any statistics course that will be approved to replace Math 2200, and approval from the Math department is required.
- The Economics Department will accept ASTAT 2200 (formerly ASTAT 330D), Math 3200, ESE 326 and the Olin School of Business' QBA 120 and 121 as substitutes for Math 2200. Written approval for this substitution is **not** required.
- The Economics Department will accept PSYCH 300 as a substitute for Math 2200 for Economics and Psychology **double majors ONLY**. Written approval for this substitution is **not** required.
- Students completing a double major in Philosophy-Neuroscience-Psychology (PNP) and Economics must take Math 2200.
- The Economics Department will accept PolSci 363 (identical to ASTAT 330A) as a substitute for Math 2200 for Economics and Political Science **double majors or** for Economics and Political Economy **double majors ONLY**. Written approval for this substitution is **not** required.
 - Students with majors or minors other than Political Science or Political Economy must consult with the Academic Coordinator prior to taking PolSci 363 / ASTAT 330A in lieu of Math 2200.

5) **Transfer credit for Study Abroad:**

- For students who spend one semester abroad, the Academic Coordinator will approve a maximum of two transfer courses to satisfy an advanced course requirement, at the 300-level, provided that the overseas courses have prerequisites at least as advanced as 1011 and/or 1021. Note that this will “count” toward the 6 credit-hour maximum transfer limit.
 - Students must document their course work with the Academic Coordinator and have earned the equivalent of at least a C- or better in order to receive transfer credit.
 - Students are not permitted to transfer Econ 4011, 4021 or any other course as a 400-level elective.
- For students who spend a full year abroad, the department may allow a student to transfer credit for Econ 4011 or 4021 (but not both), but, again this counts toward the 6 credit-hour limit.
 - The Economics department allows 4011 or 4021 transfers only from a select group of study abroad programs, and students must file a petition with the Academic Coordinator.
 - Students who take 4011 or 4021 abroad must take an additional 400-level class at WU. All majors must take four 400 level courses from the WU Economics department during the regular term. (400 level means 4011, 4021, or any class with a 4011 or 4021 prerequisite.)
 - Students must document their course work with the Academic Coordinator and have earned the equivalent of at least a C- or better in order to receive transfer credit.

B. Transfer Students

- Students who transfer to Washington University from another institution and who have sophomore standing are governed by the transfer rules stipulated above.
- Students who transfer to Washington University from another institution but have junior standing will be dealt with on a case-by-case basis by the Academic Coordinator. Note that all Economics majors, including transfer students, must take at least four 400 level courses from the WU Economics

department during the regular term. (400 level means 4011, 4021, or any class with a 4011 or 4021 prerequisite.)

VIII. THE A.B. / M.A. PROGRAM IN ECONOMICS

The Economics Department participates in a program that permits a student to receive both the undergraduate A.B. degree and the graduate M.A. degree within 4 years. Students interested in this program should consult with their Economics major advisor and the Academic Coordinator, no later than the beginning of their junior year. Only in exceptional cases will students be admitted after their fifth semester of study.

Next, to apply for the program, the student should do the following. First, confer with the Associate Dean of the College of Arts & Sciences to assure completion of the necessary procedures. Second, complete the "Statement of Intent to Engage in the Combined AB/MA Program" form, which is available in the Graduate Student Office (153 North Brookings Hall). The form must be signed by the student's Economics major advisor and the Academic Coordinator. A copy of the form is left in the Economics Department with the Undergraduate Administrative Assistant, and then the completed and signed form is returned to the Graduate Student Office.

The requirements for the A.B. portion of the combined degree are the same as for the regular major. The requirements for the M.A. portion of the degree are as follows:

1. At least 135 units of undergraduate and/or graduate school course work, including all academic and residency requirements for the A.B. degree in Economics.
2. At least 10 *additional* classes from the available 400- and 500-level classes in Economics. This is 10 economics classes beyond the (minimum) 6 advanced courses required for the undergraduate major in economics.
3. The ten courses must include:
 - (a) Econ 501 and 503
 - (b) at least two other 500-level economics courses,
 - (c) an econometrics course from among Econ 413 and 513. An undergraduate who has taken Econ 413 need not take Econ 513. However, if Econ 413 was taken to fulfill the A.B. degree requirements, then some other 400- or 500-level economics class must be taken so that the M.A. requirement of "10 additional classes" is met.
4. All courses offered toward the graduate degree must be passed with a grade of B or better.
5. Department certification of the student's achievement of a level of competence normally expected of candidates for the M.A. degree in economics. That involves one of the following:
 - (a) Successful completion ("M.A. Pass") of the Ph.D. general examinations
 - The Ph.D. general examinations (the "prelims") consist of a 5-hour microeconomics-based exam and a 5-hour macroeconomics-based exam. A.B./M.A. students planning to take the prelims must take Econ 502 and 504 as part of their "10 additional classes."
 - The exams are given in mid-June each year, on dates to be specified by the Economics department. Students are notified of the exam dates in the late spring; typically there are 4 days between exams, with the microeconomics prelin taken first.
 - A.B./M.A. students are required to take both exams, but not necessarily in the same year. For example, a student could take the microeconomics prelin in the June following their junior year, and take the macroeconomics prelin in the following June.
 - A student does not need to be in residence, paying tuition, during the calendar year between taking the two exams.
 - A student can elect to take the two exams during the same year.
 - Any student not earning an "M.A. Pass" on the microeconomics [macroeconomics] portion of the June exam has the opportunity to retake the microeconomics [macroeconomics] portion of the prelin in the following August,

- at a date to be specified by the Economics Department.
 - Because A.B./M.A. students are taking exams in June (or August), the M.A. degree cannot be awarded until August (or December, respectively).
- (b) Or, successful completion of an M.A. essay.
- A senior Honors Thesis may not be used as the M.A. essay. The M.A. essay can be related to the senior Honors Thesis; but it must be a distinctly different paper. See the Academic Coordinator and/or the Graduate School for Graduate School Thesis guidelines.
 - A.B./M.A. students who wish to write an M.A. essay must work with a faculty advisor. Finding an advisor and beginning research should be undertaken, at the latest, during the summer between the junior and senior years.
 - A.B./M.A. students must defend their M.A. essay before a group of selected faculty. The defense date and the selected faculty will be arranged between the A.B./M.A. student and that student's advisor.

