THE OHIO STATE UNIVERSITY
DEPARTMENT OF ECONOMICS

POLICIES AND PROCEDURES FOR GRADUATE STUDY IN ECONOMICS

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Masanori Hashimoto, Professor and Chairperson

Hajime Miyazaki, Professor and Director of Graduate Studies

Belton Fleisher, Professor and Graduate Placement Officer

Ana Shook, Graduate Program Coordinator

This document is issued by the Department of Economics, The Ohio State University, 410 Arps Hall, 1945 North High Street, Columbus, Ohio 43210-1172.

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I. INTRODUCTION

A. General

The Department of Economics offers two advanced degrees in economics: the MA and the Ph.D.. The MA degree program is highly structured and stresses the development of the theoretical and quantitative skills that are essential to any well-trained professional economist. The Ph.D. degree program stresses the development of more advanced theoretical and quantitative skills and an in-depth knowledge of several specialized field areas. Although an MA is not required for entry into the Ph.D. program, evidence of mastery of the course work necessary for the MA is required for successful completion of the Ph.D.

This manual is your guide to graduate study in economics at The Ohio State University. It presents the rules that the Department of Economics has adopted to govern its graduate programs and contains samples of typical courses of study. Because these programs operate within the framework of rules established by The Ohio State University, you should also consult the following university-wide publications:

1. *Graduate School Handbook.* All graduate students are advised to read this volume carefully. It contains the rules established by the Graduate School that govern all graduate programs at the University. The Handbook contains rules on a variety of subjects, e.g., general degree requirements and transfer credit policies, some of which are covered only briefly in this document. The Handbook is normally distributed to students in the autumn of each year. Additional copies may be obtained directly from the Graduate School.

2. *Course Offerings (Ohio State University Bulletin, Book 3).* This volume is supplied upon request to applicants residing in the United States with application forms for admission to Graduate School. New students will pick up this volume from the Graduate School when they enroll in the fall. Subsequent issues are available in the autumn of each year.

3. *Graduate School (Ohio State University Bulletin, Book 2).* This volume is otherwise known as the "Graduate School Bulletin." The current issue is supplied upon request together with application forms for admission to Graduate School. Subsequent issues may be made available upon request.

4. *Master Schedule of Classes* for each quarter. This volume is included with the quarterly packet of registration materials.

Students are solely responsible for understanding and applying to their graduate program the relevant information contained in these sources and in the present "Policies and Procedures." Specific questions should be raised with the student's adviser or directly with the Graduate School.

The graduate program in economics is under the supervision of the Graduate Studies Committee of the Department (hereafter Graduate Studies Committee), presently composed of five graduate faculty and two non-voting graduate student representatives. The student representation will be absent from meetings, which discuss admissions or individual students. The members of the Graduate Studies Committee as of Spring Quarter 2002 are:

Hajime Miyazaki, Professor, Director of Graduate Studies/Chair, Graduate Studies Committee, 465C Arps Hall (miyazaki.1@osu.edu, 614/292-7939)

Steve Cosslett, Professor, Member, Graduate Studies Committee
455 Arps Hall (cosslett.1@osu.edu, 614-292-4106)

Paul Evans, Professor, Member, Graduate Studies Committee
471 Arps Hall (evans.21@osu.edu, 614-292-0072

Patricia Reagan, Professor, Member, Graduate Studies Committee
450 Arps Hall (reagan.3@osu.edu, 614-292-0192)

Pok-Sang Lam, Associate Professor, Member, Graduate Studies Committee
442 Arps Hall (Lam.1@osu.edu, 614-292-6567)

Mark Owens, Graduate Student, Member, Graduate Studies Committee
303 Arps Hall (owens.230@osu.edu, 614-292-0275)

Paul Rivera, Graduate Student, Member, Graduate Studies Committee
307 Arps Hall (rivera.123@osu.edu, 614-247-2070)

Belton M. Fleisher, Professor, Graduate Placement Officer, Ex Officio, Graduate Studies Committee, 413 Arps Hall (fleisher.1@osu.edu, 614/292-6429)

B. Application and Acceptance into the Program

A prospective student may obtain the appropriate admissions application and material by writing or calling The Ohio State University Admissions Office (614-292-9444), or visiting their website (http://www-afa.adm.ohio-state.edu). Essential elements of the admissions material that must be submitted include: transcripts of all past academic work; three letters of recommendation, preferably from individuals who can assess the student's potential for graduate study in economics; the General Test portion of the Graduate Record Examination; and an autobiographical statement, including the applicant's educational and professional goals and objectives. International applicants must also submit TOEFL scores. In the Economics Department, the Graduate Studies Committee is responsible for all admissions and financial aid recommendations.

The graduate-level course work presumes a strong undergraduate program including the following:

1. Intermediate micro and macro theory (Economics 501A and 502A or equivalent)

2. An introduction to statistics (Statistics 145 or equivalent)

3. Three quarters (two semesters) of calculus and analytic geometry (Mathematics 151–153 or equivalent)

Several other courses are highly recommended, including (in priority ordering) those listed below:

4. An additional quarter of calculus and analytic geometry (Mathematics 254)

5. Linear algebra (Mathematics 568 and 569)

6. Differential equations (Mathematics 255 or 415 or 556)

Because the first-year program requires that courses be taken in sequence, beginning the program in any quarter except the Autumn Quarter is not allowed. In some circumstances, students taking preparatory courses may be permitted to enter the program before the Autumn Quarter.

C. Registration

The graduate program in economics is administered by the Office of Graduate Studies (hereafter OGS) of the Department of Economics (410D Arps Hall, 614/292-2253, ogs@ecolan.sbs.ohio-state.edu). Questions on the graduate program may be addressed to this office.

The course of study of the individual graduate student is developed with consultation and approval of the student's adviser. The Director of Graduate Studies of the department normally serves as the adviser to all new graduate students, until Qualifying Examinations (discussed below) are successfully completed.

Permission to register as an incoming graduate student is granted when the Acceptance Statement is returned to the Admissions Office. If time permits, the packet of registration materials for the given quarter is then mailed to the student; if time does not permit, the student may obtain the materials in person from the Graduate School. International students will obtain registration materials when they arrive on campus in the autumn.

Incoming students should arrange for an interview with their adviser (the Director of Graduate Studies) by the last day of registration *but preferably sometime earlier.* An appointment for the interview may be made in person, by phone (614-292-2253), or by mail.

D. Course Loads and Program Structure

In the remainder of this manual, programs are discussed under the assumption that the student is planning to take not less than the standard course load of 15 hours per quarter during the first two years of the program, and that the student has the specified prerequisites in hand. This focus is based on the needs and intentions of the majority of students. The department nevertheless wishes to encourage motivated students with background deficiencies and part-time students to pursue degree programs. Such students will need to modify their programs of study in consultation with their advisers and the Director of Graduate Studies.

Chart 1 (p. 38) provides an illustration of the program which the majority of students will pursue. The first-year program is common to all incoming MA and Ph.D. students. It is possible to complete the MA in one calendar year if the student takes a full load. A more detailed discussion is given below.

Individuals who pass the Qualifying Examinations at the Ph.D. level are eligible to proceed into course work in two specialized field areas and to take Written Field Examinations in those areas. Following the completion of these examinations, the individual begins preparation of his/her dissertation and subsequently undertakes the written and oral portions of the Candidacy Examination. The Ph.D. degree is granted (subject, of course, to the completion of other requirements) following successful completion of the dissertation and its successful defense at a Final Oral Examination.

The Approved Personal Program of Study. Each graduate student, when first registering at Ohio State, will work out with the Director of Graduate Studies a mutually-acceptable *Approved Personal Program of Study* for the entire period leading up to the Written Field Examinations. This Program, or an approved modification, specifies the courses for which the student will register in each academic term. The individual program of courses will depend on a number of considerations: (1) whether the student is taking a full or partial course load, depending primarily on the type of financial support received, or, in the absence of financial support, on the need to pursue part-time employment; (2) student preparation in terms of prerequisites; (3) the availability of courses according to the Master Schedule of Classes; and (4) individual abilities, interests, and preferences.

Standard Course Loads. The standard course load in the first year is 4 courses each in fall and winter and 3 courses in the spring. The standard course load in the second year is 3 courses in the fall and 2-3 courses per quarter in the winter and spring. The typical course load in later years is 2-3 courses per quarter. In addition, international students may be required to take courses in the English 104–5 and 106–7–8 sequences, depending upon their performance on placement examinations in speech and composition. In addition, students are encouraged to strengthen their mathematics backgrounds as time permits by enrolling in courses offered by the Mathematics Department (see Appendix A for some suggested courses).

Minimum Course Loads. The Graduate School has established the following minimum course loads, in terms of graduate credit hours per quarter, for students receiving financial support:

Fellowship students (including non-University fellowships): 15 credit hours.

Graduate Research Associates with appointments for full-time dissertation research: 15 credit hours.

Graduate Associates (50% appointment):
before admission to Candidacy:
autumn, winter, and spring quarters: 9 hours
summer quarter: 7 hours.
after admission to Candidacy: 12 hours.

Non-graduate course work can be counted towards these requirements only if the student has received prior written approval from the Director of Graduate Studies. Audited courses do not count under any circumstances.

Please note that first and second-year Graduate Teaching Associates must normally take more than the minimum course load. In addition, students who take only the minimum course load may in some cases fail to satisfy the minimum residency requirements established by the Graduate School (*Graduate School Handbook:* II.6.6.4).

Students not receiving financial support are permitted to construct programs to suit their needs within the general pattern of requirements illustrated in Chart 1. However, international students who are not Graduate Associates must register for at least 10 hours per quarter in order to be considered full-time students.

II. THE BASIC CURRICULUM

Both Ph.D. and MA students must demonstrate competence in microeconomic theory, macroeconomic theory, and statistics. Since candidates for both the MA and Ph.D. degrees take many of the same courses, the general program is discussed before specific requirements are considered.

