



# **Student Planning Guide for Graduate Program in Agricultural and Applied Economics**

**Virginia Tech  
Updated November 2017**

## **FOREWORD**

Thank you for your interest in graduate school in the Department of Agricultural and Applied Economics at Virginia Tech. The purpose of this document is to explain the procedural rules for entry into our graduate program and the requirements of the program. We offer an M.S. and a Ph.D. degree, and this document describes both.

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## INTRODUCTION

The Department of Agricultural and Applied Economics (AAEC) at Virginia Tech in Blacksburg, Virginia offers a unified graduate program leading to advanced degrees at the Master's and Ph.D. levels. The Master of Science (M.S.) degree in AAEC is administered entirely by the Department of AAEC. The Ph.D. degree is an economics degree (officially labeled "*Ph.D. in Economics*"), and is a joint degree program with the Department of Economics at Virginia Tech. Administration of the Ph.D. program is the responsibility of a Graduate Program Committee (GPC). Each department has its own GPC subcommittee which together comprises the GPC for the joint Ph.D. program. Prospective students apply and are admitted through the Graduate School for study in either the Department of Economics or the Department of Agricultural and Applied Economics separately. Students entering the graduate program, in cooperation with their advisors, are then responsible for planning of individual curricula, subject to the core requirements, and other criteria described herein.

Planning by a student should address three objectives. First, personal educational goals should be determined. Second, coursework and research activities necessary to achieve appropriate training should be identified. Third, a course and research schedule should be devised to achieve the student's goals and meet degree requirements. This Planning Guide is designed to help students achieve the second and third planning objectives. Additional guidance is available in the University's *Graduate Catalog* and *Graduate School Policies and Procedures*, from members of the GPC, and from the student's advisory committee.

## ENTERING THE GRADUATE PROGRAM

Before beginning work toward either a master's or Ph.D. degree, a prospective student must be admitted to the Graduate School. The student must apply online through the Graduate School at Virginia Tech at <http://graduateschool.vt.edu/admissions/applying>. The basic requirements for admission are stated in the University's *Graduate Catalog*.<sup>1</sup> The specific minimum entry requirements for the graduate program in AAEC are:

1. a bachelor's degree from an accredited college or university;
2. presentation of evidence of potential to pursue graduate work, normally a cumulative grade point average of 3.0 or higher (on a 4.0 base) for the last two years (60 semester credit hours) of undergraduate studies or satisfactory performance at the graduate level;

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<sup>1</sup> Virginia Tech does not discriminate against employees, students, or applicants on the basis of race, color, sex, sexual orientation, disability, age, veteran status, national origin, religion, or political affiliation. The university is subject to titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act, the Vietnam Era Veteran Readjustment Assistance Act of 1974, Federal Executive Order 11246, Governor Allen's State Executive Order Number Two, and all other rules and regulations that are applicable. Anyone having questions concerning any of those regulations should contact the Equal Opportunity/Affirmative Action Office.<sup>1</sup>

3. GRE verbal scores that are at least in the 30<sup>th</sup> percentile and quantitative scores in the 60<sup>th</sup> percentile, with preference given to those that are higher;
4. timely submission of the required application forms, transcripts, and reference letters, usually before January 5; and
5. for international students whose primary language is other than English, a minimum TOEFL score of 550 paper-based (PBT), 213 computer-based (CBT) or 80 internet-based test (iBT) is required for consideration of the application. On the iBT, subscores of at least 20 on each subtest (Listening, Speaking, Reading, and Writing) are required for admission.

Actual admission by the Department consists of evaluating the student's GPA, GRE, reference letters, personal statement letter, fit with the program based on research background and interests, and TOEFL scores, if needed, in a comprehensive fashion and not just based on a single criterion. There are no specific undergraduate course prerequisites for the graduate economics program, but almost all graduate economics courses call for an initial understanding of microeconomic and macroeconomic theory equivalent to 3 semester hours (at a minimum) beyond basic principles. Graduate students are assumed to have a working knowledge of basic statistics, differential and integral calculus, analytic geometry, and matrix algebra. Specific fields of study may require additional prior knowledge equivalent to that obtained in relevant undergraduate courses.

Each applicant's record will be evaluated by the AAEC Department to determine his/her eligibility for admission to the graduate program, and to evaluate whether they need to further develop proficiency in certain areas. Students who are admitted with any deficiencies are expected to take remedial steps prior to arrival or early in their residence. Deficiencies may be made up by taking a designated undergraduate course, independent self study, serving as a teaching assistant, or by demonstrating that some course or set of courses taken as an undergraduate or graduate student provide equivalent knowledge in the subject area in question.

Students meeting the entrance requirements outlined above may be admitted to the graduate program to pursue either a Master's degree or a Ph.D.<sup>2</sup> Those students admitted for a Master's degree must reapply for admission to the Ph.D. program should they eventually choose to pursue the higher degree.

## **THE ADVISING SYSTEM**

### **Orientation**

Prior to each fall semester, several orientation sessions are held for students who have entered the graduate program since the fall of the previous year. During this orientation, presentations are

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<sup>2</sup> As described in the *Graduate Catalog*, some students not meeting the minimum grade point requirement may be admitted as provisional students for up to 12 hours of coursework. After completion of 12 hours, provisional students are either admitted as "regular" students or dropped from the program.

made about various aspects of the program. Requirements for timely progress by students toward the master's and Ph.D. degrees are reviewed. New students are introduced to faculty members and become familiar with faculty teaching, research, and public service activities. Incoming students are expected to attend this orientation. An evening picnic for current and incoming students and faculty is usually held near the beginning of the Fall semester.