IX. OPPORTUNITIES FOR INDEPENDENT STUDY AND RESEARCH

Occasionally there is an opportunity to participate in a faculty research program or to work as a research assistant for an individual faculty member. Students typically find these opportunities via discussion with the professors of their elective classes. The Academic Coordinator maintains a database of students interested in working with faculty; but networking is generally more effective. Students working for a faculty member may register for Econ 497.

Students interested in doing individual research under the supervision of a faculty member can, with a senior standing and the permission of the supervising faculty member, sign up for Econ 490, for up to 6 units.

Econ 490 and 497 cannot be used to fulfill major (or minor) requirements.

X. INTERNSHIP OPPORTUNITIES

Internships are an effective means of learning about potential careers, developing work-related skills that complement your academic background, and building a network that may serve as a point of departure when you begin to search for a full-time job. An internship can be from 7-20 hours per week during the academic year, and up to 40 hours per week during the summer. Washington University encourages every student to complete at least one internship as part of his or her undergraduate education.

To match majors with interesting internships, the Economics Department cooperates with The Career Center. Students should visit The Career Center website at www.careers.wustl.edu or stop by the office at 157 Karl Umrath Hall for a calendar of events, including workshops and special programs.

Students interested in an internship should follow the steps described on the [Career Center website](http://careers.wustl.edu/ugr_students/internship.html) (http://careers.wustl.edu/ugr_students/internship.html), including a careful review of the following documents: Internship Search Strategies Handout (<http://careers.wustl.edu/documents/Internship%20Search.pdf>); Internship Prep Series Checklist (<http://careers.wustl.edu/documents/IPS%20Checklist.pdf>); Internship Prep Series FAQs (<http://careers.wustl.edu/documents/IPSFAQs.pdf>); Resume Review Checklist (<http://careers.wustl.edu/documents/ResumeChecklist.pdf>); Prepare for Your Mock Interview (<http://careers.wustl.edu/documents/preparing%20for%20your%20mock%20interview.pdf>)

Important: Referral to the Olin School of Business' [Weston Career Center](#) is an option for students who are pursuing a second major or a minor in business, while majoring or minoring in economics in Arts & Sciences. You **must** complete the [Internship Prep Series](#) (IPS) to be eligible for a referral to Weston. Many business-related positions are cross-listed on Career Options and the Weston Career Center eRecruiting site.

Students can complete the IPS any time, but the Career Center recommends that it is completed in the fall semester so that students are ready to apply for internships right away. Students must complete the IPS in order to participate in on-campus interviews. See the *Calendar of Events* at www.careers.wustl.edu for dates and times and to RSVP.

Credit for Unpaid Internships:

The Department offers a course, Econ 299, for economics majors who participate in an unpaid internship. (The policies of the College of Arts and Sciences prohibit the awarding of credit for any work undertaken for pay.) You may receive up to three units of academic credit. Thirty-five (35) hours worked is equal to one unit of academic credit. To receive credit you must do the following, *before your internship begins* (academic credit cannot be awarded retroactively):

- 1) Identify a faculty sponsor. Usually, this person is your major advisor.
- 2) Complete the Learning Agreement found at www.careers.wustl.edu. Consult with your faculty sponsor before completing the “educational objectives” section of the form. In the “evaluation requirements” section of the form, write that you will complete an economics paper on a topic related to your internship. Typically, interns, with the help of their faculty sponsors, identify suitable paper topics about halfway through their internship. A project completed as part of the internship cannot be substituted for the Econ 299 paper, but the project may serve as a starting point for the paper. Your faculty sponsor may also impose additional requirements.
- 3) Bring a copy of your signed Learning Agreement to the Career Center within two weeks of starting your internship.
- 4) Register for Econ 299 by the semester Drop/Add date. If you intern during the summer, you may register for the credit to appear on your transcript in the following fall. Note that Econ 299 does not satisfy any of the major requirements and must be taken with the Credit / No Credit grade option.

Additional considerations:

1. Internships and study abroad are two excellent experiences to plan for during your four years at WU. If you decide to study abroad, plan ahead to be sure you can also do at least one internship. For ideas and support, contact the [Office of International Studies](#) or call The Career Center at 935-5930 to make an advising appointment.
2. Research experience is helpful for students who are planning to apply to graduate school. This experience may take place at Washington University or another university. For details on research opportunities available at Washington University, visit the [Undergraduate Research](#) web site (<http://ur.wustl.edu>), contact Dean Henry Biggs at hbiggs@wustl.edu or visit the office itself, Suite 100, Umrath Hall.
 - a. Research Experiences for Undergraduates (REU) are sponsored by the National Science Foundation (<http://www.nsf.gov> and http://www.nsf.gov/crssprgm/reu/reu_search.cfm). These research opportunities typically require a formal application process.
3. Public policy internships may be available via the Weidenbaum Center (<http://wc.wustl.edu/>) and/or the Gephardt Institute of Public Service (<http://www.gephardtinstitute.wustl.edu/>). Students majoring or minoring in Political Science should see that department’s web site for potential internships (http://polisci.wustl.edu/fset_ugrad.html). Finally, a general “google” search on “undergraduate internships in economics” might reveal something of interest.

XI. CAREER PLANNING ASSISTANCE

A. Beginning a Career with an A.B. Degree

Most Economics majors start their careers after graduation in a wide range of professions. Students who want to pursue a business career after graduation are urged to take more than the minimum

mathematics and statistics courses. For instance, the department recommends at least a second semester of calculus, and recent graduates also tell us that econometrics (Econ 413) is very useful in obtaining jobs and in advancing quickly in careers.

The Career Center can help you match your interests, skills, and values with career opportunities, connect you to employers and Washington University alumni for information about various careers, and assist you in developing a job search strategy. By registering with the Career Center's online database, [Career Options](#), you will have access to their full-time job listings.