A. The Microeconomic Theory Sequence

The microeconomic theory sequence consists of three courses, Economics 804, 805, and 808. Descriptions of these courses are given in Appendix C. The minimum prerequisite for this sequence is intermediate microeconomic theory. Students who lack this preparation should complete Economics 501A before taking Economics 804.

B. The Macroeconomic Theory Sequence

The macroeconomic theory sequence consists of three courses, Economics 806, 807, and 809. Descriptions of these courses are given in Appendix C. The minimum prerequisite for this sequence is intermediate macroeconomic theory. Students with insufficient preparation should complete Economics 502A before taking Economics 806.

C. The Mathematics for Economists Sequence

Economics 700 701 are devoted to instruction in the mathematical skills that are essential to modern economic theory.

The minimum prerequisite for Economics 700 is Mathematics 152 or equivalent and the Economics Math Camp or equivalent. Economics 700 covers mathematical topics and techniques most commonly used in general economic analysis and econometrics. Topics include linear algebra, calculus, introduction to real analysis, differential equations, static and dynamic optimization.

The minimum prerequisite for Economics 701 is Economics 700. Economics 701 covers mathematical techniques used in advanced economic analysis. Topics include real analysis (advanced calculus), measure theory, more advanced optimization techniques, and instructor's choice of topics.

Students are strongly advised to attend an intensive *Mathematics Workshop* (i.e., Math Camp) offered by the Department of Economics in September before the beginning of Autumn Quarter classes. The workshop meets Monday through Friday for two weeks and covers most of the mathematical methods required for the first-year microeconomic and macroeconomic theory sequences. The workshop allows students to cover (or review) this material before, rather than concurrently with, their first-year courses. In addition, the workshop may be helpful in determining whether the student should take more advanced courses offered by the Department of Mathematics.

D. The Statistics and Econometrics Sequence

Students are required to demonstrate competence in econometric methods by satisfactory completion of the statistics and econometrics sequence. The sequence consists of two quarters of basic mathematical statistics, Economics 640 and 740, followed by two quarters of introductory econometrics, Economics 741 and 742. Both econometrics courses must be taken for credit (not audited) before a student may proceed to the Candidacy Examination.

Students who are sufficiently prepared in mathematics beyond the minimum level (to a level indicated by Mathematics 254) — and especially those planning to specialize in econometrics — should take Statistics 620 and 623 instead of Economics 640 and 740.

Students with exceptional preparation in mathematical statistics and econometrics may be placed in second-year courses.

E. English Language Courses for International Students

An international student from a country where English is not the first language is required to take a placement examination in written English. Depending on the outcome of the test, the student may be placed in English 106, 107G, or 108.02. A student placed in this sequence must complete English 108.02 before beginning the second year of graduate study. (A student may be exempted from the written English requirement on the basis of a sufficiently high TOEFL score.)

In addition, international graduate students for whom English is not the first language must be certified in spoken English before they can be assigned as Graduate Teaching Associates to classroom teaching duties. All such students who have been awarded financial support by the department, or who intend to apply for financial support, are therefore required to take a spoken English test. If necessary, students will be placed in English 104 or 105.

International graduate students in Economics must take the required English language tests at the beginning of the first year. The *Approved Personal Program of Study* will include all English courses needed to complete the English language requirements before beginning the second year of graduate study.

III. PROGRAM FOR THE M.A. DEGREE IN ECONOMICS

A. General Requirements

University-wide requirements for the MA degree are set forth in the *Graduate School Handbook* and in *The Ohio State University Bulletin: Graduate School* (Book 2). All graduate students should be familiar with this material; they bear sole responsibility for assuring that their program meets the University requirements. The Graduate School requires 45 graduate credit hours. No student may receive a master's degree whose graduate grade point average is below 3.0.

The Department of Economics provides a Plan B (comprehensive examination without thesis) curriculum for the MA degree.

B. The MA Examination

The *Master's Examination Committee* of each MA student is composed of three Graduate Faculty members in the Department: the student's adviser, who serves as chair of the committee, and the chairpersons of both Qualifying Examination Committees (see Section IV.B). If the adviser chairs a Qualifying Examination Committee, there will be only two members of the Master's Examination Committee.

The written portion of the MA examination is offered concurrently with the Qualifying Examinations and consists of separate examinations covering microeconomic and macroeconomic theory. Each member of the Qualifying Examination Committees (see Section IV.B) grades the relevant examination as ***MA Pass*** or ***Fail***. The Master's Examination Committee reviews the examinations and scores in determining whether a student has passed the Master's Examination. It is the sense of the Department that a student who does not receive at least two MA Pass scores on each of the microeconomic and macroeconomic Qualifying Examinations should not be considered to have passed the written portion of the MA examination. The student passes the Master's Examination only if all committee members judge the examination to be of MA quality. In the event a student does not pass the Master's Examination, the Master's Examination Committee may, at its discretion, require the student to retake one or both of the Qualifying Examinations.

The examination papers are coded, so that the readers do not have direct access to the names of the students who have written particular examinations. Students are not permitted to bring any written materials into the examination.

In advance of the administration of the Qualifying Examinations, the STUDENT is responsible for the following: (1) obtaining from the Graduate School the *Application to Graduate* form and list of deadlines to be met; (2) completing the *Application to Graduate* form and obtaining thereon the signatures of the adviser and the Chair of the Graduate Studies Committee (Director of Graduate Studies); and (3) submitting a copy of the completed form to OGS and the original of the form to the Graduate School. Because of the time required to grade the Qualifying Examinations, students might not receive their master's degrees during the quarter they take the Qualifiers.

In due course, OGS will receive from the Graduate School a copy of the *Master's Examination Report* form. OGS is responsible for: (1) executing the form and obtaining the signatures of the Master's Examination Committee, and (2) forwarding the completed form to the Graduate School. If the written examination is not passed at the MA level, a *failure* must be recorded on the Master's Examination to the Graduate School. If the student attempts the Master's Examination a second time, the Master's Examination form must be signed by the same committee members who signed the first Master's Examination form. No student may take the Master's Examination more than twice.

C. Course Requirements

The requirements for the MA degree in economics include satisfactory completion of the statistics and econometrics sequence, Economics 640–740 (or equivalent, such as Statistics 520–521, or Statistics 620 and 623) and Economics 741. Satisfactory completion means the average grade on these three courses be no less than B – (2.70/4.00). The statistics and econometrics requirement may be waived, in full or in part, when a student provides evidence of satisfactory completion of equivalent courses. Students are urged to take the sequences in microeconomics (Economics 804–805–808), macroeconomics (Economics 806–807–809), Economics 700 (and possibly Economics 701). Proficiency in microeconomics and macroeconomics is determined by the Qualifying Examinations.

IV. PROGRAM FOR THE PH.D. DEGREE IN ECONOMICS

A. General Requirements

University-wide requirements for the Ph.D. degree are set forth in the Graduate School Handbook. All graduate students should be familiar with this material; they bear primary responsibility for assuring that their programs meet the University requirements. The Graduate School requires 90 credit hours beyond the Master's degree. No student may graduate with a graduate grade point average below 3.0.

B. The Qualifying Examinations

The two Qualifying Examinations required of all students — one in microeconomic theory and one in macroeconomic theory — are separate comprehensive examinations over the contents of the microeconomic and macroeconomic theory sequences respectively. The examinations are each four hours in length and are given twice: (1) in mid-June, and (2) during the first two weeks of September. Students will normally take the Qualifying Examinations at the end of the first three quarters of graduate work. Students who do not intend to take the Qualifying Examinations at the end of the first three quarters of graduate work should obtain approval in writing from the Graduate Studies Committee. Opportunity to register for these examinations will be announced at least one month before their scheduled dates.

The examination papers will be coded, so that the readers do not have direct access to the names of the students who have written particular examinations. Students are not permitted to bring any written materials into the examination.

The Graduate Studies Committee appoints committees of three faculty members each to administer the microeconomics Qualifying Examination and the macroeconomics Qualifying Examination. When feasible, each committee will consist of faculty who taught in the relevant sequence during the previous academic year.

Each examination is graded as ***Ph.D. Pass, MA Pass,*** or ***Fail***. The examiners are encouraged when reporting their results to indicate which Ph.D.-passing examinations are excellent or very good.

At least two Ph.D. passes must be received on each of the microeconomic and the macroeconomic Qualifying Examinations for a student to be allowed to continue to work for the Ph.D. degree.

Each Qualifying Examination may be retaken once. A third attempt to pass either examination is permitted only with approval of the Graduate Studies Committee.

Copies of previous Qualifying Examinations are available to students in OGS for use in study and review.

C. Course Requirements

Beyond mathematics as a prerequisite to graduate economics and the course sequence in mathematical statistics and econometrics, there are no further mathematics requirements for the Ph.D. degree in economics. Depending on fields of specialization, however, the student may be urged or required to do additional work. More specific information is given at the end of Appendix A.

Economics 741 and 742 must be taken for credit before the student proceeds to the Candidacy Examination.

While there is no general foreign language requirement for the Ph.D. degree in economics, a student with a research interest in a given geographical area of the world may be required by the adviser to acquire competence in the language(s) of that area.

D. Requirements for Students with an MA Degree in Economics from Another University

Students who enter graduate study in economics at Ohio State with a Master's degree in economics from another university — or with considerable graduate economics credit — must nevertheless take both Qualifying Examinations and be subject to the same criteria for continuing graduate study as other students. In this case, however, the examinations may be taken at any time, but no later than at the end of the fourth quarter of graduate study at Ohio State.

