This handbook is intended for students currently enrolled in the M.S. or Ph.D. Applied Economics Graduate Program. A link to the handbook is available online at

http://www.apecgrad.umn.edu/ServicesandResources/index.htm. #

A printed version is available by request at the Department of Applied Economics. The handbook does not contain admissions information, which can be found online at

http://www.apecgrad.umn.edu/Admissions/index.htm. #

The information in this handbook is, to the best of our ability, correct and accurate as of its publication date, here August 25, 2015. Nothing in the handbook can supersede the rules and regulations of the College of Food, Agricultural and Natural Resource Sciences (CFANS), Graduate School or other University of Minnesota entities. The information in this handbook and other University catalogs, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

# These links are subject to change.
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Welcome and Introduction

Welcome to the Applied Economics Graduate Program (AEGP) at the University of Minnesota. The program is an inter-departmental program that includes faculty from four academic units:

- The Department of Applied Economics (APEC) in the College of Food, Agricultural, and Natural Resource Sciences (CFANS);
- The Division of Health Policy and Management (HPM) in the School of Public Health (SPH);
- The Hubert H. Humphrey School of Public Affairs (HHH); and
- The Department of Work and Organizations (WAO) in the Carlson School of Management (CSOM).

Though they share the same name, it is helpful to understand that the Applied Economics Graduate Program is distinct from the Department of Applied Economics. Each of the four academic units offers courses that contribute to the Applied Economics Graduate Program. Faculty from all four academic units can hold appointments on the Applied Economics Graduate Program’s faculty. Furthermore, any faculty having an appointment on the Applied Economics Graduate Faculty may serve as faculty advisor to Applied Economics Graduate Program students. Financial support for students is available through all four academic units. Subject to space availability, most students will share an office in Ruttan Hall, although a student’s office may be located in the unit of his or her advisor or assistantship supervisor.

The primary administrative support for the Applied Economics Graduate Program is located in Room 231 of Ruttan Hall on the St. Paul campus. The building is named after our esteemed former colleague, Dr. Vernon Ruttan.

YOUR INTAKE ADVISOR AND MAJOR ADVISOR

Upon entering the program, each new student is assigned an “intake” academic advisor who may help with initial registration and answer basic questions about your graduate career. This year, your intake advisor was chosen because there appeared to be at least a slight overlap of your interest and their interest. For most of you, the intake advisor will be your first point of contact to the graduate program. They should be willing to answer questions about the research they are conducting and perhaps provide general career advice, but most questions you have that are program related should have answers in this handbook. Your intake advisor expects you to have read through this handbook, and acquainted yourself with its’ content. If you are unable to find the answer to your question in this handbook, it is a good chance your intake advisor will not know the answer either.

The intake advisor is not to be confused with your “major advisor.” The major advisor is the person who will direct your thesis or dissertation research. Sometimes it will make sense for the intake advisor to become your major advisor, but you should remain with your intake advisor only if he or she can meet your educational and training needs. Soon after your arrival\(^1\), you should begin searching for a faculty advisor whose interests are aligned with yours, with whom you can enjoy a close working relationship, and who holds the faculty membership required to serve as your advisor given your

\(^1\) M.S. students should identify their major advisor within their first year of study, while Ph.D. students should identify their major advisor within the first two years of study.
degree objectives. A list of faculty who are eligible to be advisors for students in the Applied Economics Graduate Program can be found on the program webpage

http://www.apecgrad.umn.edu/People/GraduateFaculty/index.htm

or at the following Graduate School links

https://faculty-roles.umn.edu/institution/UMNTC/programs/008331530/responsibilities

and


In general, faculty who have Member status as Graduate Faculty in the Applied Economics Graduate Program can serve as advisors, committee members and committee chairs. Affiliate and external Graduate Faculty members can serve on committees but cannot be advisors or committee chairs for doctoral students.

**CHANGING YOUR ADVISOR**

When you have identified a faculty member to be your major advisor and that faculty member has agreed to serve as your advisor, contact the AEGP program assistant at apecdgs@umn.edu and ask the program assistant to initiate a change of advisor request. The program assistant records the change of advisor in the University records, and forwards the request to the DGS for approval. If you change your dissertation topic and need to change your major advisor, you may do so having the program assistant initiate a change of major advisor request, which gets forwarded to the DGS for approval.

In addition to an intake academic advisor, each incoming student is assigned a student mentor. The advice of current students is often helpful as you make important decisions regarding the program.

**REGISTRATION**

Unless you decide to withdraw from the program, you need to register officially each fall and spring semester. *If you fail to register for a fall or spring semester, you will be discontinued in the graduate program and will no longer be an active graduate student at the University.* If you are discontinued from the graduate program, you will have to apply for re-admission. In such a case, see

http://www.grad.umn.edu/admissions/readmission/index.html

for instructions on how to regain admission.

There are several types of registration. Which of them is appropriate for you in a given semester depends on your degree objective, your progress in the program, whether you hold a graduate assistantship, and your visa status. Details of your registration options are explained below, and are documented online at:

http://www.grad.umn.edu/students/registration/index.html

**PROGRAM ADMINISTRATION**

The members of the Applied Economics Graduate Program faculty meet at least once a semester and are responsible for the governance of the program. Graduate students in the Applied Economics M.S.
and Ph.D. programs are students in the College of Food, Agricultural and Natural Resource Sciences (CFANS), which awards the degrees and oversees graduate program policies.

The Director of Graduate Studies (DGS) is responsible for the day-to-day administration of the program. The DGS also chairs the Graduate Committee, which makes recommendations to the graduate faculty regarding program changes. The Graduate Committee also serves as the program’s admissions committee. Four graduate students serve on the graduate committee at any given time. The program assistant coordinates the admissions process and helps students with a variety of program-related matters. Questions about the program can be sent to apecdgs@umn.edu.

The M.S. Degree

The M.S. program in Applied Economics is designed to provide students with outstanding training in both theoretical and applied economics. The emphasis is on quantitative techniques, including econometrics and the management of large datasets. The primary goal is to prepare students for employment opportunities in the public and private sector or for further graduate study. A set of four first-year courses (of which three are required) provides the basic foundation for the program. The remaining degree requirements are quite flexible. Students are free to complete coursework in almost any department in the university. There are certain requirements, though, regarding such things as total credits, the minimum courses to be taken in the Applied Economics Department, and minors or related fields. A minimum of 30 credits is required, including Plan A thesis credits or Plan B project credits. Details on coursework requirements are provided on the following two pages.

Our M.S. is a research degree. Students decide whether to complete a Master’s thesis (Plan A) or a possibly more modest research project (Plan B). Beyond coursework, this is the primary degree requirement. Most students complete the coursework for the degree in three semesters and complete all requirements, including the research paper in three or four semesters. All requirements for the master’s degree should be completed and the degree awarded within five calendar years after initial enrollment in the graduate program.

Outline of steps toward the M.S. degree

There are three phases to the M.S. program: the coursework phase, the thesis or project phase, and graduation. Before turning to the details, the following outline sketches the steps in the program and the academic and administrative measures that must be taken in each. Refer to the Graduate School’s “Degree Completion Steps” found at:

http://www.grad.umn.edu/students/masters/index.html

and make sure you are aware of the requirements and paperwork for each phase.

Coursework phase

1. Plan your program with your advisor. If you hope to transfer credit from another university, discuss this with your major advisor and the DGS. You may be able to transfer up to 12 credits (40% of your program course credits) from outside the university. You will need the approval
of the DGS for transfer credits. Your program may include up to 8 credits that have been counted toward another Master’s degree at the University of Minnesota.

2. By the end of your first year, select a permanent advisor and ask the Graduate Program Assistant to submit the change to the Graduate School.

3. At the end of your first year (and each year thereafter), meet with your major advisor to discuss and complete the “Annual Student Review Form.”

**PLAN A THESIS OR PLAN B PROJECT PHASE**

4. Meet with your major advisor to create a committee for your thesis or Plan B project. By the end of your first year or the start of your second year, complete your “Graduate Degree Plan” form. This form, along with virtually all University forms you will need as a M.S. student can be found here:

   [http://www.grad.umn.edu/students/forms/masters/index.html](http://www.grad.umn.edu/students/forms/masters/index.html)

5. Working with your major advisor, develop an idea for your research project and write a proposal. Your major advisor will help you decide when to show the proposal to other members of your committee.

6. Once the Graduate School has approved your Graduate Degree Plan you can request a “Graduation Packet” from the Graduate School ([http://www.grad.umn.edu/students/masters/](http://www.grad.umn.edu/students/masters/)).