### **Temporary Advisors**

The GPC has the responsibility of informing all new students of the requirements and procedures under which they enter the graduate program. Entering students are assigned to a temporary advisor by the co-chairs of the GPC. The temporary advisor will be a member of the GPC or an individual designated by the GPC. The duties of the temporary advisor will be to inform the student about all academic aspects of the graduate program. Specifically, the temporary advisor will discuss the core requirements with the student; determine the interests of the student; inform the student of relevant courses offered in Economics, Agricultural and Applied Economics and other departments of the University; and direct the student to faculty members who teach courses and conduct research or public service activities in areas that are of interest.

### **The Student's Advisory Committee and Plan of Study**

MS students must choose an advisory committee to replace the temporary advisor and a *Plan of Study* must be submitted to the Graduate School before the end of two semesters. PhD students must do so before the end of three semesters. The plan of study includes a list of courses the student intends to take to satisfy the core requirements for the degree sought, and the signatures of members who will serve on the student's graduate advisory committee. See the link at end of document for a Plan of Study form.

A plan of study to be submitted to the Graduate School must be reviewed and signed by the Graduate Program Director (GPD). The GPD and Graduate Program Coordinator, Normand Adams, will check that the coursework proposed conforms to the requirements of the graduate program and the University, and will review the proposed advisory committee structure and discuss its membership with the student, particularly to ensure that the full plan of study is consistent with the degree sought by the student.

Advisory committees for a master's degree have a minimum of three members, while Ph.D. committees have a minimum of four members. One member is designated to serve as the committee chair, or co-chairs can be selected. The committee chair, or at least one co-chair, must have a Ph.D. in economics, agricultural economics, or applied economics and be a faculty member of the Department. Each student is encouraged to visit with faculty members concerning his/her interests prior to forming an advisory committee. In selecting the committee and committee chair, students may choose members from the faculty in Economics and Agricultural and Applied Economics. Master's degree students may include one person from other departments. Ph.D. students are encouraged to have at least one member of the committee from Economics and at least one from Agricultural and Applied Economics, and may also include member(s) from other departments. Inclusion of a committee member from outside of Virginia Tech is allowed if he or she holds a degree equivalent to the degree the student is pursuing. An outside individual is not allowed to chair the committee.

Once selected, it is the responsibility of the advisory committee to review the student's proposed coursework, and to assess the likelihood of the student successfully completing his/her program. As a student progresses with his/her program, research plans should be discussed with and approved by the student's advisory committee. It is the responsibility of the advisory committee chair and committee members to evaluate drafts of the thesis or dissertation and provide continuous reviews. The committee members are required to concur with the chair of the committee in the scheduling of a final oral examination defense of the thesis or dissertation.

Students can anticipate receiving timely feedback on their performance, including the Ph.D. preliminary examination (described below) and drafts of the thesis or dissertation. Students may request changes in the coursework on their plan of study or the membership of their advisory committee at any time. Such changes are normal and appropriate as research interests are refined, working relationships are established, new faculty join the departments, and for other reasons. Requests for changes in coursework or advisory committee are routinely accepted by the Graduate School when signed by all members of a committee, including those being replaced and those being added when a change in membership is made.

## **THE M.S. PROGRAM**

The Master of Science (M.S.) degree focuses on applied economics. A student may select courses that build upon a broad-based undergraduate economics curriculum or may specialize in a specific field of interest. By their choices among core courses and use of various electives, students may develop specialties in diverse areas including, but not limited to, General Economics, Econometrics and Quantitative Methods, Food and Health Economics, Natural Resource and Environmental Economics, Food System Economics and Management, Policy and International Trade, and Economic Growth and Development. The M.S. degree offers both thesis and non-thesis options.

The degree being sought by the individual student (thesis or non-thesis option) must be indicated at the time an advisory committee is selected and the plan of study is submitted to the Graduate School. Students choosing a thesis option or enrolled concurrently in the Ph.D. program are eligible for financial support from a graduate research or teaching assistantship (See FINANCIAL MATTERS, below). Students enrolled concurrently in the Ph.D. program may use their Ph.D. coursework to simultaneously earn a master's degree (see Earning a Master's Degree while Enrolled in the Ph.D. program, below).

The general requirements for the master's degree thesis option are: (1) a minimum of 32 semester hours, including 26 hours of coursework and 6 hours of research and thesis (AAEC/ECON 5994), (2) completion of a thesis acceptable to the student's advisory committee, and (3) satisfactory performance on a final oral examination.

The general requirement for a M.S. degree non-thesis option is a minimum of 30 semester hours of coursework of which at least 23 hours must be at the 5000 level or above. For the M.S. degree, a student must also pass a final oral or written examination.

## Required Core Courses

The thesis and non-thesis options for the M.S. build upon a common core of required coursework. The core requirements are shown in Table 1. The applied microeconomics and econometrics courses in the core requirements are designed specifically for students pursuing a master's degree. Courses at the Ph.D. level may be substituted for these core requirements. Other exceptions to the core coursework requirements must be indicated on the plan of study submitted to the Graduate School, and can be granted to an individual student only with permission from the GPD in consultation with the student's major advisor. Such exceptions, when granted, are based on substitution of equivalent or more advanced coursework that meets specific objectives of the student, on recommendations by a student's advisory committee chair, and on outstanding performance of the individual.