E. Field Courses and the Written Field Examinations

The Ph.D. student is expected to undertake study in two field areas chosen from those offered in the Department. The following eight fields are currently offered:

(1) Econometrics

(2) Economic History

(3) Economic Theory

(4) International Economics

(5) Labor Economics

(6) Money and Macroeconomics

(7) Public Finance and Urban Economics

(8) Structure and Regulation of Industry

The course work required in each of these areas is described in Appendix B.

Students may also take the Finance field offered by the Faculty of Finance, in which case the Finance Theory Examination substitutes for one of the Written Field Examinations. Further information on that option is given in Appendix B. Students wishing to take any other outside field must obtain prior approval via petition to the Graduate Studies Committee.

Following the completion of field courses in two of the areas listed above, the student must pass the Written Field Examination in each area.

Field Examination Committees. Prior to each examination period, the Director of Graduate Studies appoints Field Examination Committees to prepare and grade the Written Field Examinations in each field offered by the department. Each committee consists of three faculty members with research interests in the field, at least two of whom have recently taught core courses in the field (where leaves-of-absence and other considerations do not make this impossible). One member of each committee is designated Chair, and is responsible for coordinating the preparation and grading of the examination. No member will chair a field examination committee for two consecutive examination periods unless unavoidable.

Administration of the Written Field Examinations. Examination periods for the Written Field Examinations will be scheduled twice each year, during a one-week period in June, after the end of the Spring Quarter, and during the first two weeks of September. The results of these examinations will be due in the Office of Graduate Studies no later than four weeks following the date of the examination (for the June examinations) and no later than the end of the first week of Autumn Quarter (for the September examinations).

Each examination is four hours in length. Students are not permitted to bring any written materials into the examinations. Occasionally, additional written material may be required for a field examination; if so, those materials will be provided by the department to the students at the time of the examination, and students will be informed of this in advance by OGS.

The *COMMITTEE CHAIR* is responsible for: (1) coordinating the preparation of questions, their typing and reproduction, for transmission to OGS for administration; (2) determining whether any additional written materials are to be provided to students during the examination and, if so, providing copies of those materials to OGS at least two weeks before the examination; and (3) delivering to OGS the scores, recorded and signed by each member of the committee for each candidate examined.

Grading Procedure for the Written Field Examinations. Each Written Field Examination is graded in its entirety by each of the three members of the Field Examination

Committee and assigned a grade of ***Pass*** or ***Fail***. Satisfactory performance in a field consists of receiving at least two passes from the committee members.

Each member of the examining committee recording a grade of Fail is requested to enter in the "Remarks" column of the reporting form whether the examination is close to passing or is a serious failure and to enter any other appropriate comments.

After the grades for a written examination have been submitted, a candidate may discuss the paper with the members of the examining committee. The examining committee shall have the sole right, upon written petition by the candidate, to correct any error in the original grade.

Before proceeding to the Candidacy Examination, the student must have passed Written Field Examinations in two fields. The maximum number of attempts permitted to pass these two examinations is four; the maximum number of attempts permitted to pass any individual examination is three. If the student does not achieve this level of satisfactory performance on the written examinations, he or she will be terminated from the Ph.D. program.

Additional field examination attempts may be permitted only upon approval of the Graduate Studies Committee. In reviewing requests for additional exam attempts, the Committee will take into account performance to date, including number of exams passed.

F. Research Seminars

After the second year of graduate study, every Ph.D. student in residence must register for and attend one of the departmental research seminars in the autumn quarter and in the spring quarter of each academic year, and fulfill the requirements established by the seminar coordinators.

Participants in the departmental research seminars include our own faculty and students, as well as visiting scholars. The following research seminars currently take place on a regular basis:

1. Economic Theory
Register for Seminar in Price Theory (Economics 915)

2. Macroeconomics
Register for Seminar in Monetary Policy (Economics 920)

3. Applied Microeconomics
Register for Seminar in Structure and Regulation of Industry (Economics 970)

4. Econometrics
Register for Seminar in Econometrics (Economics 940)

G. Research Reports

After the second year of graduate study, every registered Ph.D. student must present a research report or a research progress report at least once in each academic year. This includes both an oral presentation (preferably in a departmental research seminar or in a "brown-bag lunch" workshop) and a written report.

The written report must be approved by the student's dissertation committee (for students who have advanced to candidacy), the student's advisory committee (for students at the dissertation proposal stage), or by a committee consisting of the Director of Graduate Studies and two faculty members in the relevant field (for students who have not reached the dissertation proposal stage). While the committee members have responsibility for evaluating the report, the sense of the faculty is that the report should have some original research content and not be merely a literature review or a plan for future research.

The Candidacy Examination and the Final Oral Examination (dissertation defense) may each be used to satisfy the requirement of a research report.

If a student is no longer resident in the state of Ohio and this requirement would create undue hardship, the Graduate Studies Committee may exempt the student from giving an oral presentation.

H. The Candidacy Examination

Graduate School rules specify that "the Candidacy Examination is a single examination consisting of two portions, written and oral, administered under the auspices of the Graduate Studies Committee in conjunction with the student's Advisory Committee and the Graduate School" (*Graduate School Handbook:* II.6.9.1). Graduate School rules also state, "For Ph.D. students the Candidacy Examination is not only a test of the student's comprehension of the field, but also of allied areas of study, of the capacity to undertake independent research, and of the ability to think and express ideas clearly" (*Handbook*: II.6.9.2). The graduate faculty in economics believes that such a comprehensive test can only be undertaken after the student has developed a broad outline of study which would be comparable to an acceptable dissertation research proposal.

The Candidacy Examination tests the student on his or her preparation for executing a successful Ph.D. dissertation, including breadth of knowledge of a field of research, conceptual modeling of the research questions, and, when relevant, knowledge of the sources of data to be exploited. In accordance with the rules of the Graduate School, it consists of a written component and an oral component.

Advisory Committee. The student's Advisory Committee, consisting of the student's adviser and three other graduate faculty members of the department, is appointed by the Director of Graduate Studies with the approval of the Graduate Studies Committee, and is responsible for the written portion of the Candidacy Examination. The adviser serves as chair of the committee, and is responsible for coordinating the preparation and conduct of the written examination. The adviser will normally arrange for appointment of an Advisory Committee when the student begins work on his or her dissertation proposal, and in any event not less than four weeks before the expected date of the oral examination.

Candidacy Examination Committee. The Candidacy Examination Committee, consisting of the student's Advisory Committee and a Graduate School Representative, is responsible for the oral portion of the Candidacy Examination and for evaluating the entire Candidacy Examination. The adviser serves as chair of the committee and is responsible for coordinating the conduct of the oral examination.

Written Portion of the Candidacy Examination. Approximately four weeks (or more) before the expected date of the oral examination, the Advisory Committee will submit to the student a set of methodological and substantive questions. The student has two weeks to prepare a response to the questions posed and to submit them to his or her adviser. The questions posed may lead to a document acceptable as a Dissertation Proposal (see following section). There is no requirement that the document prepared for the Candidacy Examination also be the student's dissertation proposal.

The Advisory Committee grades the written examination as ***satisfactory*** or ***unsatisfactory***. The student is considered to have passed the written component of the Candidacy Examination only if the Committee is unanimous in the grade of satisfactory. A satisfactory grade on the written examination does not constitute approval of the document as the student's dissertation proposal. The results of the written examination must be made available to all members of the Candidacy Examination Committee at least **one week** prior to the oral examination.

Oral Portion of the Candidacy Examination. The oral portion of the Candidacy Examination, which lasts approximately two hours, is normally conducted within two weeks of completion of grading of the written portion. The *STUDENT* will arrange with the Graduate School for the approval of the membership of the examining committee, for the assignment of a Graduate School Representative, and for the time and place of the examination. The Graduate School must be notified of the time and place of the oral examination at least **two weeks** in advance.

Grading Procedure and Reporting of Results. The decision about the outcome of the Candidacy Examination is reached by the Candidacy Examination Committee in the absence of the student. After discussion, the satisfactory/unsatisfactory decision is reached by means of a vote. Each examiner indicates judgment by signing the Candidacy Examination Report form, which must be submitted to the Graduate School. The student is considered to have completed the Candidacy Examination successfully only when the decision of the Candidacy Examination Committee is unanimously affirmative. If the examination is judged unsatisfactory, the Candidacy Examination Committee must decide whether the student will be permitted to take a second Candidacy Examination and must record that decision on the Candidacy Examination Report form. The nature of the second Candidacy Examination is determined by the Candidacy Examination Committee, but it must include an oral portion. If a second examination is held, the Candidacy Examination

Committee must be the same as the original one, unless substitution is approved by the Dean of the Graduate School. No student is permitted to take the Candidacy Examination more than twice.

The *ADVISER* receives the *Candidacy Examination Report* form from the Graduate School and is responsible for (1) recording the results of the examination on the form at the time of the oral examination and obtaining the signature of each member of the examining committee, and (2) depositing the completed form with OGS, where a copy will be retained for the file and the original forwarded to the Graduate School.

I. Dissertation Committee

Following the successful completion of the Candidacy Examination, the Director of Graduate Studies will consult with the student and appoint the Dissertation Committee. The Dissertation Committee consists of the student's adviser, who serves as chair of the committee, and at least two other graduate faculty members. One of these other members may be from outside the department, provided prior approval from the Graduate Studies Committee is obtained. **Usually one member of the committee should have primary research interests outside the field of the dissertation.** The Director of Graduate Studies, after consulting with the Dissertation Committee and the student, will be empowered to change the membership of the committee.

J. Dissertation Proposal

Following the Candidacy Examination, the *STUDENT* is responsible for submitting a dissertation proposal to OGS, signed on the title page by the student's Dissertation Committee, who must certify that it is an acceptable proposal.

The dissertation proposal should contain the following information:

1. The tentative title of the dissertation.

2. A tentative outline of its content, including a set of chapter titles which show the main division of the dissertation.

3. A statement of the primary research questions and a broad outline of the method of research to be followed.

4. A description of the sources of data to be used, including (where appropriate) a bibliography of data sources and closely related research.