7. After your advisor has approved your thesis or paper, distribute copies to your other committee members. For a thesis only, when your other committee members are ready, obtain their signatures on the “Thesis Reviewers’ Report Form” (included in the “Graduate Packet”). Submit this form to the Graduate School. You will then be issued a “Final Examination Report Form.”

8. Schedule your final oral examination. **Plan this ahead of time in order to accommodate the schedules of your committee members.** Don’t forget to reserve a room for the presentation.

9. Check with your advisor about his or her expectations for the exam, including the length of your presentation, what questions to expect, and so on. Bring the “Final Examination Report Form” with you to the final exam. Assuming you pass, return the form to the Graduate School by the last working day of the month in which you would like to graduate (typically, successful students return the form immediately after the exam).

10. Plan A students should submit one electronic copy of their Plan A thesis to the Graduate School and one to the Waite Library. Also submit an unbound paper copy to Waite Library. Paper copies of the title page/signature page should be signed by the advisor and submitted as well. Plan B students should submit one electronic and one paper copy of their project paper to the Waite Library, also signed by the advisor.
GRADUATION PHASE

11. Complete the “Application for Graduation” that came with your Graduation Packet, and submit the form and corresponding fee to the Graduate School on or before the first day of the month in which you wish to graduate.

12. To attend the commencement ceremony, submit a “Commencement Approval” form on or before the deadline published on the College website, which is usually in March for the Spring commencement ceremony. Commencement for graduate programs is held only once per year.

M.S. Program – More Details

The Coursework Phase

BASIC REQUIREMENTS

A number of overall requirements are placed upon all M.S. students’ programs. These include:

- The M.S. degree requires a minimum of 30 credits. The Plan A requires 10 thesis credits (ApEc 8777); the minimum number of course credits is thus 20. The Plan B requires between 4 and 6 project credits (ApEc 8793); the minimum number of course credits is thus between 24 and 26. Plan A thesis credits and Plan B credits may be taken at any time during the program.
- Students must complete at least 14 credits in the major, excluding thesis and project credits. Major courses include those in the Applied Economics, Economics, and Statistics Departments. Other courses may be included as major credits at the discretion of the DGS.
- At least 9 of the 14 major credits must be from coursework in the Applied Economics Department, excluding seminar, thesis, special-topics, and independent-study credits.
- Students are encouraged to complete 6 credits in a related field or to do an MS minor in another program such as Statistics. If you complete a minor, the specific requirements are determined by the program granting the minor, and your “Graduate Degree Plan” form must be signed by that program’s DGS.
- All core courses in Applied Economics, Economics and Statistics are to be completed on the A-F grade base. At least two-thirds of the course credits included on your “Graduate Degree Plan” form must be taken on the A-F grade base.
- To remain in good academic standing a minimum GPA of 3.0 for all program coursework is required. Students who have filed a master’s degree plan should maintain a 3.0 GPA for courses included on the graduate degree plan. Students who have not yet filed a degree plan must maintain an overall GPA of 3.0. Students who fall below the program’s minimum GPA requirement may be terminated from the program.
- Note: University policy states that students must have a 2.800 GPA for courses included on the degree plan at the time of degree clearance.
- No 4xxx-level (or lower) courses are allowed to count toward the M.S. degree.

REQUIRED COURSES

In addition, there are some specific course requirements. All M.S. students are required to take the following core courses, or their equivalent:

- ApEc 5151: Applied Microeconomics, 3 credits
- ApEc 5152: Applied Macroeconomics, 3 credits
- ApEc 5031: Methods of Economic Data Analysis, 3 credits
- ApEc 8901: Graduate Seminar, 1 credit.
- ApEc 8902: Graduate Research Development Seminar, 1 credit

Students are also strongly encouraged to complete ApEc 5032: Economic Data Analysis for Managerial & Policy Decisions, 3 credits. This course is not required for the degree.

**SUBSTITUTION OF STATISTICS COURSES**
The course Stat 5302: Applied Regression Analysis may be substituted for ApEc 5031.

**SUBSTITUTION OF 8XXX-LEVEL COURSES**
The following Ph.D.-level courses may be substituted for those listed above: Apec 8001-02, Econ 8001-02 or 8101-02 (4 credits) for ApEc 5151; Econ 8105-06 (4 credits) for ApEc 5152; ApEc 8211 (4 credits) for ApEc 5031.

**GRADUATE SEMINAR CLASSES**
The required graduate seminar classes (ApEc 8901 and Apec 8902) have two purposes. The first is to help students become better acquainted with the faculty and research areas in the program. The second purpose is to help students better understand the research process, including how to find a topic, how to refine a research question, how to conduct a literature review, how to find data, research ethics, and so on. In the spring semester, MS students will develop and present a thesis or project proposal. (Note for students who entered the MS program prior to Fall 2012: Students who passed Apec 8901 prior to Fall 2012 are not required to take Apec 8902 for the MS degree.)

**SUBMISSION OF “GRADUATE DEGREE PLAN”**
Submit your “Graduate Degree Plan” at least one semester before you plan to hold your final oral examination. Most MS students should submit this form before the end of their third semester in the program. Many students put this step off, often for good reason. You may be unsure of exactly which courses you plan to take toward the end of your program, and you want to get the form right. You may even be unsure until late in the program whether to take a formal minor. However, it is possible to make changes to the form after it has been submitted and approved. See [http://www.grad.umn.edu/current-students-graduate-student-services-progress/examining-committees-new](http://www.grad.umn.edu/current-students-graduate-student-services-progress/examining-committees-new) for instructions on how to change your Graduate Degree Plan after it has been approved.

**Do not wait too late** to submit your Graduate Degree Plan, as the College and Graduate School typically needs at least a month (sometimes six to eight weeks) to process and approve the form. You will not be allowed to take your final oral exam until the form has been approved. Avoid this disappointing complication by submitting the form at least two months before the earliest date on which you believe you could take your final oral exam.

**The Plan A Thesis or Plan B Project Phase**

**PLAN A OPTION**
Ours is a research degree, and therefore the research component is considered to be an essential part of the AEGP educational experience. A thesis should demonstrate familiarity with the theoretical and/or empirical tools of applied economics. Though significant input may be expected from your advisor and your committee members, the thesis should also represent independent scholarly work. Communicating your research by writing the thesis is an important component of the project. Many students find it
useful, as they begin their project, to peruse some recent M.S. theses. The collection is maintained by the Waite Library. Manuscript preparation guidelines for the Plan A thesis are available at

http://www.grad.umn.edu/students/ThesisSubmission/index.html

The Plan A option requires registration for 10 thesis credits (ApEc 8777), which may be taken at any time during the program. Upon completion, an electronic copy of your thesis must be submitted to the graduate school for archiving. Paper copies of the Advisor signature page and title page must be signed by your advisor and submitted by the last working day of the month in which you intend to graduate. Another electronic copy must be submitted to Waite Library in the Applied Economics Department, along with an unbound paper copy.

**PLAN B OPTION**

As with the Plan A thesis, students who complete a Plan B project are to demonstrate familiarity with the theoretical and empirical tools of economics. They are to perform independent scholarly work and write up their research. Students often wish to know how a Plan A and a Plan B research project differ; the answer is not easy. In principle, the Plan A should be somewhat more ambitious, polished, and sophisticated in its implementation than a Plan B project. In practice, this is not always true. In the end, the standard to which you will be held is determined entirely by your committee and their judgment about the required level of research quality. You may wish to adhere to the Graduate School’s Plan A manuscript preparation guidelines (see above), but this is not necessary. Still, Plan B project papers should include a cover page that lists the title of the paper, the author, and advisor.

The Plan B option requires registration for 4 to 6 project credits (ApEc 8793), which may be taken at any time during the program. Upon completion, an unbound paper copy of your project paper must be submitted to Waite Library in the Department of Applied Economics. An electronic copy is to be submitted to the Waite Library at the same time. You will be asked to sign an agreement to allow your paper to be archived in AgEcon Search – a signature, however, is not required for graduation. Your advisor must submit a signed form approving the final version of your Plan B paper.

When you register for Plan B credits, you are issued a grade of incomplete for Apec 8793. Immediately after your successful completion of the final oral exam and once any revisions to your paper are completed and approved, your advisor should change the grade to “S”. He or she may need to be reminded to contact Ms. Diane McAfee to request the grade change. You will not be allowed to graduate if you have any incomplete grades for courses that appear on your “Graduate Degree Plan.”