As shown in Table 1, the core requirements include one semester of applied microeconomic theory (AAEC 5025), one semester of econometrics (AAEC 5804), one semester course in two of the three areas: mathematical programming (AAEC 5024), applied microeconomics (second course in sequence AAEC 5026), and macroeconomics (ECON 5015). Courses satisfying the core requirement in applied economics for the master's degree include Agricultural Marketing (AAEC 5134), Resource and Environmental Economics (AAEC 5144), International Agricultural Development and Trade (AAEC 5154), Rural Development (AAEC 5244), Experimental Economics (ECON 5964) and Advanced Natural Resource Economics (FOR 5984). Mathematical Programming (AAEC 5024) can also be used to fulfill the applied economics core requirement if both macroeconomics (ECON 5015) and the second semester of Applied Microeconomics (AAEC 5026) are included in the program. Finally, students are required to take both one-hour seminar classes (AAEC 5004 Professional Ethics and Expectations and 6004 Professional Engagement and Communication). M.S. students will be expected to take AAEC 5004 in their first Fall semester and AAEC 6004 in their first Spring semester. An additional course that is recommended for most M.S. students is AAEC 5004, Seminar in Mathematics for Economists in their first fall semester.

## M.S. Areas of Specialization

Students have the option of choosing among four areas of specialization (Table 2), which encompass the areas of research and graduate study within the Department. By selecting courses from one of these areas, the student can better position him/herself for a career in the indicated field. Students are not required to designate an area of specialization on their Plan of Study.

## Additional Coursework

Beyond the core requirements, students complete their coursework program with electives from 4000 and higher-level courses in economics and agricultural and applied economics, as well as forestry, statistics, mathematics, and other disciplines.<sup>3</sup> Up to three credit hours of AAEC/ECON 5904 (Project and Report) may be substituted for other courses if the student and his/her advisory committee decide to include a research paper as part of a non-thesis program. No more than 5 semester hours of independent and special studies (numbered 4984, 5974, 5984) may be used to satisfy the course requirements.

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<sup>3</sup> A maximum of 6 hours of 4000 level courses approved for graduate credit may be included in fulfilling the M.S. coursework requirements.

**Table 1. Required Courses for the M.S. Degree**

<b>Courses</b>		<b>Credits</b>
AAEC 5025	Applied Microeconomics	3
AAEC/STAT 5804	Econometrics	3
AAEC 5024, AAEC 5026, ECON 5015	Choose 2: Math Progr., Applied Microeconomics, Macroeconomics	6
Applied Economics Courses:	Choose 2 from among AAEC 5134, 5144, 5154, 5244, ECON 5964 (Experimental Economics) and FOR 5984 (AAEC 5024 may substitute for one of the applied economics courses if AAEC 5026 and ECON 5015 are taken)	6
AAEC 5004	Seminar in Professional Ethics and Expectations	1
AAEC 6004	Seminar in Professional Engagement and Communication	1
<b>Total Core Required</b>		<b>20</b>

**Typical Master's Program Thesis Option**

A typical program for a thesis-option M.S. degree is shown in Table 3. Students who would otherwise register for 9-10 hours in any semester, instead are required to register for 12 hours by adding research or thesis hours. The additional 2-3 hours do not increase the instructional fees.

**Table 2. Examples of Some Common Areas of Specialization and Some Suggested Courses for the M.S. Degree<sup>4</sup>**

<b>Area of Specialization</b>	<b>Suggested Courses</b>
<b>Quantitative Methods</b>	Mathematical Programming for Agricultural Economists (AAEC 5024)
	Fundamentals of Econometrics (AAEC 5804G)
	Experimental Economics (ECON 5964)
	GIS Applications in Natural Resource Management (FOR 5264) or Geographic Information Systems for Engineers (BSE 4344)
	Empirical Economics (AAEC 5126)
<b>Environmental and Natural Resource Economics</b>	Resource and Environmental Economics (AAEC 5144)
	Advanced Forest Resource Management and Economics (FOR 5984)
	GIS Applications in Natural Resource Management (FOR 5264) or Geographic Information Systems for Engineers (BSE 4344)
	Environmental Economic Theory and Policy (AAEC 6524)
<b>Food and Health Economics</b>	Food and Health Economics (AAEC 4814)
	Agricultural Marketing (AAEC 5134)
	International Agricultural Development and Trade (AAEC 5154)
	International Trade and Finance (AAEC 6304)
<b>International Development and Trade / Rural and Regional Development</b>	International Agricultural Development and Trade (AAEC 5154)
	Rural Development (AAEC 5244)
	GIS Applications in Natural Resource Management (FOR 5264) or Geographic Information Systems for Engineers (BSE 4344)
	Development Economics (ECON 6054)

<sup>4</sup> Many other options are available depending on a student's background and interests. In addition to any of the required M.S. courses (from Table 1) included in Table 2 students would typically take 1 or 2 additional courses in the area of specialization.

	International Trade and Finance (AAEC 6304)
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**Table 3. Typical Master's Degree Program Thesis Option**

<b>First Year</b>	
<b>Fall Semester</b>	<b>Spring Semester</b>
Applied Microeconomics (AAEC 5025) Mathematical Programming (AAEC 5024) Applied Economics Course(See Above) Math for Economist(5004) Seminar (AAEC 5004)	Applied Microeconomics (AAEC 5026) or Macroeconomics (ECON 5015) Applied Economics or Elective Econometrics (AAEC/STAT 5804) Seminar (AAEC 6004)
<b>Second Year</b>	
<b>Fall Semester</b>	<b>Spring Semester</b>
Applied Economics or Elective Thesis Research	Thesis Research

### **Final Master's Degree Examination**

All M.S. degree students must pass a final oral and/or written examination. The examination must be scheduled with the Graduate School at least two weeks in advance of being held. Once scheduled, a final examination is open to any faculty member, and the Dean of the Graduate School may appoint a representative to take part in the examination. The exam is administered by the student's advisory committee. For the thesis M.S., this examination includes a defense of the thesis, and may also include examination on coursework and its application. The final examination cannot be scheduled until the student's committee chair and members agree that the thesis is suitable for defense.