5. A brief statement showing how the proposed dissertation fits into the existing literature on the subject.

The dissertation proposal fulfills the function of providing evidence that the candidate has set forth research which promises to contribute to the body of knowledge in the field of economics. It is recognized, however, that experience gained while the research is being carried out and first drafts written will sometimes suggest to the candidate and the committee that the dissertation should deviate from the outline in the proposal. The proposal does not prevent the Dissertation Committee from approving such changes, nor does it constitute an agreement between the student and the committee that the dissertation, when completed as outlined, will be approved.

K. Dissertation

The final stage of the Ph.D. program consists of writing a dissertation. The development and writing of the dissertation should be carried out in regular consultation with the adviser and other members of the Dissertation Committee. The formal requirements for the dissertation are set out in the preceding sections (I and J).

L. Final Oral Examination

When progress on the dissertation warrants the holding of the Final Oral Examination, then it is the responsibility of the *STUDENT* to request a copy of the *Draft Approval/Notice of Final Oral Examination* form from the Graduate School and to see that the form is completely and properly executed.

To this end, the *STUDENT* must: (1) arrange a mutually acceptable time for the two-hour examination with each member of the Dissertation Committee; (2) arrange a place for the examination through OGS; (3) obtain the signatures of each member of the Dissertation Committee on the form; (4) arrange to have one copy of the completed form supplied to OGS; and (5) carry the completed form *in person* to the Graduate School. This should be done at least **two weeks** before the scheduled date of the Final Oral Examination to ensure compliance with Graduate School regulations. In addition, if the examination is held in the quarter in which the student expects to graduate, the scheduling of the examination must meet the time requirements of the Graduate School, as published in the *Master Schedule of Classes* for the quarter. The student should also request OGS to publicize the examination through normal channels.

The *Final Oral Examination Committee* consists of the Dissertation Committee and a Graduate School representative, who is appointed by the Graduate School after receipt of the completed *Draft Approval/Notice of Final Oral Examination* form. The student's adviser serves as chair of the committee.

The *STUDENT* is responsible for supplying copies of the draft dissertation at least **one week** before the scheduled examination as follows: one copy to each member of the Final Oral Examination Committee (including the Graduate School representative); and one copy to be made available in the Office of Graduate Studies.

Following a discussion among the Examination Committee, voting on the Final Oral Examination is by secret written ballot from each examiner, indicating that the oral has been ***satisfactory*** or ***unsatisfactory***. This does not constitute approval or disapproval of the dissertation, but of the oral as a defense of the dissertation. A vote of “unsatisfactory” by one or more examiners will result in the examination being judged as “unsatisfactory.”

The *ADVISER* will receive from the Graduate School a copy of the *Final Oral Examination Report* form, and is responsible for (1) reporting the results of the oral examination and securing the signature of each member of the Final Oral Examination Committee on the form, and (2) returning the completed form to OGS, where a copy will be retained for the file and the original forwarded to the Graduate School.

M. Final Approval of the Dissertation

The *ADVISER* will also receive from the Graduate School a copy of the *Dissertation Approval* form. This form is to be executed only when a satisfactory dissertation in final, typed form is presented to the members of the Dissertation Committee for their approval. Approval must be unanimous.

At that time, the *STUDENT* is responsible for obtaining the signatures of the members of the Dissertation Committee, providing a copy of the completed form to OGS, and submitting the original form —along with a copy of the final dissertation — to the Graduate School.

The *STUDENT* is responsible for obtaining the signature of the adviser on the title page of the official copies of the dissertation, for transmitting these copies to the Graduate School, and for complying with any other requirements of the Graduate School for receiving the degree.

The *STUDENT* must also complete and file the *Application to Graduate* form no later than the second Friday of the quarter of expected graduation.

V. ECONOMICS AS AN OUTSIDE FIELD

Students not seeking a degree in economics who wish to develop a minor field (“outside field”) in economics will normally enroll in Economics 804, 805, and 808 and pass the Microeconomic Theory Qualifying Examination at the MA or Ph.D. level, as appropriate for the degree sought. Exceptions to this requirement may be made in individual cases by the Graduate Studies Committee.

VI. GRADING SYSTEM

The Graduate School requires that the student carry a 3.0 grade average or be subject to various sanctions as specified in the *Graduate School Handbook*. The Department therefore attempts to grade course work based on the proposition that a grade of B- or less is unsatisfactory for graduate work either at the Ph.D. or MA levels.

The Graduate School will send a *warning* to students who have accumulated less than 15 graduate credit hours with a GPA of less than 3.0. It will place on *probation* a student who has 15 or more accumulated graduate credit hours with a GPA of less than 3.0. Grades have the following interpretation:

[In Good Standing]

A (4.0)	Superior
A– (3.7)	Good
B+ (3.3)	Satisfactory
B (3.0)	Ph.D. level: doubtful quality; MA level: Satisfactory

[Not In Good Standing]

B– (2.7)	Unsatisfactory
C (2.0)	Unsatisfactory
D (1.0)	Unsatisfactory
E (0.0)	Failure

VII. FINANCIAL ASSISTANCE

A. Types of Assistance[1]

FELLOWSHIPS are awarded with the expectation that the student will pursue full-time study or research towards completion of the degree and normally carry no other departmental or university responsibilities. Students on fellowship are not permitted to teach or be otherwise employed, unless specifically allowed under terms of the given fellowship. All students with fellowships, whether funded though the university or by external organizations, must enroll for at least 15 graduate credit hours per quarter. **University Fellowships** are awarded by the Graduate School on a University-wide basis, taking into account departmental recommendations.

International applicants seeking financial support, fellowship or otherwise, should apply by **November 28**. All application material including recommendation letters, statement of purpose, transcripts and application fees as well as GRE and TOEFL scores must reach either the OSU Admissions Office or the Department of Economics by November 28.

Domestic applicants seeking financial support, fellowship or otherwise, must apply by **January 1**. All application material including recommendation letters, statement of purpose, transcripts and applications fees as well as GRE scores must reach the OSU Admissions Office or the Department of Economics by January 1. Fellowship awards are normally for

[1] Descriptions of appointments and awards given here are typical. However, terms and conditions given in the letter of appointment or award take precedence over the contents of this publication. According to University rules, all appointments and awards are subject to the availability of funds.

one year (12 months), though some awards cover the dissertation year as well. A first-year university fellowship is followed by appointment as a Graduate Associate in the department through the fifth year of graduate study, subject to satisfactory performance. The fellowships awarded by the University include Graduate Enrichment Fellowships, which provide support to members of underrepresented groups within the Graduate School.

Department Fellowships. The Dice Fellowships are awarded occasionally by the Graduate Studies Committee to support students for one or two quarters of dissertation work.

Other Fellowships. From time to time other fellowships become available, funded by government agencies or other organizations. Information on fellowships may be obtained from the Graduate School and from the Office of Graduate Studies of the department. The University also awards a small number of one-year dissertation fellowships on a competitive basis to students nominated by their advisers or by the Graduate Studies Committee.

University and department fellowships include a tuition waiver. Students with outside fellowships that do not pay full tuition may be eligible for tuition waivers from the Graduate School.

GRADUATE ASSOCIATESHIPS normally require students to work for approximately 20 hours week. Graduate Associates (GAs) are designated Graduate Teaching Associates (GTAs), Graduate Research Associates (GRAs), or Graduate Administrative Associates (GAAs), depending on the type of work assigned. Students appointed as GAs by the department are not permitted to be otherwise employed during the 9-month academic year. Minimum course loads for GAs are required by the Graduate School and are given in section I-D above.

Graduate Teaching Associateships are awarded by the Department of Economics, on the basis of a competition administered by the Graduate Studies Committee of the department. Incoming students should have their applications complete before **January 1**, although later applications may be considered if there are unfilled positions. Current students not receiving assistance should inform the Office of Graduate Studies of the department of their interest in being considered for GTA appointments. GTAs usually work approximately 20 hours per week, although specific responsibilities vary according to GTA rank (see below).

Graduate Research Associateships are also awarded from time to time by the Department of Economics in a manner similar to Graduate Teaching Associateships. These positions usually involve work with a research project attached to the Department.

Summer support. Regular GA appointments are usually held for the 9-month academic year (autumn, winter and spring quarters) and do not include support during the summer quarter. However, some GTA positions are generally available for the summer quarter, depending on the teaching needs of the department. In addition, funds may be available for a limited number of GRA appointments for summer dissertation research.

B. Department Policies on Financial Assistance

It is the intent of the Department of Economics of The Ohio State University to assure continued financial support of its graduate students, once they have been awarded financial assistance, for at least the autumn, winter, and spring quarters of each year through the fifth year of graduate study at OSU. (Exceptions may be made in times of financial exigency.) This continued financial support is conditional on maintaining a good-faith effort and satisfactory progress toward the Ph.D. degree, as well as on satisfactory performance of assigned duties. Students appointed as GAs by the department must be enrolled in graduate study in the Department of Economics, and must also satisfy the eligibility requirements stated in the *Graduate School Handbook* (Sect. 11-5).

Necessary conditions for a good-faith effort toward the Ph.D. degree are to enroll in all courses at the time specified in the *Approved Personal Program of Study* and to attempt the Qualifying Examinations and Written Field Examinations as soon as possible following the respective course sequences. Sufficient conditions for what is a good-faith effort and satisfactory progress are, of course, impossible to specify so that every possible special case is anticipated. However, the statements below indicate the type of academic progress and performance that our graduate students are normally expected to maintain. Any graduate student who doubts that these standards can be met must obtain written agreement of the Graduate Studies Committee to an alternative program.