Economics majors (and minors) planning to seek employment following graduation should plan on completing the Senior Prep Series (SPS) as soon as possible upon returning to campus at the start of the Fall Semester of the senior year. Students **must** complete the SPS in order to participate in on-campus interviews and referrals. Students can register for early sessions of the SPS via the Career Center website beginning in late July. Students who're on campus in May of the junior year can attend [Junior Jump Start](#) and accomplish most of the following at that time (<http://careers.wustl.edu/juniorjumpstart/>).

The Senior Prep Series consists of two workshops ("Job Search Strategies" and "Advanced Skills") which can be taken separately or together via the *Senior Prep Blitz*, which combines the 2 workshops into one session.

In addition to the SPS, students should frequently check the Career Center website (<http://careers.wustl.edu>) for helpful documents and tips on job search and networking skills.

Additional considerations:

1. Referral to the Olin School of Business' [Weston Career Center](#) is an option for students who are pursuing a second major or a minor in business, while majoring or minoring in economics in Arts & Sciences. You **must** complete the [Senior Prep Series](#) to be eligible for referral. Many business-related positions are cross-listed on Career Options and the Weston Career Center eRecruiting site.
2. Recruiters to the Weston Career Center come to campus in early September. Economics majors (and minors) who will seek a referral to Weston should plan on completing the Senior Prep Series in August, or even at the end of their junior year via Junior Jump Start (<http://careers.wustl.edu/juniorjumpstart/>).
3. The Academic Coordinator occasionally receives requests by employers to meet with Economics majors. This information is passed along to majors via email. Check your [Washington University email](#) several times each week, at least during the period of your job search.

B. Professional Degree Programs Linked to Economics

Economics provides an excellent foundation for students who want a Masters in Business Administration degree or who want to go to law school. What follows is a brief description of coursework in Economics that might be most appropriate for these career paths.

1) Pre-Business

The standard pre-business economics concentrations are Industrial Organization and Finance. Courses in other areas (e.g. Labor, International) may also be relevant, depending on your interests. In addition, you should take Econ 413 (Introduction to Econometrics).

You should take Accounting 2610, and we encourage you to take other courses from the business school. Note that many business courses have prerequisites, so you need to plan your program carefully.

Business school admissions committees look for evidence of analytical ability and writing ability. Merely being an economics major helps demonstrate analytical ability. To develop your writing ability, we recommend taking a writing intensive economics course (these are indicated by a W in the course number;

e.g. Econ 371W or Econ 448W) as well as composition courses from the English department.

Finally, note that most M.B.A. programs require that students work for several years prior to applying for business school admission.

2) Pre-Law

A basic pre-law recommendation, for all undergraduates, is to take microeconomics, Econ 1011 at a minimum. But, of course, all economics majors take these courses automatically. Some economics courses, notably Econ 403 (Economics of Law), Econ 452 (Industrial Organization) and Econ 458 (Theory of Property Rights), complement parts of the law school curriculum. Increasingly, alumni report on the value of econometrics (Econ 413) in their legal work.

As with business school admissions, Law school admissions committees also look for evidence of analytical ability and writing ability. As stated above, the Economics Department recommends taking a writing intensive economics course (these are indicated by a W in the course number; e.g. Econ 309W, Econ 426W or Econ 448W) as well as composition courses from the English department.

C. Economics and Economics-related Ph.D. programs (e.g. Finance)

The major at Washington University provides a solid foundation for graduate work toward the Ph.D. in economics and economics-related fields (e.g. finance).

Graduate admissions is highly competitive and depends heavily on grades in economics and economics-related (e.g., math) courses. The general advice is: take as many courses in economics and mathematics as you can and do well in them. On mathematics courses, a minimum (typically not adequate to gain admission to a top department) is a third semester of calculus (Math 233) and a course in matrix algebra (Math 309). You will be much better prepared for your first year graduate classes if you take Math 318, which is a more advanced version of Math 233. The Mathematics department allows strong students to take Math 318 in place of Math 233 provided the student has already taken Math 309; students should consult with their Economics advisor and with the Mathematics department. Some admissions committees also want to see differential equations (Math 217). See below for additional comments on mathematics preparation.

Graduate admissions committees look closely at advanced economics courses (generally speaking, 400-level and above). You should take more of these than the major requires. You should, in particular, take econometrics (Econ 413 and Econ 4151). For guidance on other courses, use the list of Economics Concentrations (in the next section) and talk to your advisor.

Graduate admissions committees in top programs pay close attention to grades in first-year graduate core courses (Econ 501 and 503). These courses are extremely demanding: they move fast, they are taught at a high level, and grading is tough. So you should consider taking these courses only if your academic performance has been outstanding and you have very good math skills. In addition, although taking one graduate course, and doing well, will help your application to top Economics Ph.D. programs, there are sharply diminishing returns, in terms of admission prospects, from taking two or more. In particular, we do not recommend participation in the A.B./M.A. program as a way of increasing your chances for admission to a top program.

To prepare you for first year graduate micro, we offer Econ 4111 (Optimization) and Econ 467 (Game Theory). Students considering taking Econ 503 in their senior year should take Econ 4111 in the spring semester of their junior year. Note that Econ 4111 has both Math 233 and Math 309 as prerequisites, so you should take these in the fall semester of your junior year or earlier. Although Econ 4111 provides very good preparation, even someone who has done well in Econ 4111 will find Econ 503 challenging.

If you aspire to a top program, then you should double major in mathematics and economics. You should, in particular, take Math 310, Math 4111 and Math 4121. These courses are demanding, which is one of the

reasons admissions committees are interested in your performance in them. Note that, if you take these courses and the advanced probability and statistics sequence (Math 493 and 494), which the economics department also recommends, then you will be very close to having already fulfilled the requirements for Tracks A, B, or E of the mathematics major. For more specific guidelines, you should consult with the Mathematics Department and the Economics Department's Director of Undergraduate Studies or Academic Coordinator.

Strong students who are comfortable with proof-oriented courses can sometimes bypass intermediate courses such as Math 309, 310, 308 or 318 and instead take the more advanced sequences 4111-4121 or 429-430. In all such cases, an upper-level math elective must be substituted in the major requirements for each bypassed course. On this point, students should consult with the Director of Undergraduate Studies in the Mathematics Department and/or their mathematics major advisor.