### **Non-Thesis Exam**

For a non-thesis M.S., a student may elect either to take a final oral and/or written exam, or if they are earning a master's degree while enrolled in the Ph.D. program, to take the Ph.D. Qualifying Examination instead of a final oral and/or written examination (see Ph.D. Examinations, Written Qualifying Examination, below). A student must pass one exam or the other to complete the requirements for the M.S. degree.

### **Preparing to Enter the Ph.D. Program While Still a Master's Student**

Regardless of a student's undergraduate academic performance or courses he/she has taken, it is the philosophy of the Department of AAEC that very few students are prepared to make the leap directly from undergraduate level courses to Ph.D. level courses and there is a low probability of success at the Ph.D. level if the M.S. level courses are skipped. However, it is recognized that many students may know that their ultimate goal is a Ph.D. In this case, students in the M.S.

program may apply to the Ph.D. program in their second year and start taking Ph.D. courses in their second year while they are waiting on news of their acceptance into the Ph.D. program. These students, who are simultaneously pursuing graduate study at the Ph.D. level, can substitute courses in theory and econometrics from the Ph.D. program for the master's degree courses shown in Table 1. Substitution of equivalent or more advanced courses from the Ph.D. program does not require approval from the GPD (see discussion of the Ph.D. Course Requirements, below). However, an approved plan of study must be submitted to the Graduate School for each degree sought. In some cases, students who initially enter the Ph.D. program complete only an M.A. or M.S. degree in lieu of their doctorate. In these cases, credit can also be given for Ph.D. courses that substitute for requirements of the master's degree program. In theory, any 5000 level course could be used toward the PhD subject to approval by Graduate Program Director.

### **Combined B.S. and M.S. Program**

An undergraduate student admitted to the combined B.S. and M.S. program may take up to 12 hours of graduate credit to be applied toward an M.S. degree in Agricultural and Applied Economics while also counting toward their B.S. degree. A maximum of 6 of the double-counted credits may be at the 4000 level; all others must be offered for graduate credit. The student must receive a grade of B or higher in courses to be applied for graduate credit that are taken while an undergraduate. To qualify, students must apply for and be accepted into the joint B.S. and M.S. program. To apply, students should complete an online application to the graduate school <https://applyto.graduateschool.vt.edu/pages/login.php> including applications forms, transcripts, and reference letters by March 1 of the student's junior year. Admission minimum requirements are a cumulative GPA of 3.5 or higher in their undergraduate program and the completion of a course in intermediate microeconomics (AAEC 3004 Production and Consumption Economics or ECON 3104 Microeconomic Theory). All B.S.-M.S. applicants will be evaluated along with all other applicants for the AAEC graduate program. If accepted, the student will be matriculated into the M.S. program upon completion of the undergraduate program.

Students in the five year BS/MS program are undergraduates until they complete the requirements for their BS degree. Students cannot be placed on assistantship until they have completed their undergraduate degrees and matriculate into the graduate program. However, BS/MS students are encouraged to visit with faculty early in their programs in order to identify potential research opportunities that could lead to a Graduate Research Assistantship. The Graduate Program Committee will review the progress of BS/MS students to decide whether to award an assistantship or fellowship when they matriculate into the graduate program.

## **THE PH.D. PROGRAM**

The Departments of Economics and Agricultural and Applied Economics offer a single Ph.D. in Economics. Ph.D. students take a common written qualifying examination prior to starting their second year. Each student must also pass a field-based preliminary examination, write a dissertation, and present a final defense of his/her dissertation. Graduate students pursuing a

Ph.D. degree are eligible for graduate teaching assistantships and graduate research assistantships (see FINANCIAL MATTERS, below).<sup>5</sup>

### Ph.D. Course Requirements

The Graduate School requirements for a Ph.D. degree include a minimum of 90 semester hours of graduate credit beyond the baccalaureate, with at least 27 hours of coursework and 30 hours of Research and Dissertation (AAEC/ECON 7994). A more detailed discussion of Graduate School requirements is found in the Graduate Catalog [http://graduateschool.vt.edu/graduate\\_catalog/](http://graduateschool.vt.edu/graduate_catalog/)

For the Ph.D. degree in Economics, there are additional core coursework requirements. These core requirements are summarized in Table 3.

**Table 3: Core and Field Courses for the Ph.D. Degree**

	Description	Credits
<i>Core Courses</i>		
ECON 5005 and 5006	Microeconomic Theory	6
ECON 5015 and 5016	Macroeconomic Theory	6
AAEC/ECON 5125, 5126, and 5946	Econometrics	9
ECON 5124	Mathematical Economics	3
AAEC 5004	Seminar in Professional Ethics and Expectations	1
AAEC 6004	Seminar in Professional Engagement and Communication	1
Sub-total core courses		<u>26</u>
<i>Field Courses*</i>		
AAEC Field 1 Course 1		3
AAEC Field 1 Course 2		3
AAEC Field 2 Course 1		3
AAEC Field 2 Course 2		3
AAEC 5114	Applied Microeconomic Theory	3
Elective		3
Sub-total beyond core		<u>18</u>
Total Required		44

\* See field course in next table.

<sup>5</sup> For internal university accounting purposes, students are recorded either as ECAG: Economics, Agriculture and Life Sciences or ECAS: Economics, Arts and Sciences, depending on the department through which they are admitted to the Ph.D. program. Graduates are also listed under these designations in the Commencement Program.

In the first year of the program, the core requirements include one semester of mathematical economics, one semester of macroeconomics, and two semesters of microeconomic theory and econometric theory. Ph.D. students must also take the AAEC 5004 seminar course in professional ethics and expectations their first Fall semester. In the Fall of the second year of the program the core requirements include one semester of macroeconomic theory and one semester of microeconometrics (Econometric Theory & Practice AAEC 5946).