Financial aid as a teaching or research associate is obviously conditional on satisfactory execution of the appropriate teaching or research assignment. GTAs are **required** to submit results of their Student Evaluations of Teaching to the Undergraduate Studies Director as soon as possible following each quarter's teaching. In addition, the Economics Department will monitor each GTA's performance by various means, including in-class audits and videotapes until each GTA is certified as qualified to teach his or her own course at the 500-level.

In addition, foreign students whose native language is not English must complete satisfactorily any and all English courses required by their performance on the English Placement Test and the SPEAK Test. Any renewal of or consideration for financial aid will depend upon the student's successful completion of these courses and achievement of speech competency sufficient for classroom instruction.

The Graduate Studies Committee may terminate at any time the financial support of a graduate student whose academic progress or performance as a GA is deemed unsatisfactory. Before discontinuing a GA appointment for inadequate performance of duties, the Chairperson of the Department will normally seek the advice of a review committee composed of the Directors of Undergraduate and Graduate Studies. See Sections III through V for academic progress, Appendix E for GTA responsibilities, and Section X for the student's right to petition.

Rank I GTA appointments. Rank I GTA appointments are awarded to first-year students on the basis of a competition administered by the Graduate Studies Committee of the Department. Rank I GTAs normally will not be assigned teaching responsibilities during their three-quarter appointment, but rather to research or grading assistance. For the purposes of determining hours of work for Rank I GTA appointments, the 20 hours per week commitment of work for the department consists of 10 hours per week of work as a GTA for individual faculty members plus 10 hours per week preparing to pass the Qualifying Examinations. This will help students to be able to function as Rank II GTAs in the second year of study.

Satisfactory progress as a Rank I GTA requires passing the Qualifying Examinations in economic theory at the Ph.D. level by the beginning of the second year in residence; demonstrated progress toward completion of the Statistics and Econometrics sequence (see Section II-D); and otherwise remaining in good standing as a graduate student.

Probationary Rank I GTA appointments (Rank I-P). Probationary Rank I appointments may be offered at the discretion of the Graduate Studies Committee to second-year graduate students who are not eligible for Rank II appointments. A Rank I-P appointment cannot be continued beyond the autumn quarter of the second year unless the student has either passed both Qualifying Examinations at the Ph.D. level, or has been given permission by the Graduate Studies Committee to retake the Qualifying Examination(s). See the note below on probationary appointments.

Rank II GTA appointments. For appointment as a Rank II GTA, the student must have passed both Qualifying Examinations at the Ph.D. level and, in the case of foreign students, must have passed all English language requirements. A student who held a Rank I or I-P appointment will be appointed to Rank II at the beginning of the first quarter (other than the summer quarter) following the date on which these requirements are met. Pay increases will take place at the time of appointment and will not be retroactive. Current students without GA appointments who meet the requirements for appointment at the Rank II level will be considered for financial assistance by the Graduate Studies Committee.

Rank II GTAs will normally teach six recitation sections or three independent sections during the three-quarter appointment. Students may be required to attend a teaching methods workshop for a few days preceding their first quarter of teaching. Both Rank II and Rank III appointments require approximately 20 hours work per week, with the effort being slightly greater for new teaching assignments and slightly less for subsequent assignments of the same course.

Those students who pass both field examinations at the end of the second year will be appointed Rank III as discussed below. A Rank II GTA appointment will be extended to the third year of graduate study at The Ohio State University provided the student made a good-faith effort to pass the Written Field Examinations in both approved fields at the earliest opportunity and passed one field examination within a total of three attempts. Good-faith effort includes taking the courses for both fields during the second year of graduate study (unless the student’s adviser has approved a plan of study to take a field that is not offered during the student’s second year, or an approved outside field that requires more than one year to complete) and attempting the Written Field Examinations as soon as possible following the respective course sequences. Appointments are also subject to satisfactory teaching performance, as discussed above.

Probationary Rank II GTA appointments (Rank II-P). A student who has passed both Qualifying Examinations at the Ph.D. level but has not passed both Written Field Examinations, and who is not eligible for a regular Rank II appointment as described above, may petition the Graduate Studies Committee for additional exam attempts and a probationary Rank II appointment. Depending upon circumstances, the Graduate Studies Committee may approve a Rank II-P appointment for a period not to exceed one year. See the note below on probationary appointments.

Rank III GTA appointments. For appointment as a Rank III GTA, the student must have completed all courses required for the Ph.D. and must have passed two Written Field Examinations. The appointment will normally occur at the beginning of the Autumn Quarter. Pay increases will take place at the time of appointment and will not be retroactive. A student who, at the end of the Summer Quarter, is awaiting the results of field examination(s) which may result in his or her meeting the requirements for a Rank III appointment, may (at the discretion of the Directors of Graduate and Undergraduate Studies) be offered an appointment as a Rank III GTA, subject to having passed two Written Field Examinations by October 1st. In the event that the results of the examination(s) is (are) unfavorable, the appointment as a Rank III GTA will be converted to a one-quarter appointment at the Rank III-P level.

Rank III GTAs will normally teach six recitation sections or three independent courses during the three-quarter appointment.

Appointment as a Rank III GTA prior to passing the Candidacy Examination and submission of an approved dissertation proposal to OGS will not extend beyond the winter quarter of the fourth year of graduate study at Ohio State. After passing the Candidacy Examination and submitting an approved dissertation proposal, appointment as a Rank III GTA may not extend beyond the fifth year of graduate study at The Ohio State University.

Probationary Rank III GTA appointments (Rank III-P). A student who has passed both Written Field Examinations, but who is not eligible for a regular Rank III appointment, may petition the Graduate Studies Committee for a probationary Rank III appointment. In the case of students beyond their fifth year of graduate study, such petitions must contain a summary statement of the student's progress towards completion of the Ph.D. Depending upon circumstances, the Graduate Studies Committee may approve a Rank III-P appointment. See the note below on probationary appointments.

Appointments of 25% may be made depending upon the needs and resources of the Department. These appointments will be made on the basis of merit. Recipients may serve as teaching, research, or administrative assistants. Students with regular Rank II or III appointments may request a 25% appointment at any time. Such appointments carry half the teaching load of a regular appointment.

The following additional conditions apply to 25% appointments:

1. GAs holding 25% appointments are entitled to one-half of a full fee authorization, and must be registered in the Graduate School for at least seven credit hours each quarter.

2. GRAs working on their dissertations as part of their appointment may not be appointed to less than 50% appointments.

3. No student eligible for a 50% appointment under the department's policy of supporting all students making normal progress may be reduced to a 25% appointment without his or her consent.

Probationary appointments (Rank I-P, II-P, and III-P) carry salary reductions of up to 25% of the salary in the regular rank. Departmental and Graduate Studies Committee approval of probationary appointments will depend upon the following: (1) availability of funds, (2) departmental teaching needs, (3) satisfactory performance as a GTA, and (4) academic progress by the student in the graduate program.

C. Graduate Teaching Associate Stipends

Below are the minimum stipends expected to be in effect for non-probationary Graduate Teaching Associates in the Department of Economics during the current academic year. The figures cover a three-quarter appointment, payable in nine installments, October through June. In addition, a waiver of University tuition and fees is provided, currently at an annual level of $8,250 for residents of Ohio and $20,133 for non-residents (based on enrollment of 10 hours or more per quarter). A stipend is not provided for the Summer Quarter; however, the student who has completed three consecutive quarters as a Graduate Associate may receive a waiver of tuition and fees during the Summer Quarter, on condition of registration full time (see Section I-D). The fourth-quarter tuition and fee authorization can be taken in quarters other than summer as long as the quarter in question immediately follows three consecutive quarters as a Graduate Associate. Stipends above the amounts listed below may be awarded for superior teaching performance and/or other meritorious service, or as part of recruitment efforts by the Graduate Studies Committee.

GRADUATE TEACHING ASSOCIATE PRE-TAX STIPENDS, AY 2004-05

Rank I	$1,315/Month
Rank II	$1,435/Month
Rank III	$1,567/Month

Processing of appointments is handled by Sherry Little, HR Professional, and Michelle Chapman, Fiscal Officer, for the Department of Economics, 410C Arps Hall (614/292-3734).

VIII. JOB PLACEMENT OF STUDENTS

The Placement Officer of the Department of Economics coordinates the efforts of all members of the Department in assisting students to obtain employment suited to their training and abilities when they conclude their graduate work. A list of all currently-enrolled students seeking full-time, permanent employment is mailed annually to prospective employers. In addition, a file of job announcements (including issues of *Job Openings for Economists)* is kept in the Office of Graduate Studies. Students and faculty are urged to consult this file frequently. Students interested in contacting a prospective employer who has made an inquiry should consult with their advisers on the best approach to use. Please see Appendix G below, "Notes for Students on the Job Market."

Members of the Department are urged to report promptly to the Placement Officer any information they may secure relative to positions available, and to cooperate in preparing recommendations based on the student's record. Until a student is settled into an acceptable position, members of the Department will continue such efforts.

IX. STUDENT PARTICIPATION IN DEPARTMENT AFFAIRS

Graduate students in the Department of Economics are encouraged to participate actively in the affairs of the Department, the College (Social and Behavioral Sciences), and the University. At the College and University levels, participation may be exercised by membership on the Council of Graduate Students and the Graduate Council among other bodies of the University. Other avenues of participation are described in the *Graduate School Bulletin* and in other publications of the University.

Within the Department there exists an Economics Graduate Student Committee (EGSC), composed of students elected by a system of proportional representation. EGSC is the forum through which **all** graduate students can bring to bear their interests and concerns about affairs of the Department, and it is the main channel of communication between the students and the faculty as a whole. EGSC elects the student representatives to the Graduate Studies Committee of the Department.

These are the elected officers and representatives as of Spring Quarter 2002:

[Vacant]**:** President of EGSC

James Curtis**:** Representative to Graduate Studies Committee
Billy Kosteas**:** Representative to Graduate Studies Committee

X. RIGHT TO PETITION

In the event a student feels that extenuating circumstances justify the waiver of certain of these rules, the student concerned may submit a ***written*** petition to the Graduate Studies Committee. Please note that the Graduate Studies Committee cannot waive rules which are based upon requirements of the Graduate School.