All students should take Math 493 (Probability) and Math 494 (Mathematical Statistics). An option for students with adequate preparation is Math 5061-5062. Students interested in empirical research should also consider Econ 4151, ASTAT 450 (Panel Data) and Math 475 (Statistical Computation). Students should consult with the Math department and their advisors for additional guidance.

All students interested in economic or econometric theory should take Math 310, Math 4111 and Math 4121, preferably prior to their senior year. As already noted, all students aspiring to top Ph.D. programs should take these courses as well.

Students planning to apply to a Ph.D. program in finance should take Math 493, 494, and 495. Students aspiring to a top finance program could consider Math 5061-5062 or ESE 520 in place of Math 493, 494, and 495. The Math department also offers Math 456, "Topics in Financial Economics," which may be of interest.

NOTE TO MATH MAJORS: The math major is divided into five "tracks." Of these, the three that are relevant for economics are A (Traditional); B (Probability and Statistics); and E (Mathematics: Economics Emphasis). Refer to the Math department's web site: <http://www.artsci.wustl.edu/%7Efreiwald/major.html>

XII. THE ECONOMICS CURRICULUM: CONCENTRATIONS & COURSE DESCRIPTIONS

In addition to the descriptions, below, students should also pay careful attention to each semester's *Course Listings* to be aware of special opportunities that may be available.

A. Economics Concentrations

This sub-section presents a categorization of courses into their respective economic "fields." The listings here are suggestions, meant to help organize your course selection. For instance, a student particularly interested in macroeconomics might wish to select many of the electives described in that category (Econ 335, 435, 448W, 4861, 413). Students are **not** required to declare a concentration for their economics major (or minor).

For a list of coursework that is most appropriate for post-graduate education (i.e., M.B.A., J.D., Ph.D.), please refer to the discussion in Sections XI.B. and XI.C.

Remark: Although Econ 413 (Introduction to Econometrics) is not required for the major, it is recommended for most concentrations. It is also looked on favorably both by employers and by graduate school admissions committees. Moreover, it ***is*** a required course for students participating in the Senior Honors Program. Therefore, the Economics department strongly encourages all majors to take it.

Econometrics

Econ 413 (Introduction to Econometrics), Econ 4151 (Applied Econometrics), Econ 428 (Capital Market Imperfections and Entrepreneurial Finance), Econ 471 (Development Economics) and Econ 487 (Applied Financial Modeling), Econ 403 (Economics of Law)

We also recommend Math 309 (Matrix Algebra), Math 475 (Statistical Computation), Math 493 (Probability), and Math 494 (Mathematical Statistics), and ASTAT 450 (Panel Data). Ambitious students with the necessary background should consider Math 5061 and 5062 (mathematical statistics).

Finance

Econ 335 (Money and Banking), Econ 408W (Household Finance, Bankruptcy and Credit), Econ 428 (Capital Market Imperfections and Entrepreneurial Finance), Econ 487 (Applied Financial Modeling), and Econ 413 (Introduction to Econometrics).

We also encourage you to take classes in the finance sequence at the business school, in particular Fin 340 (Capital Markets and Financial Management) and Fin 442 (Options Pricing). Math 456 (Topics in Financial Economics) may also be of interest. NOTE: Many finance courses in the business school have multiple prerequisites – you need to plan your program carefully.

History

Econ 326 (American Economic History), Econ 350 (Politics, Economics, and Welfare), Econ 403 (Economics of Law), Econ 423 (Western Economic History), and Econ 458 (Theory of Property Rights), Econ 471 (Development Economics)

Industrial Organization

Econ 428 (Capital Market Imperfections and Entrepreneurial Finance), Econ 444 (Innovation and Intellectual Property: Theory & Practice), Econ 452 (Industrial Organization), Econ 467 (Game Theory), and Econ 413 (Introduction to Econometrics), Econ 403 (Economics of Law).

International

Econ 376 (International Economics), Econ 435 (Open Economy Macroeconomics), Econ 471 (Development Economics), Econ 475 (International Trade), and Econ 413 (Introduction to Econometrics).

We also encourage you to take classes from Political Science. Some suggestions are Pol Sci 103 (International Politics), Pol Sci 372 (Topics in International Politics), Pol Sci 4731 (Global Political Economy), Pol Sci 4761 (Politics of International Finance), Pol Sci 4792 (Globalization and National Politics), and Pol Sci 480 (Growth and Development).

Labor

Econ 380 (Labor and the Economy), Econ 480 (Labor Economics), Econ 485 (Labor-Management Relations in Modern Economics), Econ 413 (Introduction to Econometrics), and Econ 4151 (Applied Econometrics)

Another potentially useful course is ASTAT 450 (Panel Data).

Macroeconomics

Econ 335 (Money and Banking), Econ 435 (Open Economy Macroeconomics), Econ 448W (Current Macroeconomic Issues), Econ 471 (Development Economics), Econ 4861 (Seminar in Macro and Monetary Economics), Advanced Macroeconomic Seminar (new course for Spring 2010; course number and title “TBA”) and Econ 413 (Introduction to Econometrics).

Political Economy

Econ 350 (Politics, Economics, and Welfare), Econ 3501 (Political Economy), Econ 3531 (Law and Economics), Econ 371W (Hierarchy and Organization in Economic Life), Econ 372 (Political Economy of Development in Africa), Econ 377 (International Political Economy), Econ 426W (Economic Systems in

Theory and Practice), Econ 4541 (Institutions of Production and Exchange), Econ 458 (Theory of Property Rights), Econ 488 (Seminar in Political Economy), and Econ 413 (Introduction to Econometrics).

Public Policy

Econ 309W (Microeconomics of Public Policy), Econ 350 (Politics, Economics, and Welfare), Econ 352 (Health Economics), Econ 403 (Economics of Law), Econ 445 (Public Finance), Econ 451 (Environmental Policy), Econ 456 (Business, Government, and the Public), Econ 460 (Urban Economics), and Econ 413 (Introduction to Econometrics).