Beginning in the second year of the program, Ph.D. students are required to complete two field courses in each of their two fields, and two elective courses that support their fields and areas of research specialization. In their second year in the program, in the Spring semester, the Ph.D. student must take the AAEC 6004 seminar course. Selections among field courses and electives allow students to tailor their graduate program to particular interests and to interact with faculty working in these areas. However, students normally take AAEC 5114, Applied Microeconomic Theory, as one of their electives as the material provides a useful base for understanding advanced materials covered in AAEC field courses.

AAEC fields and associated course offerings that will be available to students entering the Ph.D. program are listed in table 4. A list of suggested elective courses is provided, by field, in table 5. The list is not exhaustive and the student's final choice of elective courses should be made in consultation with their advisory committee chair.

**Table 4: AAEC Ph.D. Fields of Study and Courses**

<i>Field</i>	<i>Courses</i>
Applied Econometrics	Panel Data Econometrics (AAEC 6554) Bayesian Econometric Methods (AAEC6564)
Environmental and Natural Resource Economics	Environmental Economic Theory and Policy (AAEC 6524) Advanced Forest Resource Management and Economics (FOR 5984)
Food and Health Economics	Micro Food and Health Economics (AAEC 6214) Macro Food and Health Economics (AAEC 6224)
International Development and Trade	Topics in Applied Development Economics (AAEC 6314) International Trade and Finance (AAEC 6304)
Rural and Regional Development	Regional and Urban Economics (AAEC 6444)

Rural Development (AAEC 5244)
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Ph.D. students complete many of their required field and elective courses during the second year of their studies. However, since some courses are taught in alternate years, it is not unusual for Ph.D. students to take some courses during the third year of their program. Students with an applied orientation are strongly encouraged to include at least one course in the Econometrics Field in their program of study. Excluding AAEC 5114, at most two courses at the 5000 level can be used to fulfill the Ph.D. field and elective requirements without permission of the Graduate Program Director. In addition, the AAEC and ECON Graduate Program Directors will sometimes approve special topic courses (AAEC/ECON 6984) to be counted as part of the field-course requirements.

**Table 5: Suggested Elective Courses**

<i>Field</i>	<i>Courses</i>
Applied Econometrics	Econometric Theory & Practice (ECON 5945) Philosophical Foundations of Econometrics (ECON 6614) Adv. Methods in Applied Microeconomics (ECON 6604) Spatial Statistics (STAT 5544)
Environmental and Natural Resource Economics	Advanced Forest Resource Management and Economics (FOR/AAEC 5416) Resource and Environmental Economics (AAEC 5144)
Food and Health Economics	Public Health Administration (HNFE 5694) Res. Methods for Behavioral Interventions (HNFE 5984)
International Development and Trade	Development Economics (ECON 6054) Regional and Urban Economics (AAEC 6444)
Rural and Regional Development	Public Economics (ECON 6204) Topics in Applied Development Economics (AAEC 6314)

Students who are admitted to the Ph.D. program without having completed a master's degree at another institution often earn an M.S. at Virginia Tech as part of their Ph.D. program. The credit hours applied to the master's degree can also be counted toward the Ph.D. coursework requirements subject to approval by the Graduate Program Director. A similar rule applies for students who are initially in a master's degree program and are subsequently admitted to the Ph.D. program. In all cases, a separate program of study must be filed with the Graduate School

for each degree. Ph.D. students who have filed a preliminary program of study for only a master's degree at the end of their first year must file a final program of study for their Ph.D. degree by their fifth semester of enrollment.

### **Ph.D. Course Requirement Exceptions**

Individual students enter the Ph.D. program with various educational backgrounds. In addition, depending on their background, some students are assigned substantial teaching or research responsibilities during their first year in the Ph.D. program. In recognition of these differences, students may seek exceptions on an individual basis from some parts of the core coursework requirements.

In the first-year core, a student may be exempted from the Mathematical Economics course (ECON 5124) by demonstrating competence in equivalent material or by taking a more advanced course. Both the AAEC and Department of Economics Graduate Program Directors must approve such exceptions. Not taking Mathematical Economics is recommended only for those students who already have substantial training in calculus, algebra, analysis, and the theory of static optimization.

A student may be exempted from any of the remaining core courses (two semesters of microeconomics and macroeconomics and three semesters of econometrics) only by demonstrating completion of equivalent material in a previous program of graduate study. Both the AAEC and Department of Economics Graduate Program Directors must approve such exceptions, which will be granted only to students having outstanding records. With the approval of the AAEC and Department of Economics Graduate Program Directors, a special topics course (AAEC/ECON 5984 or 6984) may be used as one of the courses required for a field. Substitutions within fields also may be permitted to allow qualified individual students to tailor their program toward specialized fields of study or to enhance the overall quality of their graduate education. Such substitutions must be approved by the Graduate Program Director (on the student's program of study submitted to the Graduate School). Exceptions will be based on the specific background and objectives of the student, on recommendations by a student's advisory committee chair, and on outstanding performance of the individual. Even with permitted substitutions, only two field or elective courses at the 5000 level, or its equivalent at another institution, can be included without permission from the Graduate Program Director. As noted, AAEC 5114 does not count towards this restriction.

To request that previous graduate coursework at another institution substitute for part of either the Ph.D. core coursework requirements, a student must fill out a "Graduate Credit Transfer Evaluation Form" giving a detailed description of the specified courses. The Graduate Program Director will work with the student to evaluate his/her transfer credits in terms of substitutions for courses offered at Virginia Tech. At the discretion of AAEC and Department of Economics Graduate Program Directors, entering students who have completed and performed well in first-year economics coursework in another PhD program, may be given the opportunity to take the Qualifier Exam prior to beginning classes. Passing this examination would demonstrate the student's competence and allow the student to receive a waiver of first-year coursework. See Appendix for further details.