APPENDIX A

PREREQUISITE PREPARATION IN ECONOMIC THEORY, STATISTICS, AND MATHEMATICS, BEFORE BEGINNING THE GRADUATE PROGRAM IN ECONOMICS

The following courses from *The Ohio State University Bulletin, Book 3, Course Offerings,* represent the level of prerequisite preparation that is assumed by the graduate economics curriculum. Graduate students in Economics cannot receive graduate credit for Economics 501A and 502A.

Economics 501A (U G 5)
Intermediate Microeconomic Theory
Prerequisite: Econ 200 and 400, Math 132 or equivalent.

Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium.

Economics 502A (U G 5)
Intermediate Macroeconomic Theory
Prerequisite: Econ 200 and 400, Math 132 or equivalent.

Analysis of the determinants of national output, income and employment levels; theory of economic growth and progressive equilibrium in an economy.

Statistics 145 (U 5)
Introduction to the Practice of Statistics

Topics include probability, descriptive statistics, correlation, regression, design of experiments, sampling, estimation, and testing; emphasis on applications, statistical reasoning, and data analysis using statistical software.

Math 151 (U 5)
Calculus and Analytic Geometry

Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exponential functions.

Math 152 (U 5)
Calculus and Analytical Geometry

Integral, area, fundamental theorems of calculus, logarithm and exponential functions, trigono-metric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.

Math 153 (U 5)
Calculus and Analytic Geometry

Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space.

In addition to the above prerequisites, several other courses are highly recommended before beginning graduate-level course work, including:

Math 254 : (U 5)
Calculus and Analytic Geometry

Partial differentiation, Lagrange multipliers, multiple integrals, line integrals, and Green's theorem.

Math 568 (U G 3)
Introductory Linear Algebra I

The space R^n and its subspaces; matrices as mappings, matrix algebra; systems of equations; determinants; dot product in R^n; geometric interpretations

Math 569 (U G 3)
Introductory Linear Algebra II

Vector spaces over R and C; linear transformations; the polynomial ring R[x]; characteristic values and factors; inner product spaces; quadratic form reduction; principal axis theorem.

Math 571 U G 3
Linear Algebra for Applications I

Linear systems of equations; vector spaces, matrices, linear operators; inner products, projections and least squares, approximations or eigenvalue problems; applications.

OR **Math 572** U G 3
Linear Algebra for Applications II

The eigenvalue problem or inner product spaces, projections and least squares approximation; classification of operators and quadratic forms; applications.

Math 255 U 5
Differential Equations and Their Applications

Basic concepts and methods in solving ordinary differential equations, first and second order linear differential equations; series solutions, numerical methods; Laplace transforms, physical applications.

OR **Math 415** U 4
Ordinary and Partial Differential Equations

Ordinary, partial, linear, and nonlinear differential equations, Fourier series, boundary value problems; and Bessel functions.

OR **Math 556** U G 3
Differential Equations I

Systems of linear, first-order differential equations, existence and uniqueness theorems, numerical methods, qualitative theory (phase plane analysis, linearization, stability, limit cycles), and physical applications
.

STUDENTS WISHING TO SPECIALIZE IN ADVANCED ECONOMIC THEORY, MATHEMATICAL ECONOMICS, OR GAME THEORY should have a working knowledge of the following topics: topological properties of a metric space: metric, isometry, open sets and closed sets, topology convergence of a sequence, interior, closure, boundary, continuous function, homeomorphism, subspace, subbase for a topology, product space and quotient space, compactness, connectedness. These topics are covered in Math 640 and Math 655. In any event, *students should consult the relevant field faculty members regarding these and related additional preparations.*

STUDENTS INTERESTED IN WRITING DISSERTATIONS IN MACROECONOMICS should consider taking additional courses in mathematics and/or econometrics. Preparation in dynamic optimization, starting with Economics 701, is strongly recommended.. To increase your facility to stochastic calculus, you may consider studying real analysis and probability theory. Some of the relevant courses offered in the Mathematics Department are Math 640, 650, and 651–653. In some cases, it may be advisable to add econometrics as your field with particular attention to time-series analysis. In any event, *students should consult the relevant field faculty members regarding these and related additional preparations.*

APPENDIX B

FIELDS OF SPECIALIZATION IN THE DEPARTMENT OF ECONOMICS

Listed below are the fields of specialization within the Department of Economics that may be offered on the Written Field Examinations for the Ph.D. degree, as described in Section IV, above.

Listed also are the core courses (indicated by *) that define the scope of the field with respect to the Written Field Examination and the faculty specializing in each field. Other courses listed below are considered part of the field, but are not core courses. Please note that depending on the availability of faculty members, due for example to a leave of absence, retirement or departure, some field courses and field exams may not be offered every year.

(1) **ECONOMETRICS**

742, 840*, 842*, 940*

Cosslett, de Jong, Hu, Lee, Light

(2) **ECONOMIC HISTORY**

613*, 614* (The core courses for the Economic History field also include an intensive reading course under the direction of a faculty member in the field. Students normally register for this course under 693.)

Baack, Logan, Steckel

(3) **ECONOMIC THEORY**

815*, 816*, 818*, 894*, 915 (The course requirements for the Economic Theory field consist of three of the four courses listed. Specific course offerings for the coming year will be announced.)

Levin, Morelli, Peck, Schmeidler, Yang, Ye

(4) **INTERNATIONAL ECONOMICS**

861*, 862*, 863*, 920

Fisher, Gonzalez-Vega, Kaboski, Ogaki

(5) **LABOR ECONOMICS**

883*, 884*, 981*, 970

Dunn, Fleisher, Ham, Hashimoto, Light, Olsen, Reagan, Weinberg

(6) **MONETARY AND MACROECONOMICS**

811*, 820*, 894*, 920

Dupor, Evans, Kaboski, Lam, McCafferty, McCulloch, Ogaki

(7) **PUBLIC FINANCE AND URBAN ECONOMICS**

790*, 830*, 832*, 970

Evans, Haurin, Mumy, Morelli

(8) **STRUCTURE AND REGULATION OF INDUSTRY**

871*, 872*, 970*

Kagel, Levin, Lewis, Marvel, Miyazaki, Peck

The Finance field and the Finance Theory Examination are offered by the Faculty of Finance. The examination covers the subject matter of the Finance 920 sequence and other current developments in finance, and is scheduled for six hours; a grade of "marginal pass" or better is required. Students without any previous background in finance should take preparatory courses in the Finance 820 sequence, and therefore the field generally requires more than one year. Students considering the Finance field should consult the Chair of the Finance Graduate Education Committee (Department of Finance, Fisher College of Business) as early as possible, and should determine: (1) the date on which the examination will be offered; (2) the current subject matter of the examination; (3) suitable preparatory courses in finance; and (4) any other requirements for students taking Finance as an outside field. The field of Development Economics can be arranged upon approval by the Graduate Studies Committee and is administered jointly with the Department of Agriculture, Environment and Development Economics. Students interested in Development Economics should contact Director of Graduate Studies (Economics) to make arrangements.

APPENDIX C

TITLES AND DESCRIPTIONS OF CORE COURSES IN THE FIRST YEAR GRADUATE ECONOMICS CURRICULUM

The following are the courses that comprise the Basic Graduate Economics Curriculum, as described in Section II and as diagrammed in Chart 2.

Economics 700 G 5
Applications of Mathematics in Economic Analysis

Linear algebra, vector calculus, introduction to real analysis, differential equations, static optimization, Kuhn-Tucker Conditions, envelope theorems, and comparative statics.

Economics 701 G 5
Dynamic Analysis in Economics

Basic techniques in calculus of variations, optimal control, and dynamic programming. Examples taken from macro and monetary economics, international economics, search theory, intertemporal economics, and applied game theory.

Economics 640 U G 5
Probability Theory

Probability, random variables, Markov chains, discrete and continuous distributions, transformations, moment generating function techniques, limit theorems, expectation, variance.
Students with strong backgrounds in statistics take Stat 620.

OR

Statistics 620 G 4
Statistical Theory I

Introduction to probability, conditional probability, independence, random variables, distribution functions, transformations, moment generating function, common probability distributions; marginal and conditional distributions, sampling distributions, convergence concepts.

Economics 740 G 5
Inference and Decision Analysis Under Uncertainty

Sampling distribution, point and interval estimation, statistical hypothesis testing, and decision analysis under uncertainty.
Students with strong backgrounds in statistics take Stat 623.

OR

Statistics 623 G 5
Theory of Statistical Analysis

Estimation, hypothesis tests, best tests, likelihood ratio tests, confidence sets, sufficiency, efficient estimators.

Economics 741 G 5
General Linear Regression Analysis

Multiple regression analysis; the general linear model; non-linear and distributed lag models.

Economics 742 G 5
Econometrics

Review of the general linear model, identification, estimating criteria, single and simultaneous equation estimation, and econometric application.

Economics 804 G 5
Microeconomic Theory I

Basics theories of consumers, producers and competitive markets: duality approach, analysis of information, risk, and uncertainty.

Economics 806 G 5
Macroeconomic Theory I

Theory of growth, money, inflation, and unemployment with emphasis on intertemporal choice and government policy.

Economics 805 G 5
Microeconomic Theory II

Partial equilibrium (competition, monopoly, oligopoly), general equilibrium and welfare theorems, time and uncertainty, and screening and signaling models.

Economics 807 G 5
Macroeconomic Theory II

Consumption and saving, investment, asset prices and financial markets, intertemporal macro, and growth and fluctuations.

Economics 808 G 5
Microeconomic Theory III

Applied game theory and economics of information: adverse selection, principal-agent models, auction theory, externalities, and public goods.