Theory

Econ 403 (Economics of Law), Econ 404 (Behavioral Economics), Econ 4111 (Optimization and Economic Theory), Econ 435 (Open Economy Macroeconomics), Econ 445 (Public Finance), Econ 460 (Urban Economics), Econ 467 (Game Theory), Econ 475 (International Trade) and Advanced Macroeconomic Seminar (new course for Spring 2010; course number and title "TBA"),.

We also encourage you to take theory courses from Political Science: Pol Sci 4621 (Politics and the Theory of Games), Pol Sci 505 (Theories of Individual and Collective Choice), and Pol Sci 5701 (Experimental Design and Analysis). Note that Pol Sci 505 and Pol Sci 5701 are graduate classes; they are open, on a case by case basis, to undergraduates with strong backgrounds.

If you are interested in decision theory and learning, we encourage you to take Psych 100B (Introduction to Psychology) and Psych 361 (Psychology of Learning).

B. Undergraduate Course Descriptions

Notes to what follows:

1. This list includes courses that are not offered every year.
2. Courses whose course numbers carry "*" have 4011 and/or 4021 prerequisites.
3. Where no course description is given, the course originates in and is staffed by the department with which it is cross-listed.
4. 200-level classes do not count toward the Economics major or minor degree requirements.
5. Courses numbered as xxxW indicate a "writing intensive" course. All students in the College of Arts and Sciences must take at least one writing intensive course as part of their degree requirements. Students majoring in Economics are not required to take their writing intensive class in economics.

1011 Introduction to Microeconomics.

Determination of prices; distribution of national income; theory of production. For a thorough introduction to economics, Econ 1021 should also be taken. 3 units.

1021 Introduction to Macroeconomics.

Business fluctuations, inflation, recession; monetary and fiscal policy; long-term economic growth; international trade and exchange rates. For a thorough introduction to economics, Econ 1011 should also be taken. 3 units.

124 Principles of Macroeconomics Seminar with Computing Applications

Introduction to macroeconomic principles including business fluctuations, monetary and fiscal policy, inflation, and international exchange rates. Students will use modern computing resources to complete various assignments such as retrieving price indices and constructing a web page. This course substitutes for Econ 104 for all major and minor requirements. Enrollment limited to 25 students. 3 units.

205 Napster, AIDs and Intellectual Property

Controversy surrounds the downloading of music over the internet, and the aggressive response of the RIAA to protect their copyrights. Included in this is the lawsuit against Napster, and the bringing of lawsuits against individual music lovers. Also controversial is the patent protection afforded AIDs drugs, resulting in such high prices that they are unavailable in Africa, the area most devastated by AIDs. Copyrights and patents are justified in the U.S. Constitution by Article I Section 8: "The Congress shall have Power To... to promote the Progress of Science and useful Arts, by securing

for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." The goal of this seminar is to examine from an economic perspective to what extent modern intellectual property law does in fact "promote the Progress of Science and useful Arts." 1 unit of CR/NCR only.

2610 Principles of Accounting I. (Staffed by the Business School.)

2620 Principles of Accounting II. (Staffed by the Business School.)

299 Internship in Economics.

Students can receive up to 3 units of credit for an approved and faculty-sponsored internship. The internship must be approved by the Career Center and be supervised by a faculty member. Prerequisites: Econ 1011 and 1021. 3 units possible.

309W Microeconomics of Public Policy.

We will explore the key public policy issues with particular focus on the prominent issues in the 2008 presidential campaign using the worldview of economists. In particular, we have selected six topics that are central to the presidential debates: immigration, healthcare, education, housing, energy and the environment. We will identify and objectively analyze the problems surrounding each of the issues, including their causes, consequences, and measurement. The presidential candidates' positions will be delineated and examined with respect to their economic impacts. Prerequisite: Econ 1011. 3 units.

326 American Economic History. (Identical with History 3261.)

This course will apply basic theoretical concepts to analyze the changing structure and performance of the American economy from Colonial times to the present. Prerequisites: Econ 1011 and 1021. Credit 3 units.

335 Money and Banking.

Money and the monetary system; money creation by the banking system; central bank functions; monetary theory and economic policy. Prerequisites: Econ 1011 and 1021. 3 units.

337 Financial Intermediaries in the Market Economy.

This course analyzes the opportunities and risks presented by financial intermediaries (e.g., commercial banks, savings and loans, mutual funds and pension funds), the larger economic benefits of having both direct and indirect methods of lending, and the need for regulation. We also consider the implications for these institutions of changes in communications technology and the growth and globalization of capital markets. Prerequisite: U07 Econ 104 or L11 Econ 1021. Counts as 300-level credit toward Economics major.

350 Politics, Economics and Welfare.

The course will cover both theoretical and applied aspects of political economy: the justification of the state; problems of cooperation over public goods; intervention by the government in the economy; questions of equality and efficiency; cooperation between states over common resources; trade, economic integration, international monetary stability, and the operation of the global economy. Prerequisite: Econ 1011. 3 units.

352 Health Economics.

Choices made by consumers and providers of medical services and their relation to constraints will be examined. Major emphasis will be on the determination of the quality of outcomes of medical intervention and of the difficulties of attaining accurate information concerning those outcomes. Prerequisite: Econ 1011. 3 units.

372 Political Economy of Development in Africa.

The course explores poverty and economic development in Sub-Saharan Africa. The first half of the course examines the causes of Africa's persistently slow growth and underdevelopment, focusing on the relative importance of geography, Africa's unique historical experience, and current political institutions. The second half of the course explores development issues of particular relevance in Africa, including democracy and political instability, civil conflict, HIV/AIDS, rural poverty, and food security. Prerequisite: Econ 1011. 3 units.

380 Labor & the Economy

Economic analysis of labor markets. Theory and policy applications of labor supply and labor demand; explanations of wage and income differentials; migration and immigration; discrimination; labor unions; unemployment. Prerequisite: Intermediate Microeconomics. Prerequisite: Econ 1011. 3 units.