### Typical Ph.D. Program

An outline of the sequencing of courses in a “typical” Ph.D. program is shown in Table 6. During the third and fourth years, Ph.D. students may take field courses or electives that are only offered in alternate years, but the primary concentration after the second year is on dissertation research. Students who are supported by graduate teaching or research assistantships must register for 12 hours of coursework and/or research and dissertation hours (AAEC/ECON 7994) during each fall and spring semester.

**Table 6: Typical Ph.D. Program**

<b>First Year</b>	
<b>Fall Semester</b>	<b>Spring Semester</b>
Microeconomics (ECON 5005)	Microeconomics (ECON 5006)
Econometrics (AAEC/ECON 5125)	Econometrics (AAEC 5126)
Mathematical Economics (ECON 5124)	Macroeconomics (ECON 5015)
Seminar Professional Ethics and Expectations (AAEC 5004)	Research Credit
<b>Second Year</b>	
<b>Fall Semester</b>	<b>Spring Semester</b>
Macroeconomics (ECON 5016)	AAEC Field Course
Econometric Theory & Practice (AAEC 5946)	Applied Microeconomic Theory (AAEC 5114)
AAEC Field Course or Elective	Elective
AAEC Field Course	Seminar (AAEC 6004)
	Research
<b>Third Year</b>	
<b>Fall Semester</b>	<b>Spring Semester</b>
AAEC Field Course or Elective	AAEC Field Course/Elective (if needed)
Research Credit	Research Credit
Research Seminar	

### The Ph.D. Examinations

In addition to coursework, Ph.D. students are required to pass three examinations: (1) a written qualifying examination, (2) a written and oral preliminary examination, and (3) a final oral dissertation defense.

### Written Qualifying Examination

1. Students are required to take the written qualifying examination in August before the Fall semester of their second year. Exceptions, while unusual, may be obtained on an individual

basis. To be considered for an exception, a student must petition the AAEC Graduate Program Director in writing as early as possible, and not later than four weeks prior to the examination date. Students who fail to take the written qualifying examination without the required permission will be considered to fail, unless there are extraordinary extenuating circumstances.

2. The qualifying examination will be administered by a written Qualifying Examination Committee comprised of at least six members, three from each department, two of whom serve as co-chairs. The Qualifying Examination Committee maintains an outline of topical areas for students to study in preparing for the examination. A file of previous exams is maintained on the web and can be found at <https://aaec.vt.edu/academics/graduate/current/graduate-exams.html>.

3. A student has two attempts to pass the written qualifying examination. Failure to pass the qualifying examination after two attempts will preclude a student continuing in the Ph.D. program. Under extenuating circumstances, the chair of a student's advisory committee may petition the student's Department Head/Chair to allow a third attempt.

4. The determination of whether a student fails or passes the qualifying examination rests with the Qualifying Examination Committee.

5. Students who do not pass the August offering of the qualifying examination are required to take the examination at the next sitting, which is generally after the Thanksgiving break in the Fall semester. Exceptions to this rule may be considered if the student petitions a chair of the GPC not less than four weeks prior to the examination date.

6. A student cannot advance to the preliminary examination process until the qualifying examination has been passed.

In the last five years, of the students who have used all of their allotted attempts to take the exam, approximately 80 percent have passed.

### **Preliminary Examination**

Each student must pass a preliminary examination consisting of a written and an oral component. The preliminary examination is required by the Graduate School. A student and his/her advisory committee can choose from two approaches to the preliminary examination: either a three-hour written examination followed by an oral examination, or preparation of a dissertation proposal with the oral examination a defense of that proposal. In either case, a student must attempt the preliminary examination before entering a seventh semester of full-time enrollment in the Ph.D. program unless approval for extension is given by the co-chairs of the GPC (AAEC and ECON). The determination of whether a student fails or passes the preliminary examination rests solely with the student's advisory committee.

Under the written examination approach, the examination covers material relevant to the student's declared fields of study. The oral part of the exam will cover all of the student's coursework and material that the student's advisory committee deems relevant for a Ph.D. candidate. The preliminary examination proceeds as follows:

1. The written preliminary examination is designed by the student's advisory committee, which may enlist the help of other faculty in preparing and grading individual questions.
2. A successful attempt at passing the written examination is followed within two months by the oral examination. The oral examination must be scheduled with the Graduate School at least two weeks prior to taking the examination and a card must be obtained for recording the grade on the day of the exam. The results of the oral examination (pass or fail) are recorded with the Graduate School by filing the card upon completion of the oral examination.
3. If a student is unsuccessful on the written examination, it is considered a failure of the preliminary examination and recorded with the Graduate School. A failure on the written examination is recorded by the chair of the student's advisory committee who writes a letter to the student, with copies to the Dean of the Graduate School and the Graduate Program Director, indicating that the student has failed the written portion of the examination, which constitutes failure of the preliminary examination.

Under the dissertation proposal approach, the written component consists of a preliminary investigation of a certain field of research. The proposal should contain evidence that the student has a thorough and broad understanding of the field of investigation, evidence of sufficient innovations within this field of investigation to constitute at least one paper, and an outline of a research agenda beyond the proposed innovations leading to the completion of a dissertation. The proposal should be accompanied by a bibliography of the field of investigation.

The preliminary examination proceeds as follows:

1. The student must submit a draft of the written dissertation research proposal at least six weeks prior to the proposed date of the oral examination to his or her advisor and the designated committee. The student is required to have at least one meeting with his/her advisor and the designated committee regarding the dissertation research proposal prior to the submission of the proposal to the advisory committee as a whole. If necessary the student will have the opportunity to modify his/her proposal to respond to the remarks from the advisor and the designated committee.
2. The student has to submit the final version of the written dissertation research proposal at least two weeks prior to the defense date to all members of his/her advisory committee. The oral examination must be scheduled with the Graduate School at least two weeks prior to taking the examination. The results of the oral examination (pass or fail) are recorded electronically with the Graduate School upon completion of the oral examination.