Economics 809 G 5
Macroeconomic Theory III

Empirical aspects of growth and inflation; business-cycle theories, labor and product markets, policy problems, and monetary transmission.

APPENDIX D

GRADUATE STUDENT USE OF DEPARTMENT COMPUTER FACILITIES

Departmental computer facilities designated for graduate students may be used for work connected with (a) studies and research in the graduate program in economics, and (b) the responsibilities of Graduate Associates in the Department of Economics.

Students may use the Economics Department Computer Lab (Arps 318) only if authorized to do so by the Computer Lab Administrator (Mr. Yong Yu, Arps 323, phone 292-6518), or by one of the lab assistants acting on his behalf.

Specific guidelines are issued by the Lab Administrator, in consultation with the Graduate Studies Committee, governing the use of the computer lab and the use of computer equipment installed by the Department in graduate student offices. The main objective of the guidelines are:

- to provide all users with adequate computer access
- to ensure that computer resources are used only for Departmental purposes
- to ensure that copyright laws are not broken
- to avoid physical damage and waste

In order to be authorized to use the lab or to be assigned to an office that has Department computer equipment installed, a student must sign a statement agreeing to abide by the guidelines.

If the guidelines are not followed, then the individual will be given a warning by the lab administrator and requested to comply. In the event of serious or persistent violation of the guidelines, the Lab Administrator and the Director of Graduate Studies may recommend to the Department Chairperson that the individual's Departmental computer privileges be suspended.

APPENDIX E

RESPONSIBILITIES OF GRADUATE TEACHING ASSOCIATES

The graduate teaching associates in the Department of Economics have two main obligations: 1) to make satisfactory progress toward the Ph.D. or MA degree, and 2) to perform their teaching duties satisfactorily. There is an obvious trade-off in that time is scarce. However, all must bear in mind the importance of the second obligation. Performance as Graduate Teaching Associates is one of the major criteria used to evaluate financial aid status. To avoid misunderstanding, the following is a statement of duties.

For GTAs teaching independent or lecture/recitation sections, responsibilities are:

1) To select a textbook

2) To meet the class during all regularly scheduled hours

3) To administer a final exam during the regularly scheduled exam period with a few minor exceptions which must receive prior approval of the Director of Undergraduate Studies and the Chairperson of the department

4) To hold regularly scheduled office hours. (The Department has never found it necessary to specify an exact number of office hours per week for GTAs. Common sense, however, would suggest that students should have access to you during office hours at least 2–4 hours at different times during the week, not counting recitation sections. Those GTAs who prefer to schedule relatively few hours formally should be exceptionally flexible in scheduling hours “by appointment” for students who request a meeting.)

For GTAs teaching recitation sections, responsibilities, in addition to meeting all regularly scheduled recitation classes, are primarily set by the principal instructor teaching the lecture section. These responsibilities are:

1) To attend all lectures unless excused by the principal instructor

2) To hold regularly scheduled office hours (see #4 above)

3) To teach material specified by the principal instructor

4) To participate actively in preparing, administering, and grading exams

The last two responsibilities require regular meetings of the principal instructor and GTAs. The times for these meetings are typically set prior to the quarter or during the first week.

Once set, this time is not available for other appointments or classes. It is each GTA's responsibility to inform the principal instructor of any potential conflicts.

All students appointed as instructors in independent sections or as TAs in recitation sections are required to meet classes in accordance with the official University calendar. If a GTA cannot meet a class for a legitimate reason, that student must obtain approval from the Director of Undergraduate Studies for the class to be taught by a substitute or, in an emergency, for cancellation. If the student is unable to contact the Director of Undergraduate Studies, the GTA should contact another administrative officer of the Department of Economics in the following order: the main lecturer for the class (in the case of TA recitation sections), the Director of Graduate Studies, the Department Chair.

Permission for substitution or cancellation would normally be given in cases of illness, family emergency, job interview, etc. Vacation or other leisure activities would not normally qualify for these exemptions.

Failure to obtain the proper prior permission for missing a class (except in cases of documented emergencies) will result in the following penalties.

(a) On the first offense, a warning will be issued and placed in the GTA’s permanent file.
(b) On the second offense, subject to the review procedure described in Section VII-B, the student will not receive a paid appointment with the Department for the following regular (i.e., non-summer) quarter.

APPENDIX F

RESEARCH ETHICS

Certain standards of professional responsibility and ethics are expected of graduate students, just as they are of all those taking part in academic research. As a part of the university policy on research ethics, the department has prepared these guidelines to make sure that students are aware of these issues, and to help to avoid incidents caused by misunderstanding. The university has set up formal procedures to handle allegations of serious violations of research ethics.

Most students will find the guidelines well known and reasonable. Obviously this is not meant to be an exhaustive list — it covers areas where experience suggests that care may be needed.

Acknowledge the writings and ideas of others

You should already know the importance of avoiding any form of plagiarism, intended or unintended. This applies in research just as it does in class assignments, and for graduate students it is a matter of both academic honesty and research ethics.

Plagiarism means presenting someone else’s words or ideas as if they were your own. It makes no difference whether you copy the words directly, or whether you rephrase or rewrite the author’s ideas and concepts using your own words. Nor would it be any excuse to say that you did not intend to give the impression that it was your own work.

This applies not only to original research, but also to literature surveys and reviews. Suppose you use material from a survey where an author has found and read all the principal articles in some field of research, summarized them, and analyzed their contributions. The author, not you, has done the work, and must be acknowledged.

A direct quotation must be placed in quotation marks (or given as an indented block of text), accompanied by a reference to the author. A paraphrase or summary must also include a reference to the author. The same applies if you use someone else’s model, example, theorem, conjecture, etc.

However, concepts and methods that are “well known” need not be acknowledged (for example, basic economic principles). This is a matter of judgment. By reading the research literature, you will learn what is considered “well known.” If in doubt, give a reference.

Acknowledge help you received with your work

You must acknowledge any substantial assistance you received in your research, such as important ideas, derivations, suggestions of problems to be investigated, etc. This applies also if your paper is heavily edited or rewritten for you by someone else.

Consult your adviser or another faculty member if you are unsure whether suggested improvements or corrections are important enough to need an acknowledgment.

Be honest with the results

This is basic. You must not “fudge” the results of empirical work or of experiments to get better agreement with your theory, or to make an effect appear more significant than it really is.

The **replicability** of your results is very important. Some professional journals will not publish empirical work unless the author can provide information that would be sufficient for another researcher to replicate the results. For example, if you drop some data points because they are “outliers,” then you must record the criterion that was used for determining which points to drop. You should make notes on what you did in every step of the analysis, and keep them along with copies of computer programs and data sets (and the original observations, if you collected data or conducted experiments).

Maintain confidentiality

In your professional career, you may receive confidential materials such as research proposals or unpublished research papers for your evaluation. You may also have access to data from surveys in which the participants were promised that their responses would be confidential. Professional ethics require that you keep this kind of information confidential. This applies also if you work with confidential material as a research assistant.

Follow all rules about human subjects

All research institutions, including this university, have detailed sets of rules about the use of human subjects in experiments. This includes the collection of survey data. If you will running an experiment with human subjects, you must know those rules, and your experiment must be approved by the university before you start.

APPENDIX G

NOTES FOR STUDENTS ON THE JOB MARKET

I. The Job Application Process

Getting Ready

1. The job application process normally begins early in the fall quarter. You should consult with your adviser as early as possible, and certainly no later than the beginning of the fall quarter, about job-market strategy.

2. Arrange for your adviser and at least two other faculty members to write letters of reference for you. If any faculty outside the department are familiar with your research, ask them if they would like serve as references for you. Depending on the types of job for which you are applying, you may also wish to have letters written by someone who is familiar with your teaching.

3. Prepare a vita for inclusion in the Departmental mailing to prospective employers. This vita must be prepared according to the template provided by Graduate Placement Officer. You are responsible for checking the content of the vita. Spelling or grammatical errors will create a very poor impression.

   The Department makes a separate mailing to non-academic employers with vitae prepared according to a different template. Details will be announced by the Graduate Placement Officer.

4. Prepare a one-page dissertation abstract for inclusion in the Departmental mailing, using the template provided by Graduate Placement Director. This should convey the overall goals and plan of your dissertation as well as the results obtained so far.

5. Give the Placement Secretary (Jo Ducey) copies of the vita and dissertation abstract on or before the deadline, which will be announced several weeks in advance (usually the end of the first week in October). The Department will prepare a package of information about students available for employment, and mail it to over 300 prospective employers. Every year this results in a number of contacts by employers, either with the Graduate Placement Officer or directly with students.

6. If you have not already done so, start writing up a paper. Typically this will be a draft chapter of your dissertation. Many jobs ask for a paper to be sent with your application or after an interview has been arranged. Papers that present solid results will be more successful than papers that are mainly conceptual.

7. Join the AEA (American Economic Association [student rate available]) and register to attend the Winter Meetings (usually held at the beginning of January). Interviews for

most academic jobs, and some others, take place at the meetings. Some employers also interview at the meetings of the regional economic associations.

Applying for Jobs

1. The main source of job listings is *Job Openings for Economists*, published by the AEA. Current and recent issues are available from the AER home page, http://www.eco.utexas.edu/joe/. A file of job announcements received by the department is kept in the Office of Graduate Studies, and the Graduate Placement Director emails to econgrad@ecolan.sbs.ohio-state.edu any new job openings and announcements received by the Department..

   Other places where job listings may be found include the *Chronicle of Higher Education* (Internet access <www.chronicle.com/>) and *Employment Opportunities for Business Economists.* The latter is published by the National Association of Business Economists, 28790 Chagrin Boulevard, Suite 300, Cleveland, OH 44122 (student membership available).