**The Final Examination**

There is no written comprehensive examination for the M.S. degree. For both Plan A and B options, you will be required to complete an oral examination in which you defend your research and demonstrate competence in your chosen field of study. The exam may be based on coursework and the research component of your program. The exam is administered by your three- (or more) member examining committee consisting of your advisor as chair, one other member of the Applied Economics Graduate Program’s faculty, and one member of the Graduate School’s faculty from outside the Applied Economics Graduate Program. For a Plan A thesis, in order to permit faculty to allocate sufficient time to read the thesis and decide whether it is ready for defense, the graduate school requires you to notify your advisor and other committee members at least two weeks in advance that the thesis will be delivered on a particular date. All members of the examining committee must then have at least two weeks to read the thesis after it has been delivered. For Plan B projects, you should make your project
paper available to the examining committee for its review well in advance of the final examination (at least two to three weeks).

The exam usually begins with a 30 to 40 minute presentation by the candidate. Plan to describe the problem you have addressed, your research objectives, the methods you used, your data, and your results. In most cases, your committee members will ask some questions during your presentation. With these interruptions, a talk that is expected to last 30 minutes often takes an hour. After all questions from your committee members have been answered, you will be asked to leave the room while the committee deliberates. When they have their decision, you will be invited back into the room and notified of the outcome.

If you pass the exam, you should bring the “Final Examination Report Form” (included in your Graduation Packet) to the Graduate School by the last working day of the month you wish to graduate. Most students take the form to the Graduate School immediately or soon after required revisions have been completed. It is very common to have to make some revisions to your thesis or Plan B paper after the final oral examination.

**Administrative details – the Ph.D. Micro Prelim Examination**

Each year, some students enroll in the M.S. program, planning to transfer into the Ph.D. program their second year. Some of these students take a Ph.D. micro sequence before being admitted to the AEGP Ph.D. program. Students planning to do this should read carefully, the section “Written Preliminary Exam in Microeconomics,” on page 20.

**Administrative details – registration**

*ApEc 8333*

The University considers any graduate student registered for 6 or more credits in a semester a full-time student. You must remain a full-time student in order to be eligible for a research assistant or teaching assistant position. After you have complete your coursework, thesis or project credits, and are working on your research, you will probably not wish to remain registered for 6 credits. The University has developed a procedure for remaining a full-time student while registering for only one credit. If you are in this situation, you may be able to register for ApEc 8333: FTE Master’s (the FTE stands for “full-time equivalent”). You will need to submit to the Graduate School, an “Application for Advanced Master’s Status” form

[http://policy.umn.edu/forms/otr/otr194.pdf](http://policy.umn.edu/forms/otr/otr194.pdf)

This procedure is designed to certify students as “full-time” for teaching or research assistant positions. It also reduces the benefits that the hiring department must pay. It may also allow you to defer a student loan. Note that the deadline for applying for Advanced Master’s (FTE) status is well before the semester begins (August 15 for the following fall term, December 15 for the following spring term and May 15 for the following summer term).

*Grad 999*

Students who are not working on an assistantship and therefore do not need to maintain “full-time” status, but wish to maintain “active” status in the program, may be able to register for GRAD 999. This is a zero-credit, zero-tuition registration. If, for example, you choose to begin employment off campus before you have graduated, you may be able to register each semester for GRAD 999 until
graduation. Do not register for GRAD 999 if you must be registered as a full-time student to maintain legal visa status, defer loans, receive financial aid, or for any reason other than to meet the Graduate School’s registration requirement. Be sure to check the official guidelines for registering for GRAD 999 at:

http://onestop.umn.edu/special_for/MaintainingActiveStatus.html

Students may register for up to four semesters of GRAD 999 if they are continuing to work on a thesis or Plan B project. A hold will be placed on the student’s registration after four semesters of GRAD 999. In order to register for each additional semester of GRAD 999 in excess of four, the student will be required to get the approval of the DGS. The DGS will confer with the student’s major advisor to determine whether the student is making progress towards completion. If the student demonstrates that he or she is continuing to work on a thesis or Plan B paper and has a plan to complete the degree, the hold on the student’s registration will be removed and the student will be allowed to register for GRAD 999.

**TIME LIMIT**

All requirements for the master’s degree must be completed and the degree awarded within five calendar years after initial enrollment in the graduate program.

**LOosing “Active” Status**

You will lose your “active” status as a graduate student if you do not register each Fall and Spring term. To continue working on your degree, you will have to re-apply to the program and pay the application fee to the Graduate School. You may qualify for the “Express Re-admit” process. However, while students whose active status has been terminated under such circumstances may apply for readmission to the program, readmission is not guaranteed.

**Leave of Absence Policy**

Graduate students are expected to maintain active status through continuous registration from the time they matriculate until they graduate. Students who are not able to maintain active status are strongly encouraged to consult with their Director of Graduate Studies, major advisor, and relevant offices to determine whether requesting a leave of absence is the most appropriate course of action. Students who experience circumstances that prevent them from maintaining active student status may be granted college approval for a leave of absence upon request. Students must complete a leave of absence form that specifies the term(s) and year(s) of the leave. An approved leave of absence may not exceed two academic years. Students granted a leave of absence may not use University facilities or services available only to registered students. The term(s) and year(s) of an approved leave of absence will not be counted toward time to degree. More information about the leave of absence policy and the application form are available on the Graduate School’s website.

**Annual Student Reviews**

Each year, toward the end of the spring semester, each graduate student will be asked to complete an annual-review form. This form is designed to help you, your major advisor, and the DGS track your progress in the program. Annual completion of this form is instrumental in facilitating the timely completion of your degree. If you do not complete the annual review form by the announced deadline, a hold may be placed on your registration for the following semester. Completion of the annual review is required by University and program policy.
The Ph.D. Degree

The Ph.D. in Applied Economics is designed to prepare students for careers in academia, government, and the private sector. These positions require a relatively specialized set of skills and expertise. It may be useful to consider a series of layers that make up the coursework required for the degree.

Economic analysis at the Ph.D. level is quite technical. It relies upon a sound foundation of training in both microeconomic and macroeconomic theory. The mathematical style of analysis that is encouraged in theoretical economics permeates applied work in fundamental ways, providing the framework within which economic problems may be analyzed. This is the first layer. On this foundation rests another set of skills and expertise. Applied work requires advanced training in econometrics, or statistics applied to economic problems, as well as other quantitative techniques like linear programming and general equilibrium model simulations. The quantitative tools are, one hopes, applied in ways that are informed by theoretical considerations about how the economy works and how people behave. This is the second layer. The third layer, which draws from both the theory and quantitative elements of the program, consists of specialized study in one or more fields within economics.

<table>
<thead>
<tr>
<th>For students who entered the PhD program PRIOR to Fall 2012 (see appendix for details on program requirements prior to 2012):</th>
</tr>
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<tbody>
<tr>
<td>Ph.D. students are required to complete a set of core courses in microeconomic and macroeconomic theory, welfare economics and econometrics. You are also required to complete two additional “methods” courses from a list of alternatives that includes additional econometrics, game theory, dynamic optimization, and mathematical programming. In most cases, students complete at least some additional electives, typically in mathematics, statistics, and economics. You must also complete a 1-credit Ph.D. seminar (ApEc 8902) and, you must register for 24 thesis credits (ApEc 8888). You may register for thesis credits at any time during your PhD program when you are working on your thesis research.</td>
</tr>
<tr>
<td>In addition to the required coursework, most students also complete two fields of specialization (one field may be replaced by an approved minor field that you design, subject to the approval of the Graduate Committee). A field is defined by the material presented in a set of two or more related Ph.D. courses, together with a comprehensive written examination based on the courses. More detail on requirements for PhD students who entered the program prior to Fall 2012 is found in Appendix A.</td>
</tr>
</tbody>
</table>

For students entering the PhD program in Fall 2012 or later: Coursework overview

Ph.D. students are required to complete a set of core courses in microeconomic theory, macroeconomic theory and econometrics. You are also required to complete at least 18 additional credits of Applied Economics courses or certain courses in the joint program (those that are listed as field courses below). In most cases, students complete at least some additional electives, typically in applied economics, economics, mathematics, or statistics. You must also complete two 1-credit Ph.D. seminar classes (ApEc 8901 and Apec 8902) and two Qualifying Paper seminar classes (Apec 8903 and Apec 8004). The Qualifying Paper, described in detail below, is begun in the second year of the PhD program, and ideally finished during the second year. You must also register for 24 thesis credits (ApEc 8888). You may
register for thesis credits at any time during your PhD program when you are working on your thesis research.