If a student fails the first attempt of the preliminary examination, the student's Department Head/Chair may grant a second attempt. If a second attempt is granted, the preliminary examination process must be retaken between fifteen weeks and six months after the first attempt. A maximum of two attempts to pass the preliminary examination will be allowed. There will be no opportunity to repeat the preliminary examination process after two attempts.

## **Final Oral Examination**

1. The final oral examination is a defense of the student's dissertation. The Graduate School requires that the final oral exam not be scheduled less than six months after the student has successfully passed the preliminary examination. Before scheduling the final oral examination, the chair of the student's advisory committee and the committee members must concur that the dissertation is suitable for the final defense.
2. The determination of whether a student fails or passes the final oral defense rests solely with the student's advisory committee. If a student fails an examination, one full semester (a minimum of 15 weeks) must elapse before the second examination is scheduled. Not more than two opportunities to pass the final examination are allowed.

## **Academic Employment Track for Ph.D. Students**

### ***Why an academic employment track for Ph.D. students?***

Many Ph.D. students are interested in obtaining an academic position after graduation. While most academic appointments have a teaching component, most Ph.D. programs give students no training in teaching and instead focus almost exclusively on training in disciplinary research skills (i.e., theory and quantitative methods). Disciplinary research skills are necessary for success in academia but they are not sufficient. There are other important skills that are needed if one wants to be successful in academia, especially in terms of teaching. Virginia Tech and the Department of Agricultural and Applied Economics recognize that our students can be set apart from other students and programs by not only receiving the necessary training in theory and quantitative methods, but also by providing the student training in teaching. Our academic employment track is designed to give students training and skills related to teaching and academic positions that will make them more competitive in the academic job market, in addition to the normal research training. Our academic employment track goes beyond just giving the student teaching experience via being a graduate teaching assistant or teaching a course. Our academic employment track also gives the student training via courses in becoming a future professoriate.

### ***What are the requirements for the academic employment track?***

Students should make known their interest in pursuing the academic employment track within the first year of their Ph.D. program to help facilitate optimal timing of courses and activities. The academic employment track in AAEC consists of three components or levels.

#### *Courses*

1. The Graduate School at Virginia Tech offers a "Future Professoriate Graduate Certificate" that can be obtained by taking a sequence of 9 additional credit hours in course work (beyond those required for a Ph.D.) that focus on teaching and scholarly activities beyond normal research. Students interested in the academic employment track would be allowed to start taking the courses in their 4<sup>th</sup> semester in the Ph.D. program. There are two required courses:
  - [GRAD 5104](#) Preparing the Future Professoriate (3 hours/3 credits. Taught Fall and Spring)

- [GRAD 5114](#) Pedagogical Practices in Contemporary Contexts (3 hours/3 credits. Taught Fall and Spring)

and then 3 hours of electives from a list of courses provided by the Graduate School. Go to this link for a further description of the Future Professoriate Graduate Certificate.

<https://graduateschool.vt.edu/transformativ-graduate-education-experience/future-professoriate/future-professoriate-certificate.html>

### *Required Teaching*

2. The student will be considered for teaching at least one section of an undergraduate class under the supervision of a teaching mentor.

Students must take GRAD 5114 before they will be allowed to teach. Students wishing to teach must submit an application to the GAC (Graduate Advisory Committee) for review. The application will consist of an application letter explaining why they want to teach and their teaching philosophy, their transcript, their vitae, and a letter of support from their academic advisor. Students must pass the Qualifier exam and have approval for teaching by their academic advisor before they will be considered for teaching. The undergraduate program director will consult with the GAC to determine what courses and sections are available for teaching. The GAC, in consultation with the undergraduate program director, will make a recommendation to the department head regarding teaching assignments.

### *Teaching Mentor on Dissertation Committee*

3. The student must have a teaching mentor on the dissertation committee.

The student must place the teaching mentor on their dissertation committee and is encouraged to engage in scholarly activity related to teaching with their committee. The teaching mentor will normally be an additional member to the minimum committee number requirement.

Upon completion of all components, the student will be designated an “Applied Economics Teaching Scholar.”

## **Degree in Data Analytics and Applied Statistics**

While enrolled in the PhD program, students also have the option to earn a M.S. in Data Analytics and Applied Statistics through the Statistics Department at Virginia Tech. The program requires 33 credit hours of coursework including 21 hours of core courses and 12 hours of electives. AAEC/ECON 5125, 5126, 5946, and 6554 can be counted as elective courses.

## **PROGRESS OF GRADUATE STUDENTS**

### **Progress Reports**

Each department sets requirements for submission of graduate student progress reports. The reports are submitted to the co-chair of the GPC from the student’s department, and may

require being reviewed and signed by the chair of the student's advisory committee or temporary advisor. For students with assistantship financial support, the progress reports may be used to help determine the student's stipend level for the following year. The progress reports will be filed with the student's permanent record and may be reviewed or copied by the student upon request.

### **Minimum Grade Performance**

In order to remain in good standing and receive a degree, a graduate student must obtain a 3.0 GPA overall and on all courses completed from his/her plan of study, including prerequisite (supporting) courses. Satisfactory overall performance toward the degree is determined based upon both coursework and research, and requires passing the examinations specified above. Students who fail to meet the minimum performance criteria will be placed on probation by the graduate school for one semester and may subsequently be asked to leave the program.