2. To apply send a letter of application, addressed to the appropriate individual, together with your vita, dissertation abstract, and any other materials that they require. Note any deadlines. A poorly written letter creates a bad impression, particularly if it contains errors of spelling, grammar, or English usage. Consult your adviser or the Placement Officer if you are unsure of the conventional style for formal letters.

   This vita and dissertation abstract need not be restricted to the Department templates. It is quite appropriate to send out different versions of your vita when applying for different kinds of job.

3. Give your adviser copies of your vita and dissertation abstract. These are needed when he or she has personal knowledge of job openings.

Letters of Recommendation

1. As noted above, you should have arranged for three or more faculty members to write letters of recommendation for you. Because of the time needed by the office staff to handle several thousand of these letters, it is essential for your letters to be ready as early as possible, and certainly not later than mid-October. You should check to see if the letters have been made available to the Placement Secretary

2. You are expected to prepare a list of names and addresses to which your reference letters will be sent. This list should be in a standard computer-readable format, which will be specified by the department.

   A printed copy of the address list must be signed by your adviser, and given to the Placement Secretary. A copy of the address list should also be given to each of your other references. If you have references outside the department, they will, of course, arrange for their own letters to be printed and mailed.

3. The department will pay the postage for mailing letters of reference to up to 50 different addresses. Current department policy is that the student is responsible for supplying sufficient postage for additional addresses.

Interviews

1. Employers call selected candidates, usually starting in November, to set up interviews at the AEA Winter Meetings. Some interviews will also be held at the meetings of regional economic associations. If scheduling more than one interview, remember that they may be held in different hotels some distance apart, and that interviews often run behind schedule.

2. Some advisers may wish to schedule mock interviews for job-market candidates. You can also practice interviews and presentations with fellow students. Especially if your native language is not English, you may find it helpful to tape-record or video-tape yourself and work on any shortcomings.

3. Interviews typically run for half an hour, with 3 or 4 faculty members (of whom maybe 1 or 2 will be in your field). Prepare a brief presentation of your research. You may have to handle questions on the relevance, objectives, and implications of your research, on the current literature in your field, and on topics designed to test your understanding of basic principles. After the meetings, short-listed candidates are called to schedule campus visits (see the notes in the following section).

II. Standard Procedures and Strategy Suggestions for Campus 'Callback' visits

What to Expect

1. It is customary for your travel and lodging expenses to be reimbursed by the institution that has invited you. Ordinarily, they will have arranged your lodging and will tell the hotel to bill them directly for the room. You should expect to pay for any incidentals (phone calls, pay TV, room service, etc.). As your visit winds down and if no one has told you yet, gently ask to whom you should send your travel receipts. Be sure to save all travel receipts, such as cab fare, airfare, airport parking, and mail them in when you return home. It typically takes 4 to 6 weeks to be reimbursed.

2. Expect to meet individually with 5 to 8 faculty members, the department chair, and some representative from the higher administration (the college dean or an associate dean). From the point of view of the institution that is considering hiring you, the objective of these meetings is to see how you will fit into their department. They want to find out how smart you are, what your research interests are, and if you'll be a useful colleague.

You will want to find out the same about them. Gather information in a tactful way. Don't ask someone why they ended up at such a "dump."

3. When you talk to the chairperson, it is appropriate to inquire about the parameters of the job. For example, the approximate salary, whether there are internal grant opportunities, computer support, teaching loads, preparations, the graduate program (if there is one), etc.

4. When talking to the dean, you might want to ask about his/her vision for the future of the university and of the economics department within the college. Are they looking to improve? Are they looking to expand? How strong is the economics department within the college? You should also take the opportunity to tell the dean about your research and teaching interests, as this person is unlikely to have a background in economics.

Major Suggestions

1. *Prepare for your seminar!* You should rehearse your talk out loud at least once. You should spend some time playing devil's advocate. Think of what problems your paper has and try to anticipate questions that may arise. Use your classmates as an audience and a sounding board for your seminar presentation.

2. Always try to answer questions—especially in your seminar. If you don't know the answer off hand, give a few seconds thought to see if something comes up. If you don't know the answer, but the question was a good one, acknowledge that this was a good question, and that you'll devote some thought to it later. If a confrontation develops, do not concede your position if there is any chance you are right. People who are not familiar with the issue will view any concession as a sign of weakness. Try to argue your point in an intellectual, but friendly, way.

3. Maintain control of your seminar. It's a sure loss if two people end up arguing between themselves about something while you're not involved. It's also bad if you let someone take over your seminar by going on at length about something that's not related to what you're doing.

4. Be polite. You will make a better impression if you make your hosts feel smart than if you try to demonstrate how incredibly smart you are at their expense. If you happen to be traveling to a low-ranked school, do not assume that the faculty there are idiots. There are very smart people everywhere—there are smart people at lowly institutions and dumb people at good ones.

Minor Suggestions

1. It is usually best to arrive the night before to get a good night's sleep and to avoid a frantic rush on the day of your visit. It's a lot easier to deal with delayed or canceled flights if you are traveling on the day before your visit than on the morning of your visit.

If you have trouble sleeping in hotels, you may prefer to fly in early on the day of your visit.

2. Do not use the hotel's alarm clock! Always ask for a wake-up call.

3. Do not check your luggage if possible—especially materials (overheads, handouts, etc.) that you will use in your talk. If you need to make connections, checked luggage can get lost, which can leave you looking very stupid.

4. Dress the part of someone who is asking for a job at a dignified institution. Men should wear a coat and tie or a suit. Women should wear a conservative dress with a jacket or a suit.

5. Think about how you're going to reach your audience. If you're lucky, there will be (at most) 3 or 4 people at your seminar that are in your field. Those that control the power in the department may be outside your specialty, so you will want them to understand your work as well.

6. Remember your manners. Don't talk with your mouth full, don't lick your fingers, and don't interrupt people when they are talking.

7. Do *not* address people as "Professor" or "Doctor." Colleagues address each other by first names, and you should feel at ease in doing so as well.

8. Be prepared to carry on informed "lunch time conversation." That is, be prepared to talk intelligently about current events. When this document was written (winter 1993) topics such as President Clinton's appointment of Laura Tyson to the Council of Economic Advisors, the effects of NAFTA, the transition of Eastern Europe, etc., were likely topics to crop up.

9. Find out in advance something about the people at the department that you will visit—their research areas, major publications, and so forth. You can find a lot of this information in the *AER*'s directory. Human nature being what it is, people generally react better when a rookie candidate arrives knowing something about them as opposed to being asked, "So what do you do?"

10. Be interested in the university and what life is like as a faculty member of that university. Apart from the usual questions about teaching and equipment, you'll want to learn how many other assistant professors are on the faculty because they're the people you'll interact with the most. You may also want to find out where most university people live and, if you have children, the characteristics of the various school districts. A good time to ask about these things is when the conversation dies down during lunch or dinner.

11. Finally, be confident. Draw on all your years of training to advertise that you are a competent economist. The school is looking for a potential colleague—an intellectual

equal, not a research assistant. This may be one of the most important days of your life. Put some effort into selling yourself: be sharp and use your head.

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*Notes prepared by Professor Nelson Mark

CHART 1

THE TIME LINE OF THE BASIC GRADUATE ECONOMICS CURRICULUM

FIVE YEAR PROGRAM	**MODEL SEQUENCE FOR NORMAL PROGRESS**
FIRST YEAR	Math Camp (two weeks in early September) First-Year Core Courses (Micro/Macro/Math/Stat-Econometrics) (common to both MA and Ph.D. students)
M. A.	**PH. D. QUALIFYING EXAMS AND M.A. MASTER'S EXAM (June and September)** **Satisfactory completion of OSU English Language Requirements for foreign students**
SECOND YEAR	Course Work in Two Fields and Econometrics E742 **Two Written FIELD EXAMINATIONS (June and September)**
THIRD YEAR	Preparation of Ph.D. Dissertation Proposal Annual Research Report and Presentation
FOURTH YEAR	Written and Oral Portions of **CANDIDACY EXAM (End of Winter Quarter)**
FIFTH YEAR	**Academic job market entry** (Autumn)
Ph. D.	Final Oral Examination Completion of Ph.D. Dissertation

The student is solely responsible for filing all necessary forms with the Graduate School in a timely fashion. Consult the *Graduate School Handbook.*

CHART 2

TYPICAL ACADEMIC PLANS FOR THE FIRST TWO YEARS

FIRST YEAR

FIRST YEAR (M.A. and Ph.D.)	MICRO	MACRO	STATISTICS ECONOMETRICS	MATH FOR ECONOMICS
Early September				Math Camp
Autumn	804	806	640 (Stat 620)	700
Winter	805	807	740 (Stat 623)	701
Spring	808	809	741*	
Exam Rounds	**June and September for Ph.D. Qualifier and M.A. Exams**			

Foreign students whose native language is not English, and who do not hold college degrees from English-language nations must pass OSU Speak Test and Written Test. Depending on the OSU English placement tests, foreign students will be required to take English as a second language (ESL) courses. Foreign students must complete OSU English Language Requirements, equivalent to passing Mock Teaching Test (MTT) and ESL 108 (written English), by the end of the first year. One or two English courses (e.g. ESL 104-105, 107-108) per quarter may have to be scheduled during the first year until the OSU English Language Requirements are successfully met.

Students with deficiencies in mathematics may be required to take additional courses in the Mathematics Department.

SECOND YEAR

2ND YEAR			
Autumn	(742*)	Field	Field
Winter	Optional	Field	Field
Spring	(742*)	Field	Field
Exam Rounds	**June and September for 2 Field Exams**		

Three courses (including chosen field courses and E742) per quarter subject to DGS approval for personal study plans. E742 is offered twice a year in autumn and spring. Those specializing in Econometrics Field take Autumn Quarter E742.

***Economics 741 and 742 must be completed for credit, not audited, before the Candidacy Examination and to qualify for Rank III GTA appointment.**