In addition to the required coursework and the qualifying paper, students must pass two written preliminary exams, one in microeconomics and a written exam in one of the seven fields offered by the Applied Economics Graduate Program. Most students also complete coursework for a second field of specialization

**Outline of Steps Toward the Ph.D. Degree**

It is useful to divide the Ph.D. program into four phases: the coursework phase, the examination phase, the dissertation phase, and the graduation phase. These are explained in more detail below, but the following outline sketches the steps in the program and the academic and administrative measures that must be taken in each step. To ensure you are aware of the requirements and paperwork that must be satisfied in each phase, refer to the Graduate School’s “Degree Completion Steps” found at

[http://www.grad.umn.edu/students/doctoral/index.html](http://www.grad.umn.edu/students/doctoral/index.html)

**Coursework Phase**

1. Plan your program coursework with your major advisor. If you hope to transfer graduate credits from another university, discuss this with your major advisor or the DGS. You may transfer up to 40% of your total program course credits, subject to approval by the DGS. If you have taken courses elsewhere, or have taken courses in your M.S. program that you feel are equivalent to required courses in our program, you should discuss this with the DGS. The DGS has final say on all credit transfer requests.

2. At the end of your first year (and each year thereafter), meet with your intake or major advisor to discuss and complete the “Annual Student Review Form.”

3. By the end of your second year, select a permanent faculty advisor and contact the AEGP program assistant to have the change submitted to the Graduate School. See page 5, above.

4. By the end of your second year or beginning of your third year, complete your “Graduate Degree Plan” form:

   [http://policy.umn.edu/forms/otr/otr198.pdf](http://policy.umn.edu/forms/otr/otr198.pdf)

   Plan to complete your coursework in four or five semesters, six at the most. Refer to the Graduate Handbook to ensure that you have met all the coursework requirements. Your Graduate Degree Plan identifies the courses you have taken or need to take to fulfill the coursework requirements for the PhD. It must be approved by your major advisor, the DGS and the College/Graduate School.

5. Students who have filed a doctoral degree plan should maintain a 3.0 GPA for courses included on the graduate degree plan. Students who have not yet filed a degree plan must maintain an overall GPA of 3.0. Students who fall below the program’s minimum GPA requirement may be terminated from the program.
**EXAMINATION PHASE**

6. Complete your written preliminary exams (prelims). Most students take the microeconomic theory preliminary examination in May/June of their first academic year – e.g., students beginning the PhD program in fall 2014 take the micro theory prelim in May/June of 2015.  

   a) Students have two chances to pass the microeconomics theory preliminary examination (micro prelim), with the possibility of petitioning for a third attempt.  
   b) The micro prelim must be passed within two calendar years of entering the AEGP’s PhD program.  
   c) Students who have not passed the micro prelim within twenty four (24) months of entering the AEGP PhD program will be dismissed from the program. For example, all students entering the AEGP PhD program in the fall 2014 semester must pass the micro prelim exam by the end of August 2016. Failure to do so results in termination from the AEGP PhD program.

7. Most students take one or more field exams during their second year of their program – e.g., for the 2015-2016 cohort, sometime during the 2016-17 academic year. See page 20 for more details on the field examination.

8. Complete your qualifying research paper – the second year Qualifying Paper – during your second year in the PhD program. Most students will complete this paper in the academic year immediately following completion of the microeconomic theory courses and passing the written microeconomics preliminary examination.

9. Begin discussions early with your major advisor regarding your thesis research. Begin work on a thesis proposal as early as possible. Also talk with your major advisor about who should be on your examining committee. Your major advisor should be able to help you decide when to show your proposal to other members of your committee.

10. When your major advisor and the other members of your committee feel you are ready, schedule your preliminary oral exam. You must successfully complete the written preliminary exams and the qualifying paper prior to taking the preliminary oral exam. You must also have an approved Graduate Degree Plan on file at the Graduate School.

11. No later than one week before the preliminary oral exam, schedule the preliminary oral examination by going to

   [http://www.grad.umn.edu/students/prelimschedule/index.html](http://www.grad.umn.edu/students/prelimschedule/index.html)

   and clicking the CLICK HERE link.

12. Assuming you pass the preliminary oral exam, file the “Preliminary Oral Examination Report,” which your advisor will bring to the exam.

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2 Parts 6.a, 6.b and 6.c are contingent on final approval by the AEGP graduate faculty.
**Dissertation Phase.**

13. Meet with your advisor to create a dissertation committee (also called the “final examination committee”). This committee is often the same as your preliminary oral examination committee, but can be different. To avoid potential conflicts of interest, the Graduate School does not allow your advisor to be the chair of your final examination committee. Three members of the committee will be designated as “reviewers,” including your advisor and an outside member of the committee.

14. At least one month before you plan to schedule your final oral examination, submit your proposed committee and thesis title to the Graduate School via the link

   [http://www.grad.umn.edu/students/assigndocfinalcommittee/index.html](http://www.grad.umn.edu/students/assigndocfinalcommittee/index.html)

15. Get thesis formatting instructions from the Graduate School at

   [http://www.grad.umn.edu/students/forms/doctoral/index.html](http://www.grad.umn.edu/students/forms/doctoral/index.html)

16. Get a “Graduation Packet” from the Graduate School at

   [http://www.grad.umn.edu/students/doctoral/index.html](http://www.grad.umn.edu/students/doctoral/index.html)

   The Packet includes paperwork you need to complete, including the “Reviewers’ Report” and the “Application for Degree.”

17. After your advisor approves your dissertation, give a copy to each member of your committee. Allow at least two weeks for reviewing.

18. Ask the three reviewers to sign the “Reviewer’s Report.”

19. Schedule your final oral examination. Plan this ahead of time in order to coordinate the schedules of your committee members. Don’t forget to reserve a room for the exam. Ask for an announcement of your final oral to be placed in Marginal Memos.

20. At least one week before the final defense, submit the “Thesis Reviewer’s Report” to the Graduate School.
21. Assuming you pass the final defense, submit the “Final Exam Report Form” to the Graduate School within twenty-four hours of completing the exam.

**Graduation Phase.**

22. Upon completion, an electronic copy of your thesis must be submitted to the graduate school for archiving. Paper copies of the Advisor signature page and title page must be signed by your advisor and submitted by the last working day of the month in which you intend to graduate. Another electronic copy of your thesis must be submitted to Waite Library in the Applied Economics Department, and along with an unbound paper copy.

23. Complete the “Application for Graduation” from the Graduation Packet and submit the form and corresponding fee to the Graduate School on or before the first day of the month in which you wish to graduate.
24. To attend the commencement ceremony, submit a “Commencement Approval” form on or before the deadline published on the College website, which is usually in March for the Spring commencement ceremony.

Ph.D. program – More Details

The Coursework Phase
The coursework that makes up your Ph.D. program includes a set of required courses, at least 18 additional in Applied Economics, required seminar classes, and 24 thesis credits.

For students entering the PhD program in Fall 2012 or later:

REQUIRED COURSEWORK.
The following courses are required. At the discretion of the DGS, a student may be exempted from taking one or more required courses if equivalent coursework has been completed at another university. Note that many courses are offered in the “mini-semester” format, with two two-credit courses offered in each semester. If you plan to take both courses, you should register for both at the beginning of the semester to avoid late fees. You are also required to register for a total of 24 thesis credits (Apec 8888) in order to complete your degree.

1. Microeconomic Theory. Complete one of the following sequences:
   (i) ApEc 8001-2-3-4: Applied Microeconomic Theory, 8 credit, two-semester sequence, or
   (ii) Econ 8001-2-3-4: Microeconomic Analysis, 8 cr., two-semester sequence, or
   (iii) Econ 8101-2-3-4: Microeconomic Theory, 8 cr., two-semester sequence

2. Macroeconomic Theory. Complete
   Econ 8105-6: Macroeconomic Theory, 4 cr., offered every fall semester

3. Econometrics. Complete
   ApEc 8211-12: Econometric Analysis, 8 cr., two-semester sequence

4. Seminar classes. PhD students are required to complete two series of seminar classes (four semester classes in all). The first set, Apec 8901 and Apec 8902, are normally taken in the first year of the PhD program. These seminar classes are intended to increase students’ awareness of research areas in the program, encourage attendance at research seminars, and begin the process of finding a thesis topic. The second set of seminar classes, Apec 8903 and Apec 8904, are

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3 Students entering the PhD program prior to Fall 2012 should refer to Appendix A for the course requirements in effect for their program of study.

4 The ApEc and Econ 8000 sequences typically assume all functions of interest (e.g., production and utility functions) are continuous and differentiable, and hence rely on calculus to find optimum values and equilibria. The Econ 8100 sequence does not necessarily assume functions are differentiable, and uses real analysis to describe how optimum values and equilibria are characterized. Of the three sequences, the Econ 8100 sequence provides the most rigorous training in microeconomic theory. Students choosing this sequence are encouraged to also enroll in Math 5615H, Real Analysis.
normally taken in the second year of the PhD program and provide support for writing the second year Qualifying Paper (see details on the paper requirement below).