4011 Intermediate Microeconomic Theory.

Analytic theory of consumer and producer behavior under perfect and imperfect competition. Coverage of demand theory (indifference curves and utility functions and preferences under uncertainty, including expected utility and risk aversion. Development of general equilibrium under pure exchange, including the concepts of competitive equilibrium and Pareto efficiency. Discussion of the role of time as it pertains to interest rates, discounting and net present value. Analysis of standard monopoly and simple oligopoly problems. Development of non-cooperative game theory, including strategic and extensive-form equilibria and Nash and sub-game perfect equilibria. Thorough training in intermediate theory would require both Econ 4011 and Econ 4021. Prerequisites: Econ 1011 (Econ 103B), Math 131, Math 132, and concurrent enrollment in, or prior completion of, either Math 233 or Econ 493 ("Mathematical Economics"). 3 units.

4021 Intermediate Macroeconomic Theory.

National income and labor market measurement. Business cycle fact and consideration of alternative explanations for business cycle phenomena. Development of the Solow growth model, along with theories of endogenous growth and an examination of reasons for differences in growth rates across countries. General equilibrium description of firms and consumers in labor and product markets. Implementation of monetary and fiscal policy, and exploration of the impact of policy changes on the macroeconomy. Prerequisites: Econ 1021 (Econ 104B) and Econ 4011. 3 units.

403* Economics of Law

The course provides a standard introduction to the economic analysis of law. Mastery of basic economic approaches to the study of legal institutions is a valuable skill that benefits a broad range of students. Students planning to pursue careers in the private and public sectors as well as those planning to attend graduate school will find this course extremely useful. The course spans the growing field of law and economics, starting with the early insights of the late '60s and early 70's and ending with state-of-the art contributions made in the last few years. The plan for the course intends to add the more recent trend towards empirical implementation of the insights set forth by the early theoretical contributions in the field. The course intends to cover the fundamental contributions made by the economic approach in four core areas: 1. Property Law 2. Contract Law 3. Tort Law 4. Criminal Law We will also cover several topics in the economics of litigation. Time permitting, topics in more recent areas of law and economics will be covered as well. In particular, time will be devoted to explore economic arguments in areas that inform some of the most heated current policy debates in the United States such as Criminal Records Policy, The Estate Tax, Affirmative Action, Eminent Domain and the Market for Body Organs. Prerequisite: Econ 4011.

404* Behavioral Economics

This course provides an overview of behavioral economics, an emerging sub-field which integrates insights from psychology into economic models of behavior. We'll study ways in which individuals systematically depart from assumptions such as perfect rationality, self interest, time consistency, etc; and discuss the economic ramifications of these predictable but "irrational" behaviors. The course covers three main classes of topics: (i) non-standard preferences, (ii) non-standard beliefs, and (iii) non-standard decision rules. The methodological focus of the course is on economic theories of individual decision-making, and on the experimental tests of these theories conducted by both economists and psychologists. Prerequisites: Econ 4011 and Math 2200.

4111* Optimization and Economic Theory.

An introduction to mathematical optimization and its applications within economics. The course is designed for, and should be taken by, all undergraduates considering graduate study in economics, but all interested students are welcome. Prerequisites: Econ 4011, Math 233, and Math 309 or permission of the instructor. 3 units.

413 Introduction to Econometrics.

Course provides a basic working knowledge of econometrics. Topics will include: Translation of economic theory into statistical models, statistical foundations of econometrics, regression analysis, bivariate and multiple regression techniques, hypothesis testing, multicollinearity, specification error, autocorrelation, errors in variables, identification and simultaneous estimation. Prerequisites: Econ 1011, Econ 1021, and Math 2200 or equivalent. 3 units.

4151* Applied Econometrics

Introduction to econometrics as it is applied in microeconomics and macroeconomics (modular). Emphasis is on hands-

on implementation of the models covered in the course. Topics related to the analysis of microeconomic data include cross-section and panel data linear models and robust inference; instrumental variables estimation; simultaneous equation models; models for discrete choice; and truncation, censoring and sample selection models. Topics related to the analysis of macroeconomic data include linear time series models; practical issues with likelihood-based inference; forecasting; structural identification based on timing restrictions; and computational methods for hypothesis testing.. Prerequisites: Econ 4011, Econ 413. 3 units.

423* Western Economic History. (Identical with International Studies 4231 and History 4231.)

A detailed discussion of the circumstances surrounding the industrialization of the Western World in the eighteenth and nineteenth century, with special attention given to Britain, France and Germany. Various hypotheses regarding economic growth and development are examined in the light of the latest evidence and with the use of basic economic reasoning. Prerequisites: Econ 4011, or Econ 1011 and written permission of the instructor. 3 units.

426W* Economic Systems in Theory and Practice.

Theory and practice of mercantilism, capitalism, and socialism. Historical and contemporary examples will be considered, with focus on Latin America, Eastern Europe, and Hong Kong. Primary emphasis on choices open to individuals; pecuniary and non-pecuniary prices paid to exercise those choices. Statistical evidence and case studies will be used. Course requirements include weekly written critique. Prerequisite: Econ 4011. 3 units.

428* Capital Market Imperfections and Entrepreneurial Finance.

Capital market imperfections arise for many reasons, including asymmetric information between firms and investors. This can lead to adverse selection and moral hazard problems, with the result that external sources of firm finance become substantially more costly than internal sources. In turn, this reduces the formation of new firms and constrains the growth of some existing firms. The course examines theoretical aspects of capital market imperfections and empirical tests of financing constraints, particularly as they pertain to R&D investment. A substantial portion of the course explores the role played by venture capital to partially resolve capital market imperfections in high-tech industries. The U.S. venture capital market is highly developed and is likely an important reason for the U.S.'s success in commercializing new science. Prerequisite: Econ 4011. Econ 413 is strongly recommended. 3 units.

435* Open Economy Macroeconomics.

The course will begin with a review of international trade theory, of the balance of payment accounts and their relationship to international borrowing and lending. We will then study the asset approach to exchange rates determination, exchange rate behavior in the short and in the long run, and the relationship of exchange rates with prices and output. The course will also explore monetary and fiscal policy under both fixed and floating exchange rates, macroeconomic policy coordination and optimum currency areas, international debt problems of developing countries and their relation to stabilization programs. Prerequisite: Econ 4021. 3 units.