5. Minimum Credit Requirement. In addition to the required courses listed above, students must complete at least 18 credits and a minimum of 6 courses in Applied Economics at the 8xxx-level, not including seminar classes (Apec 8901 & 8902), independent study, pre-thesis credits or thesis credits. These courses must be taken on an A-F grade basis and must be taken while a student in the Applied Economics Graduate Program (PhD or MS). PA, SPH and HRIR courses included in the list of field classes count towards meeting this requirement; other courses in those units or in other departments do not. In general, up to six credits of Department of Economics 8xxx field courses (excluding micro theory, macro theory (Econ 8105 & 8106) or econometrics) can be substituted for Applied Economics classes to meet this requirement.5

In most cases, students complete at least some additional electives in Applied Economics or other departments beyond the 18 credit minimum and are encouraged to take additional coursework in mathematics, statistics and economics.

**FIELDS OF STUDY**
Each field consists of a set of courses (which can either be semester-long or “mini-semester” courses

The following seven fields, with the associated coursework listed, are available. Note that courses in the fields may not be offered every year and may change. Discuss your plans for taking field classes with your advisor and faculty in the field so that you are aware of potential changes in these classes.

**Consumer Behavior & Household Economics**
- Apec 8401: Consumer Behavior and Household Economics, 2 credits
- Apec 8402: Information and Behavioral Economics, 2 credits
- Apec 8403: Demand Analysis and Household Economics, 3 credits

Students should expect to complete all three courses in preparation for the field examination in Consumer Behavior and Household Economics.

**Health Economics**
- PubH 6832. Economics of the Health Care System. 3 cr.
- PubH 8821. Health Economics II. 3 cr.

Students should expect to complete all three courses in preparation for the Health Economics examination. Students planning to complete the field in Health Economics must pass the Health Economics written preliminary exam administered by the School of Public Health.

**Labor Economics**

5 Students wishing to take more than six credit hours of 8xxx field courses should discuss this with their major advisor.
Students should consult with faculty in the Labor Economics field to discuss the appropriate courses depending on the student’s background and specific interests. The current field courses include:

- Apec 8501: Labor Economics I, 2 credits
- Apec 8502: Labor Economics II, 2 credits
- HRIR 8801: Fundamentals of Economic Analysis for HRIR

Students should expect to complete these three courses in preparation for the field examination in Labor Economics.

**Policy Analysis**

- PA 8302. Policy Analysis. 3 cr.
- PA 8312. Analysis of Discrimination. 3 cr.

Students should expect to complete any two of these three courses, for at least 6 credits, in preparation for the field examination in Policy Analysis. It is highly recommended that students interested in this field also take Apec 8203: Applied Welfare Economics and Public Policy.

**Production & Marketing Economics**

- ApEc 8803. Marketing Economics. 2 cr.
- ApEc 8804. Managerial Economics. 2 cr.

Students should expect to complete at least 5 credits, in preparation for the field examination in Production and Marketing Economics.

**Resource and Environmental Economics**

- ApEc 8601. Natural Resource Economics. 3 cr.
- ApEc 8602. Economics of the Environment. 3 cr.

Students should expect to complete both courses in preparation for the field examination in Resource and Environmental Economics.

**Trade and Development Economics**

- ApEc 8703. Microeconomic Analysis of Economic Development. 3 cr.

Students should expect to complete any two of these three courses in preparation for the field examination in Trade and Development Economics.
The Examination Phase (Students entering Fall 2012 or later)

Written preliminary exams
Two written preliminary examinations must be completed: the microeconomic theory exam administered either by the Applied Economics Graduate Program or by the Department of Economics (either the minor or major micro exam); and one field exam administered by the Applied Economics Graduate Program. You may choose when to take the exams, but typically the microeconomic theory exam will be taken after the first year and the field exam or exams after the second year. Note that students entering the PhD program prior to Fall 2012 are required to pass two written field exams in addition to the microeconomics exam (see Appendix A for more detail).

Written Preliminary Exam in Microeconomics
Students may choose which one of the three preliminary examinations in microeconomic theory to take. Students are allowed to take the exam up to three times. The Graduate Committee considers requests for a fourth attempt. Before writing your microeconomic theory exam, you must choose which exam to take: the Applied Economics micro exam based on Apec 8001-2-3-4; the Economics Department micro for minors exam based on Econ 8001-2-3-4, or the Economics Department exam for majors based on Econ 8101-2-3-4. If you have to retake the exam because you did not pass, you will be allowed to again choose any one of the three micro exams. Students are expected to pass the written preliminary examination in microeconomics no later than the end of their second year in the PhD program. Failure to do so can result in termination from the PhD program.

Students who have not been admitted to the Applied Economics PhD program but who have taken the appropriate courses may take the microeconomics preliminary exam one time, which will count as one of their three allowed attempts if they subsequently join the PhD program.

An AEGP M.S. student who transfers into the AEGP Ph.D program is considered a Ph.D. student during the semester the decision is made. For example, say an AEGP M.S. student – JD – applies for admission to the AEGP Ph.D. program in December 2015 and is admitted during the 2016 spring semester. Then, JD is a considered Ph.D. student during the spring 2016 semester. In this case, if JD takes the AEGP preliminary examination in microeconomics in 2016, she is taking it as an AEGP Ph.D. student. The implication here is JD will have used one of her exam attempts and, in addition, will need to pass the preliminary exam by August of 2017. If JD does not take the exam in May/June of 2016, she will have three attempts to pass the exam, and have until August 2018 to pass it.6

Field Exams
Students are required to pass a field exam. Field exams are approximately four hours in length and cover material based on the associated coursework. Field exams are offered twice yearly, typically during the last two weeks of January and the last two weeks of June. Each field examination is written and graded by a committee of at least three faculty in the Applied Economics Graduate Program. This committee reports the results for each student to the DGS, who then reports exam results to individual students and their advisor. A student is allowed two attempts to pass a field exam. The Graduate Committee considers requests for a third attempt.7

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6 Pending final approval of the AEGP graduate faculty.
7 Pending final approval of the AEGP graduate faculty.
Students whose primary language of instruction for their secondary school and undergraduate degree programs was not English are eligible to apply in advance for an extra one half hour of writing time for each written preliminary exam.

Together with the qualifying paper, the microeconomics prelim and field exams constitute the Graduate School’s requirement of a written preliminary examination. After you have completed the last of your written preliminary and field exams and the qualifying paper, the graduate program assistant will record the date of your last written preliminary exam. You must complete your preliminary oral examination within three years of this date. Note that you can continue taking courses after you have completed the written preliminary exams requirement.

**THE QUALIFYING PAPER**
Apec 8903 and Apec 8904 are normally taken in the second year of the PhD program and provide support for writing the second year Qualifying Paper. The purpose of the second year paper is to provide a guided opportunity for students to complete a substantial research paper. The second year paper should demonstrate professional competence in the formulation of a research question in applied economics, formulation of a research design, and execution of the design and written presentation of results. The paper is due at the end of the spring semester and is evaluated on a pass-fail basis. If the paper is judged as inadequate, the student is given a chance to revise the paper and provided comments detailing how to do so. Revised papers are due back to readers in late August. If at this point the student’s revised second year paper also does not pass, the student may petition the Graduate Committee for one additional attempt to revise the paper, which must be completed by the end of the fall semester.

**THE PRELIMINARY ORAL EXAM**
After passing your written preliminary exams and qualifying paper, you must take a preliminary oral exam. The exam can be based on your coursework, your thesis proposal, or some combination. The exam is administered by your four-member preliminary examining committee consisting of your advisor as chair, two other members of the Applied Economics Graduate Program faculty, and one member of the Graduate School’s graduate faculty from outside the Applied Economics Graduate Program. If you have declared a minor on your Degree Program form, one committee member must be from that program’s graduate faculty. Your advisor will help you decide who will be on your committee.

Expect to complete a written thesis proposal before your committee gives you permission to schedule your preliminary oral exam. You will work closely with your advisor in preparing the proposal; be sure to keep other members of your committee apprised of the state of your work as you develop your ideas. You should give your committee at least two weeks to read the final version of your thesis proposal. Ideally you will complete your preliminary oral examination during your third year in the doctoral program, or early in your fourth year.

Several administrative steps need to be taken before you can take the preliminary oral exam. You must have already filed your Graduate Degree Plan; this form should be filed at least two months before the date of your oral exam, and preferably the semester prior to it. Other forms are required by the Graduate School to schedule your preliminary oral exam and record the names of your committee members.

The typical preliminary oral exam begins with a 30 to 45-minute presentation of the research proposal by the student. Your committee members may each ask questions, possibly interrupting you before you have completed your prepared remarks. They will look especially at your knowledge of economics, the quality of your proposed research, and the feasibility of the research.
Three outcomes of the preliminary oral exam are possible. One is “Pass,” another is “Fail,” and a third is “Pass with Reservations.” A result of “Pass with Reservations” means that the committee will prepare a memo, addressed to you, containing further work that you must do before a passing grade is submitted to the Graduate School. If you “Fail” the exam, your committee will decide whether you will be given an opportunity to retake the exam at a later date or be asked to leave the program. If you “Pass” the exam, return the “Preliminary Oral Examination Report,” which your advisor will bring to the exam, to the Graduate School. You may want to retain a copy for your records as well. Congratulations! You are now a candidate for the degree.

**Time Limits**
Students should expect to take their preliminary oral exam within 6 months of passing their last written preliminary exam. If more than 3 years elapse between passing the last written exam and the oral exam, all written exams must be retaken and passed before the oral exam can be scheduled.

**The Dissertation Phase**
According to the Graduate School, a Ph.D. dissertation must demonstrate your originality and ability for independent research. It must contain results that amount to a contribution to knowledge and it must be presented in a satisfactory manner. Some dissertations in the program are primarily theoretical or analytical in nature; others are primarily empirical. Most are a combination of the two. It should be on a significant topic, but it must be sufficiently narrow in scope to be feasible. Dissertations are typically between 150 and 200 pages, but this is not a firm limit. Many students find it useful, as they begin their project, to peruse some recent Ph.D. theses. The collection is maintained by the Waite Library.

**The Thesis Committee**
In most cases, the thesis committee is composed of the same people who sat on the preliminary oral examining committee. This is not required, though. Your final oral examining committee can have different members than your preliminary oral exam committee. In consultation with your advisor, assign the members to your doctoral final examination committee using the online form. Your advisor cannot chair this committee, which must include at least four members, three from the Applied Economics Graduate Program’s faculty and one member of the Graduate School’s faculty from outside the Applied Economics Graduate Program. If you have declared a minor on your “Degree Program” form, you must include an outside member from the minor program. Three members, including your advisor and an outside member, must be listed as “reviewers.” When you have submitted this form, you can request a “Graduation Packet.” This packet includes the final Reviewers’ Report and other paperwork needed to complete your degree.

**Format of the Dissertation**
The Graduate School will not accept a dissertation that does not follow its specifications. These are available on the Graduate School website at:

http://www.grad.umn.edu/prod/groups/grad/@pub/@grad/documents/content/grad_content_459327.pdf

**Setting Up Your Thesis Defense**
After your advisor has approved your dissertation for defense, you should provide a copy of the final draft to all members of your committee. Most committee members will want to see drafts of your thesis, or even individual chapters, as you complete them. Some will not. It is important for you to
stay in contact with all committee members, giving them the chance to provide input and feedback along the way. Faculty are busy people, so do not be offended if someone tells you they don’t want to see anything until the final version. Still, the most risky practice is to not show your early work to a committee member who expects to see it. If the final product is far different from what he or she expects, gaining approval for the defense can be complicated. The Graduate School requires you to tell your committee members at least two weeks in advance of the date you will deliver your thesis to them for review. Committee members must be given at least two weeks to review your thesis before your defense. At least one to two months before your expected defense date, you should contact all of the committee members and begin to find a date and time for the defense which everyone can attend. Before your defense can be held, the members who were named as “reviewers” must sign the “Thesis Reviewers’ Report,” which certifies that they agree the dissertation is ready for defense (the reviewers report is part of the “Graduation Packet” provided by the Graduate School.) When you have obtained all of the reviewers’ signatures, bring the “Thesis Reviewers Report” to the Graduate School.

The student must schedule his or her final exam/thesis defense date with the Graduate School at least one week in advance and preferably at least one month ahead. Once the final exam has been scheduled, the Graduate Student Services and Progress (GSSP) office will notify the student by email regarding any outstanding final oral exam requirements, and how to fulfill those requirements. The student will also receive confirmation from the GSSP office upon the Graduate School’s authorization of the final oral examination. The DGS assistant is automatically copied on all of the above-mentioned emails so that the graduate program office is informed of the Graduate School’s review and authorization of the student’s final oral exam.

Be sure you have reserved a room for your Final Oral Examination and have confirmed the time and place with all committee members. Place a notice of the defense, including time, date, and location, in Marginal Memos, the e-newsletter of the Department of Applied Economics.

**THE THESIS DEFENSE**

If things go as hoped, the word “defense” will not describe what actually happens at the meeting. You will not be under attack. But your committee will want to see that you are able to present your work in a professional manner. The first part of the defense is open to the public. As with the preliminary oral examination, you will probably be asked to prepare a presentation of some 30 to 45 minutes. Your committee members and others in the audience may ask questions during your remarks. When all questions from the audience have been completed, everyone other than your committee members will be asked to leave. Your committee may then ask some more questions. When all your committee’s questions are completed, you will be asked to leave the room while your committee deliberates. When the committee’s deliberations are completed, you will be invited back into the room to learn the result. Two outcomes are possible: “Pass” and “Fail.” Assuming you pass, take the “Exam Report” to the Graduate School within 24 hours of the exam. You may be asked to make revisions. Once your advisor confirms that you have completed all revisions, he or she will sign the title page and you will be ready to submit your dissertation to the Graduate School.

**The Graduation Phase**

Degrees are awarded on a monthly basis. In order to graduate, the following steps must be taken:

- Fill out the application for graduation and submit the form with the graduation fee on or before the first day of the month in which you wish to graduate.
Submit an electronic copy of your dissertation and the original paper title/signature page signed by your advisor to the Graduate School by the last working day of the month in which you wish to graduate.

Turn in one unbound paper copy of your dissertation to Waite Library, along with an electronic copy.

**Graduate Commencement**

The Graduate Commencement Ceremony is held the spring of each year. You may be eligible to participate even if you have not held your final oral examination. If your degree has not cleared, you must submit the [Commencement Attendance Approval Form](mailto:CommencementAttendanceApprovalForm) to the Applied Economics graduate program office by March 1st. Attending the ceremony does not imply you have officially graduated.

**Time Limits**

Based on university and program policy, you must complete your final oral exam within five years of passing your preliminary oral exam. If you are unable to complete your final oral in this time, you may petition the graduate school for up to one additional year. Extensions beyond an additional year are considered only in extraordinary circumstances. If you do not complete the final oral exam within the time limit, you will be terminated from doctoral candidacy. All requirements for the doctoral degree must be completed and the degree awarded within **eight** calendar years after initial enrollment to the graduate program.

**Annual Student Reviews**

Each year, toward the end of the spring semester, each graduate student will be asked to complete an annual-review form. This form is designed to help you, your major advisor, and the DGS track your progress in the program. Annual completion of this form is instrumental in facilitating the timely completion of your degree. If you do not complete the annual review form by the announced deadline, a hold may be placed on your registration for the following semester. Completion of the annual review is required by University and program policy.

**Administrative Details – Registration**

During the time you are taking courses, you should register for at least 6 credits each semester. This is required if you have an assistantship. It may also be a requirement for your visa. You may register for up to 14 credits in a semester at the fixed tuition rate. You may register for thesis credits (ApEc 8888) during any semester in which you are enrolled in the Applied Economics PhD program; however, it is expected that you are working on your thesis if you are enrolled in these credits. There are several registration categories, the major ones of which are briefly highlighted below. The complete list of categories and a comparison of eligibility requirements is found here

[https://onestop.umn.edu/special_for/SpecialRegistrationCategoriesforGraduateProfessionalStudents.html](https://onestop.umn.edu/special_for/SpecialRegistrationCategoriesforGraduateProfessionalStudents.html)

**ApEc 8444**

After you have completed all of your coursework, preliminary oral exam and 24 thesis credits, you may qualify to register for ApEc 8444: FTE Doctoral (The FTE stands for “full-time equivalent”). This single credit is designed by the University to allow you to be considered a full-time student while registering for only one credit. You will need to submit an “Application for Advanced Doctoral Status” form to the DGS; this form is available at
This designation reduces the benefits the hiring department must pay. It may also allow you to defer a student loan. The deadline for submitting the application is well before the start of the semester.