440 Economics of Social Policy.

Economic analysis of the employment and income problems of the poor and of public policy responses. Topics selected from among the following: The distribution of income in the U.S., economic and social causes of poverty; education and technical change; fiscal-monetary and labor market policy; income assistance versus government services; the economics of minimum wages; cost-benefit analysis and the poverty program. Prerequisites: Econ 1011 and 1021 or consent of the instructor. 3 units.

444* Innovation and Intellectual Property: Theory & Practice

Innovation - that is: figuring out better and cheaper ways of satisfying human desires - is the key to improving our well being. It is not patient saving and accumulation that makes us so much better off than we used to be: capital accumulation is only the conduit through which the innovation juices flow. The question is what drives it? How come some societies are apparently much more innovative than others? How come we have the impression that most useful inventions took place in the last three centuries? Are there policies that help fostering innovation and others that hurt? The course tries to address these questions. Economists have many theories of innovation, and some better than others. We will look at the theories, we will examine the facts (past and present), then we will go back to the theories and reconsider their explanatory power. With this background we approach the debate about Intellectual Property, what it is and what it is not good for, whose interests it serves and whose well being it thwarts. Prerequisite: Econ 4011. 3 units.

445* Public Finance.

The study of fundamental forms of market failure that provide a rationale for government action. The first third of the

class analyzes the allocation of resources and the natural and social phenomena that determine the feasibility and efficiency of allocations and whether they occur as equilibria. Topics include the characterization of efficiency when an economy contains externalities and public goods and the efficiency enhancing role of policy. The second third examines whether particular public policies achieve their goals and are cost effective and whether they produce unintended consequences. The final third addresses taxation. Topics include the measurement and evaluation of tax burdens, the structure of the federal personal income tax and corporate profits tax, tax evasion, and proposals for fundamental tax reform. There is significant use of price theory and calculus throughout the course. Prerequisite: Econ 4011.

448W* Current Macroeconomic Issues.

Review and extension of macroeconomic models from Econ 4021 from a comparative perspective and use of these models to analyze current macroeconomic and policy issues. Topics include recession and recovery, long-term growth, saving and Social Security, investment, and monetary policy. Multiple writing assignments that emphasize critical analysis of readings on current macroeconomic topics. Writing will be revised to improve logical structure, clarity, and style. Enrollment limited to 15 students with priority given to senior economics majors. Prerequisite: Econ 4021. 3 units.

451 Environmental Policy/Business and the Environment.

This course will examine the relationship between environmental economics and environmental policy and raise more general questions about the political economy of regulation. The course will focus on air pollution, water pollution, and hazardous wastes, although some attention will be given to biodiversity and global climate change. The course will examine critically two prescriptions that economists usually endorse: (1) the "balancing" of benefits against costs (e.g., benefit-cost analysis) and the use of risk analysis in evaluating policy alternatives. (2) The use of market incentives (e.g., prices, taxes, or charges) or "property rights" instead of traditional command-and-control regulations to implement environmental policy. Prerequisite: Econ 1011. 3 units.

452* Industrial Organization.

Theoretical and empirical analysis of the presence and value of competitive forces in the U.S. economy. Theories of industrial organization and the development of criteria for the performance of noncompetitive industries. Prerequisite: Econ 4011. 3 units.

4551 Seminar in Political Economy. (Identical to L32 4551.)

Collective decision-making in organizations, organization design, links between markets and government, collective preferences, institutions, democracy and deliberation, constitution design. 3 units. *This course may not be used to satisfy major or minor requirements.*

456 Business, Government, and the Public.

This course examines the increasingly complex interrelationships among business, government, and the public. It focuses on a set of major current problems involved in these relationships, such as environmental improvement, the military-industrial complex, and income redistribution. Prerequisites: Econ 1011 and 1021 and junior or senior standing. 3 units.

458* The Theory of Property Rights.

The course develops a theory of property rights and explores the implication of various property rights structures for resource allocation and economic development. The theory developed by Ronald Coase, Harold Demsetz, Armen Alchian, Steven Cheung, and others will be examined and various types of property right discussed such as share-cropping, slavery, serfdom, as well as property rights in modern market and socialist economies. Prerequisite, Econ 4011. 3 units.

460* Urban Economics.

This course is a survey of modern urban economics. We shall examine the microeconomics of the structure of cities and housing markets, economic theories addressing how, why and where cities form; they history and dynamics of the urban economy; and the role of government policy in correcting for market failures in the urban economy. Prerequisite: Econ 4011. 3 units.

467* Game Theory.

Introduction to the analytical theory of non-cooperative games, with applications to Economics. Course will cover game theoretic aspects of decision theory, Nash equilibrium and its refinements, and topics in strategic and extensive form games, and in games of incomplete information. Prerequisites: Econ 4011, Math 233, and Math 2200. 3 units.

471* Development Economics.

Investigation of issues related to the development of the economies of third-world countries. Topics include economic growth, poverty, and the distribution of income with an emphasis on labor markets and education. Consideration of the effectiveness of various institutional policies designed to encourage development including decentralization and privatization. Empirical examples are drawn from international experience, especially Latin America. Prerequisites: Econ 4011 and Econ 413. 3 units.

475* International Trade. (Identical with International Studies 475.)

Analysis of international trade from different perspectives: Ricardian, Heckscher-Ohlin, and new trade theories. Topics include patterns of trade, gains from trade, protectionism, international factor movements, political economy of trade policy, balance of payments, exchange-rate determination, and international investment. Rigorous application of price theory to trade issues and in-depth discussion of current international policy questions. Prerequisite: Econ 4011. 3 units.

480* Labor Economics.

Economic analysis of labor markets. Theory of and evidence on supply of and demand for labor; explanation of wage differentials; factors affecting the development and application of human capital; effects of alternative compensation and incentive schemes on firm performance and productivity; relationship between wages, inflation, and unemployment; examination of relevant public policy. Prerequisite: Econ 4011. 3 units.

4861* Seminar in Macro and Monetary Economics.

Topics chosen by instructor from modern empirical and theoretical research papers in macroeconomics. Student participation in class discussions of research papers is essential. Topics vary, but may include the link between capital markets, consumption and investment, imperfect competition and macroeconomic fluctuations, real business cycles models, and post-Keynesian macroeconomics. Prerequisites: Econ 4011, 4021, 413, and permission of instructor.