**GRAD 999**

Students who are not working on an assistantship and therefore do not need to maintain “full-time” status, but wish to maintain “active” status in the program, may be able to register for GRAD 999. This is a zero-credit, zero-tuition registration. If, for example, you choose to begin employment before you have graduated, you may be able to register each semester for GRAD 999 until graduation. Do not register for GRAD 999 if you must be registered as a full-time student to maintain legal visa status, defer loans, receive financial aid, or for any reason other than to meet the Graduate School’s registration requirement. Be sure to check the official guidelines for registering for GRAD 999 at https://onestop.umn.edu/special_for/SpecialRegistrationCategoriesforGraduateProfessionalStudents.html#grad999

Students may register for up to four semesters of GRAD 999 if they are continuing to work on a doctoral thesis. A hold will be placed on the student’s registration after four semesters of GRAD 999. In order to register for each additional semester of GRAD 999 in excess of four, the student will be required to get the approval of the DGS. The DGS will confer with the student’s major advisor to determine whether the student is making progress towards completion. If the student demonstrates that he or she is continuing to work on a dissertation and has a plan to complete the degree, the hold on the student’s registration will be removed and the student will be allowed to register for GRAD 999.

**Losing Your “Active” Status as a Graduate Student**

If you do not register for one or more (fall or spring) terms, you will lose your “active” status as a graduate student. If you decide to return to the program, you will have to re-apply to the program and pay the application fee to the Graduate School. You may qualify for the “Express Re-admit” process. However, while students whose active status has been terminated under such circumstances may apply for readmission to the program, readmission is not guaranteed. For more details, see http://www.grad.umn.edu/students/registration/index.html

**Leave of Absence Policy**

Graduate students are expected to maintain active status through continuous registration from the time they matriculate until they graduate. Students who are not able to maintain active status are strongly encouraged to consult with their Director of Graduate Studies, advisor, and relevant offices to determine whether requesting a leave of absence is the most appropriate course of action. Students who experience circumstances that prevent them from maintaining active student status may be granted college approval for a leave of absence upon request. Students must complete a leave of absence form that specifies the term(s) and year(s) of the leave. An approved leave of absence may not exceed two academic years. Students granted a leave of absence may not use University facilities or services available only to registered students. The term(s) and year(s) of an approved leave of absence will not be counted toward time to degree. More information about the leave of absence policy and the application form are available at

http://www.policy.umn.edu/Policies/Education/Education/GRADSTUDENTLEAVE.html
Financial Support

Students in the Applied Economics Graduate Program may be supported with funds from a variety of sources including fellowships, teaching assistantships, and research assistantships. In general, there are two types of funding appointments awarded by the Applied Economics Graduate Program and its participating departments: service appointments and non-service appointments.

Teaching and research assistantships are examples of service appointments. Service appointments require a student to do work for an assigned faculty member. Most commonly, these appointments are quarter- or half-time. Students with a quarter-time appointment are expected to work on average 10 hours per week under the supervision of the assigned faculty member. Students with a half-time appointment are expected to work on average 20 hours per week under the supervision of the assigned faculty member. In addition to a stipend, the typical teaching and research assistantship also offers a health insurance and tuition benefit.

Fellowships are typically non-service appointments. Non-service appointments do not carry the same work responsibilities as a service appointment. However, some fellowships may require a student to fulfill other responsibilities, such as attending special seminars and workshops. With most fellowships, students are expected to work no more than 25% time either on or off campus (in addition to any responsibilities related to the fellowship). Students on fellowships are expected to work on research related to their dissertation and may be assigned to a faculty supervisor to oversee their research.

Before accepting any funding appointment, you should carefully review the terms and conditions of the award, so you will know precisely what is expected of you.

The following procedures will be used to allocate funds for student support in the Applied Economics Graduate Program.

1. Fellowship nominations requested from the Applied Economics Graduate Program by the Graduate School or other programs will be made by the Graduate Committee.

2. Block grant and other funds awarded to the Applied Economics Graduate Program by the College or Graduate School will be allocated by the DGS in consultation with the Graduate Committee and Department Head.

3. Research and teaching assistantship appointments will be awarded by individual departments within or outside of the Applied Economics Graduate Program. The DGS will serve to coordinate appointments for departments that participate in the Applied Economics Graduate Program.

Interpretations and Exceptions

1. The Graduate Committee, with the advice and consent of the Graduate faculty, has the ultimate responsibility for the formulation and interpretation of policy pertaining to graduate student matters. Similarly, special cases which cannot be anticipated are decided by the Graduate Committee.
2. Any procedure or policy matter can be petitioned by a graduate student. Ruling on such petitions is the responsibility of the Graduate Committee.
Appendix A – Previous Program Rules

COURSE AND DEGREE REQUIREMENTS FOR PhD STUDENTS ENTERING BEFORE FALL 2012

Required Coursework
The following courses are required. At the discretion of the DGS, a student may be excused from required courses if equivalent coursework has been completed at another university. Note that many courses are offered in the “mini-semester” format, with two two-credit courses offered in each semester. If you plan to take both courses, you should register for both at the beginning of the semester to avoid late fees. You are also required to register for 24 thesis credits in order to complete your degree.

1. Microeconomic Theory. Complete one of the following sequences:
   (i) Apec 8001-2-3-4: Applied Microeconomic Theory, 8 credit, two-semester sequence, or
   (ii) Econ 8001-2-3-4: Microeconomic Analysis, 8 cr., two-semester sequence, or
   (iii) Econ 8101-2-3-4: Microeconomic Theory, 8 cr., two-semester sequence
   Note that Econ 8101-2-3-4 is more abstract and challenging and requires a stronger math background. The consent of the instructor is required to enroll in Econ 8101-2-3-4 to ensure your math preparation is adequate.

2. Macroeconomic Theory. Complete
   Econ 8105-6: Macroeconomic Theory, 4 cr., one semester

3. Econometrics. Complete
   ApEc 8211-12: Econometric Analysis, 8 cr., two-semester sequence

4. Welfare Economics\(^8\). Complete

5. Applied Economics Methods. Students must take at least two of the following courses.
   ApEc 8205: Applied Game Theory, 3 cr.
   Econ 8117-18: Non-cooperative Game Theory, 4 cr., one semester
   HRIR 8811: Advanced Quantitative Research Methods in HRIR, 4 cr.
   MATH 8441: Numerical Analysis & Scientific Computing I, 3 cr.

   Students may propose taking other graduate courses to fulfill the Applied Economics Methods requirement. Proposals to take unlisted courses must be submitted to the DGS in writing. At a

\(^8\) The requirements for Welfare Economics and Methods classes are currently under review and may change for students entering the PhD program in Fall 2011 or later.
minimum, a proposal should specify the motivation for the request and include a course syllabus. The DGS will determine whether to approve a student’s proposal in consultation with the Graduate Committee. The entire graduate faculty must approve (by a two-thirds majority vote) any permanent additions to the list or deletions from the list.

6. *Ph.D. Seminar.* This seminar course contains treatment of research methodology and research ethics and should help the student begin to develop their dissertation prospectus.

ApEc 8902: Ph.D. Seminar, 1 cr.

**Fields of Study**

The field requirement may be satisfied in one of two ways. The first, which most students follow, consists of completing all requirements for two of the fields described below. The second consists of completing requirements for one field and an “approved minor” in another Ph.D. program. The requirements for an approved minor are typically similar to those for a Ph.D. minor in a given program, but with additional requirements crafted so as to make the workload comparable in difficulty and rigor to an Applied Economics field. Approved minors require the approval of the DGS for the Applied Economics Graduate Program and, if the student chooses also to obtain an official minor, the DGS in the minor program. A student’s committee, for both the preliminary oral and the final oral exams, must include at least one member of the graduate faculty from the program on which the approved minor is based. Students who choose the approved-minor option will typically complete more credits of coursework than those who instead complete two fields in the program. They will also typically complete one fewer written preliminary examination.

Each field consists of at least two semester courses (or four “mini-semester” courses), typically at the Ph.D. level, and an associated closed-book preliminary or field exam. Field exams are four hours in length and cover all of the material in the associated coursework (students whose primary language of instruction for their secondary school and undergraduate degree programs was not English are eligible to apply in advance for an extra one half hour of writing time for each four-hour exam). Field exams are offered twice yearly, during the last two weeks of January and the last two weeks of June. Together with the preliminary exam in microeconomic theory, the field exams (either one or two) constitute the Graduate School’s requirement of a written preliminary examination. Though it is expected that few students will find it possible to complete a field exam successfully without first completing the associated coursework, only the preliminary examinations are required; the field courses themselves are not.

The following seven fields, with the associated coursework listed, are available. Note that courses in the fields may be revised. Discuss your plans for taking field classes with your advisor and/or the DGS so that you are aware of potential changes in these classes.

**Consumer Behavior & Household Economics**

- Apec 8401: Consumer Behavior and Household Economics, 2 credits
- Apec 8402: Information and Behavioral Economics, 2 credits
- Apec 8403: Demand Analysis and Household Economics, 3 credits

Students should expect to complete all three courses in preparation for the field examination in Consumer Behavior and Household Economics.

**Health Economics**
• PubH 6832. Economics of the Health Care System. 3 cr.
• PubH 8811. Research Studies in Healthcare. 3 cr.
• PubH 8821. Health Economics II. 3 cr.