487* Applied Financial Modeling.

Topics in financial economics, including portfolio theory, the capital asset pricing model, the efficient markets hypothesis, and models of time-varying market volatility, with an emphasis on empirical applications of theoretical concepts using Microsoft Excel. Cultivation of practical programming skills is designed to complement application of economic theory to financial markets. Prerequisites: Econ 4011 and Econ 413. 3 units.

488 Seminar in Political Economy. (Identical with Political Economy 498.)

Modern democratic theory, applying social choice and game theory to the analysis of democratic political systems. Comparisons between U.S., British, and European policies in terms of responsiveness and efficiency. Discussion of questions of political stability in fragmented politics (Italy, Israel) and newly democratic countries. Approval of instructor required. 3 units. *This course may not be used to satisfy major or minor requirements.*

4xx* *Advanced Macroeconomics Seminar. Course title and description not available for this draft. Check online with Spring 2010 course listings.*

490 Independent Work.

Prerequisite, senior standing and permission of the Academic Coordinator. Credit variable; maximum 6 units. *This course may not be used to satisfy major or minor requirements.*

496 Teaching Practicum in Economics.

Opportunity for undergraduates to assist in course instruction, tutoring, and preparation of problems, readings and exam materials under the supervision of faculty. Credit variable; maximum 3 units. *This course may not be used to satisfy major or minor requirements.*

497 Research in Economics.

Opportunity to work on a research project under faculty supervision. Credit variable, maximum 3 units. May be repeated for credit. *This course may not be used to satisfy major or minor requirements.*

498 Honors Seminar.

Advanced application of economic theory to policy problems. Prerequisites: invitation into the "Honors in Economics with Distinction" track of the department's Honors Program. This is part one of two courses, and is taken in the fall

semester of the senior year. 3 units. *This course may not be used to satisfy major or minor requirements.*

499 Study for Honors.

Independent reading and research under faculty direction leading to a Senior Honors Thesis. Prerequisites: invitation into the “Honors in Economics with Distinction” track of the department’s Honors Program. This is part two of two courses and is taken in the spring semester of the senior year.. 3 units. *This course may not be used to satisfy major requirements.*

XIII. ECONOMICS FACULTY

Research and teaching interests are indicated for each faculty member.

Professors

Gaetano Antinolfi (macroeconomics, monetary and international macroeconomics; 4021, 435)

Costas Azariadis (labor contracts, macroeconomic dynamics and economic development; 502)

Lee Benham, (industrial organization, medical economics; 1011, 352, 426W, 4541, 498)

Marcus C. Berliant, (public finance, mathematical economics, urban economics; 409, 418, 445, 460, 503, 504)

Michele Boldrin (economic theory, economic growth and macroeconomics; 444, 501, 502)

Siddhartha Chib (Bayesian econometrics)

John Drobak (law and economics, regulatory economics; 458)

Philip Dybvig (economic theory and finance)

Haluk Ergin (microeconomic theory, game theory; 467, 503, 504)

Steven M. Fazzari (macroeconomics, monetary economics, post-Keynesian economics, econometrics; 1011, 1021, 4021, 448W, 486)

Sebastian Galiani (development economics, econometrics; 471, 4151)

Barton Hamilton (entrepreneurship, health economics, labor economics, econometrics)

Pamela Jakiela (development, behavioral; 372)

Sukoo Kim (economic history, urban & regional economics, international trade; 326, 376, 4011, 476)

Stephanie Lau (microeconomic theory, game theory; 4011, 467)

David Levine (game theory, general equilibrium theory, macroeconomic theory; 205, 4011, 503, 504)

Glen MacDonald (industry evolution, strategy & value appropriation, microeconomics & industrial organization, investor protection, compensation)

Rudolfo Manuelli (macroeconomics, growth; 501, 502)

James Morley (time series econometrics; 1021, 4021, 487)

John H. Nachbar (microeconomics, game theory; 1011, 4111, 503, 504)

Douglas C. North (New Institutional Economics, economic history, economic development; 458, General Studies 292)

Juan Pantano (applied microeconomics, labor, law and economics; 403)

Robert P. Parks (econometrics, public finance; 1011, 413, 445)

Bruce Petersen (microeconomics, industrial organization; finance; environmental economics 1011, 452, 428)

Werner Ploberger (statistics, econometric methodology, time series econometrics)

Robert A. Pollak (environmental economics, economics of the family, consumer economics; 451)

Raul Santaaulalia-Llopis (macroeconomics, growth; 4021)

Norman Schofield (political economy, game theory; 350, 418, 466, PE 498)

Yongseok Shin (macroeconomics, growth; 501, 502)

Jeroen Swinkels (competitive strategy, game theory, auctions & bidding, design of incentive schemes)

Ping Wang (macroeconomics, growth, urban economics)

Murray L. Weidenbaum (government and business; 456)

Steve Williamson (monetary economics, macroeconomics; 501, 502)

Senior Lecturer

Melanie Blackwell (microeconomics, public policy, econometrics; 1011, 309W, 4011, 413)

Dorothy Petersen (macroeconomics, monetary economics, international; 1021, 335, 4021)

Adjunct Faculty

Suzette Baker (microeconomics; 1011)

Su-Hsin Chang (econometrics; 413)

Sudeshna Bandyopadhyay (microeconomics, labor; 1011, 380)

James Bullard (learning & expectations formation in macroeconomics, monetary theory, life-cycle economics; 4021, 502)

William Gavin (monetary and macroeconomics; 335)

Tricia Gladden (microeconomics, labor economics, econometrics; 413)

Kevin Kliesen (business economics, monetary and fiscal policy analysis; 1021)

Visitors

Karl Dunz (microeconomics, mathematical economics, public finance; 445, 460)

Emeritus

Edward Greenberg (theory, statistics and econometrics)

Charles L. Leven (health economics)

Wilhelm Neufeind, (microeconomics, economic theory; 1011, 330, 4011, 4111, 418)

Frederic Q. Raines (statistics, econometrics, labor, macroeconomics)