Students should expect to complete all three courses in preparation for the Health Economics examination.

Labor Economics

Students should consult with faculty in the Labor Economics field to discuss the appropriate courses depending on the student’s background and specific interests. The current field courses include:
• Apec 8501: Labor Economics I, 2 credits
• Apec 8502: Labor Economics II, 2 credits
• HRIR 8801: Fundamentals of Economic Analysis for HRIR

Students should expect to complete these three courses in preparation for the field examination in Labor Economics.

Policy Analysis
• PA 8302. Policy Analysis. 3 cr.
• PA 8312. Analysis of Discrimination. 3 cr.

Students should expect to complete any two of these three courses, for at least 6 credits, in preparation for the field examination in Policy Analysis.

Production & Marketing Economics
• ApEc 8801. Applied Production Theory. 3 cr.
• ApEc 8802. Financial Economics. 2 cr.
• ApEc 8803. Marketing Economics. 2 cr.
• ApEc 8804. Managerial Economics. 2 cr.

Students should expect to complete any three of these four courses, for at least 6 credits, in preparation for the field examination in Production and Marketing Economics.

Resource and Environmental Economics
• ApEc 8601. Natural Resource Economics. 3 cr.
• ApEc 8602. Economics of the Environment. 3 cr.

Students should expect to complete both courses in preparation for the field examination in Resource and Environmental Economics.

Trade and Development Economics
• ApEc 8702. Economic and Trade Policy: Sectoral and Institutional Issues. 3 cr.
• ApEc 8703. Microeconomic Analysis of Economic Development. 3 cr.
Students should expect to complete any two of these three courses in preparation for the field examination in Trade and Development Economics.

**Supporting Field or Minor**

PhD students in Applied Economics are no longer required to complete a specified number of credits in classes outside of their major program. You may choose to fulfill the requirements laid out by another program to complete a formal Ph.D. minor. If you do, you must follow that program’s rules. Some minors, including Economics, require a preliminary exam in addition to the coursework. You will need to obtain the signature of the DGS from the minor program on your degree program form, and your graduate committee will need to include one member from that program.

**Approved Minors**

An *approved minor field* may be used to substitute for one field exam in the Applied Economics Graduate Program. A minor in Economics, as defined by that program, automatically qualifies as an approved minor field. Two other approved minors, in Statistics and Conservation Biology, are sufficiently popular that their requirements have been defined formally (see Appendix). Other approved minors may be proposed by a student, who should submit to the DGS a memo describing the courses (and exam if applicable) they wish to complete as part of the approved minor. The Graduate Committee will consider the request. If it is approved, the student will be required to complete only one field exam in the Applied Economics Graduate Program. Keep in mind the difference between an official minor, which is defined by the Graduate School, and an “approved minor”, which is specific to the Applied Economics Graduate Program and is not necessarily an official minor that will show on your transcript.

*Requirements for the oral preliminary exam, thesis and oral final exam are discussed in the main section of this Handbook.*

**Appendix B – Approved Minor Fields**

**Approved Minor Fields in Conservation Biology and Statistics (for PhD students entering before Fall 2012)**

The graduate faculty has adopted the following requirements for two approved minors, in Statistics and Conservation Biology. Students who fulfill the requirements for these minors are required to take only one of our PhD field exams.

**Conservation Biology Approved Minor Field**

A student who takes the approved minor in Conservation Biology must satisfy four sets of requirements:

1. The courses required for a minor in Conservation Biology:
   
   FW 8452, Conservation Biology, 3 cr  
   CBio 8004, Economic and Social Aspects of Conservation Biology, 3 cr  
   CBio 8001, Conservation Biology Seminar, 1 credit;

2. The following additional Conservation Biology courses:
   
   CBio 8001, Conservation Biology Seminar, 1 cr  
   EEB 5053, Ecology: Theory and Concepts, 4 cr
ApEc 8991, Special Topics in Conservation Economics, 2 cr, with associated research paper (see 4. below); and

3. At least one other 5xxx- or 8xxx-level course in biological sciences (3 credits minimum). Some suggested courses include:

- EEB 5033, Population and Quantitative Genetics, 4 cr
- EEB 5051, Analysis of Populations, 3 cr
- EEB 5961, Decision Analysis and Modeling in Conservation Biology, 3 cr
- EEB 5321, Evolution of Social Behavior, 3 cr
- EEB 5327, Behavioral Ecology, 3 cr
- EEB 8641 (also MATH 8641), Spatial Ecology Seminar, 3 cr
- ENT 5321, Ecology of Agriculture, 3 cr
- FR 5104, Forest Ecology, 4 cr
- FR 5142, Tropical Forest Ecology, 3-4 cr
- FR 5146, Dynamics of Global Change, 3-4 cr
- FR 5153, Forest Hydrology and Wetlands, 3 cr
- FW 5571, Avian Conservation and Management, 3 cr
- FW 5603W, Habitats and Regulation of Wildlife, 3 cr
- FW 5604W, Fisheries Ecology and Management, 3 cr
- FW 8459, Stream and River Ecology, 3 cr
- FW 8465, Fish Habitats and Restoration, 3 cr
- HORT 5071, Restoration and Reclamation Ecology, 3 cr
- LA 5204, Landscape Ecology, 3 cr
- NRES 5021, Plant Resource Management and the Environment, 3 cr
- NRES 5061, Water Quality: Management of a Natural Resource, 3 cr
- NRES 5575, Wetlands Conservation, 3 cr

4. A required conservation biology paper. A student taking the conservation biology approved minor will be required to prove mastery of the synthesis of economics and conservation biology by writing a paper that is deemed acceptable by an interdisciplinary committee of professors. The Committee will consist of three professors, with at least one member who belongs to the graduate faculties of both Applied Economics and Conservation Biology, plus at least one other member who belongs to the graduate faculty in Applied Economics and one other member who belongs to the graduate faculty in Conservation Biology. The topic of the research paper must be jointly acceptable to the student and the committee. When it is completed, the committee will evaluate the paper and decide whether to pass the student, allow revisions before making a final determination, or fail the student.

Statistics Approved Minor

A student who takes the approved minor field in Statistics must complete one of three possible “tracks” (A, B, or C) that vary in terms of the statistical theory and elective classes taken:

<table>
<thead>
<tr>
<th>Choose one option (A, B or C)</th>
<th>Theory class (8 credits)</th>
<th>Elective classes (from approved list below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Stat 8101--02</td>
<td>Plus 6 credits of Stat classes, all at 8000 level.</td>
</tr>
<tr>
<td>B.</td>
<td>Stat 5101--02 or Stat 8101--02</td>
<td>Plus 9 credits of Stat classes, of which at least 3 credits must be at the 8000 level.</td>
</tr>
<tr>
<td>C.</td>
<td>Stat 5101--02 or Stat 8101--02</td>
<td>Plus 12 credits of Stat classes, all at 5000 level</td>
</tr>
</tbody>
</table>

The list of approved courses includes:
Stat 5201, Sampling Methodology in Finite Populations, 3 cr
Stat 5303, Designing Experiments, 4 cr
Math 5262, Introduction to Stochastic Processes, 4 cr
Stat 5401, Applied Multivariate Methods, 3 cr
Stat 5421, Analysis of Categorical Data, 3 cr
Stat 5601, Nonparametric Methods, 3 cr
Stat 8051, Applied Statistical Methods 1-Computing and Generalized Linear Models, 4 cr
Stat 8052, Applied Statistical Methods 2-Design of Experiments and Mixed-Effects Models, 4 cr
Stat 8053, Applied Statistical Methods 3-Multivariate Analysis and Advanced Regression, 4 cr
Stat 8054, Applied Statistical Methods 4-Advanced Statistical Computing, 3 cr
Stat 8111, Mathematical Statistics 1, 3 cr
Stat 8112, Mathematical Statistics 2, 3 cr
Stat 8312, Linear and Nonlinear Models, 3 cr
Stat 8401, Topics in Multivariate Methods, 3 cr
Stat 8421, Theory of Categorical Data Analysis, 3 cr
Stat 8501, Introduction to Stochastic Processes with Applications, 3 cr
Stat 8511, Time Series Analysis, 3 cr

When planning an approved minor in Statistics, students should contact the Statistics Department to see when (or even if) these courses are being offered. Many courses are offered only once every two or three years.

Note that all Ph.D. students in Applied Economics are required to take ApEc 8211 and ApEc 8212. The classes for the approved minor field in statistics are in addition to ApEc 8211-12. Students may not double count a Statistics class taken for the approved minor field also as a class to meet the “Methods Courses” requirement in Applied Economics.