### **Graduate Seminar**

All master's degree and Ph.D. students writing a thesis or dissertation are expected to present a seminar on their research proposal or results. In order to schedule a final thesis or dissertation defense, the student may need to complete a short form, which is signed by the chair of his/her advisory committee, indicating that the seminar was given. A copy of the form is obtained from a co-chair of the GPC. Students are encouraged to participate actively in the research seminars within the departments, particularly during the latter part of their Ph.D. program.

### **Termination Interview**

Upon completion of their degree, graduate students are expected to meet with their Department Head/Chair for a termination interview. At that time suggestions for improvements in any facet of the graduate program will be received. Such suggestions can also be made at any time in the student's program and to any faculty member. At the completion of their degree, students are also expected to provide the GPC with their forwarding address, date of degree, title of thesis or dissertation, and position of employment or further educational plans.

## **FINANCIAL MATTERS**

### **Graduate Teaching and Research Assistantships**

Most graduate students in the Departments of Economics and Agricultural and Applied Economics receive some form of financial support, subject to resource availability within the department. Graduate students enrolled in degree programs for the M.S. thesis option and for the Ph.D. are eligible for support by a graduate teaching assistantship (GTA) or graduate research assistantship (GRA). Assistantships may be offered to any of these graduate students, except those entering on provisional status. A graduate student who does not initially receive an assistantship may qualify for assistantship support as early as the second semester of his/her program depending upon performance in the classroom. Assistantship assignments may be for the academic year (9-months) or calendar year (12-months). Some students are supported for shorter periods on an hourly-wage basis, and all students enrolled in the graduate degree programs are eligible for hourly-wage employment.

Graduate teaching assistants participate with faculty in conducting undergraduate and graduate courses. Assignments include grading and teaching. Experienced GTAs may be assigned responsibility for a section of a course or a whole course. GTAs are normally appointed by the semester or academic year.

Research within the Department of Agricultural and Applied Economics is conducted by both faculty members and graduate students working under their direction. Funding for some of this research is provided from state and federal appropriations channeled through the University's Research Division, or from specific project grants and contracts from governmental agencies, associations, and private organizations, channeled through the University's Office of Sponsored Programs.

Research carried on by graduate students is often supported financially through research assistantships. GRAs are usually appointed by calendar year. The research responsibilities assigned to students on GRAs may or may not be related to their thesis or dissertation research, but most students with research assistantships eventually complete a thesis or dissertation related to a funded project. Their assignments may also include some assistance with classroom instruction.

Graduate research assistants on Research Division or external grant funds are usually assigned to the faculty member to whom the grant was awarded, unless another arrangement is agreed to by the student and faculty involved. One-half time graduate research assistants enroll for 12 credit hours per semester. Students with a "one-half-time" assistantship are required to work *an average* of 20 hours per week on assignments not related to the coursework for their degree.

The Graduate School does not prohibit students on one-half-time assistantships from seeking other employment. However, students should consult with their academic advisor and/or assistantship supervisor to be sure that assistantship responsibilities are not compromised by outside employment. Students on one-half-time assistantships cannot hold hourly wage employment paid with Department funds or from projects led by Department faculty<sup>6</sup>.

The timing of work on an assistantship is subject to negotiation between the student and his/her supervisor. While an average of 20 hours of assistantship work is required per week, students may work less than 20 hours some weeks and make up the time by working more or even full time during other periods. Students on assistantship receive leave for the official University holidays (for example Christmas Day, New Year's Day, Fourth of July, Thanksgiving). Students holding calendar-year assistantships are eligible for up to two weeks (10 working days) of vacation per year. Prior to finalizing vacation plans students must submit a form signed by the faculty supervisor/advisor indicating planned vacation dates to the Graduate Coordinator. In some cases, an absence longer than two weeks may be acceptable, if the faculty supervisor approves and if there is a clear plan of work negotiated with the faculty supervisor that will be accomplished by the student. In such cases, the work expectation must be documented in the vacation approval form. Failure to submit a signed vacation request form covering the student's

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<sup>6</sup> Students must notify the Graduate School about any additional employment agreement, including the period of employment, name and contact of employer, and job title or short description of duties  
<https://secure.graduateschool.vt.edu/aert/logon.htm>.

absence before any vacations are planned and failure to complete work listed on the vacation request form will be noted in the student's performance evaluation and will jeopardize continuation of the student's assistantship.

At the beginning of each semester, students holding teaching assistantships, and students holding research assistantships who have not initiated a thesis or dissertation, will be assigned by the co-chair of the GPC in their department to work with specific faculty members. The purpose of these assignments is to effectively utilize the resources of the departments in fulfilling their missions of research, teaching, and public service. Teaching assistantship assignments continue to be made on the basis of Department requirements. Initial research assistantship assignments continue until a student's advisory committee has been chosen. Research assistantships will then be supervised in most cases by the chair of the advisory committee.

Students on assistantship must submit a Description of Duties form by the end of the first week of the semester. The form provides an overview of the employment duties and is signed by the student employee and assistantship supervisor.

Students maintain a cumulative GPA of at least 3.0 on all work taken including grades on supporting courses and other courses that may or may not be on the student's plan of study. If a student's cumulative GPA drops below 3.0, the student is given notification by the Graduate School and may be allowed one semester in which to bring his/her cumulative GPA back up to 3.0. If a cumulative GPA of 3.0 is not achieved after this one semester, the student's financial assistance will be discontinued. To be eligible for reappointment, a student on assistantship must maintain a 3.0 GPA on all work taken and must take a minimum of 12 credit hours per semester (including research hours). The student also must make satisfactory progress on his/her research, and perform satisfactorily on his/her assistantship assignments. Assistantship appointments may be terminated at any time for unsatisfactory progress in a student's program.

### **Types of Funding**

For internal accounting purposes, and to generate incentives for students to procure external funding, the department distinguishes between two general types of funding sources: Departmental Funds ("DFs"), and Non-Departmental Funds ("NDFs").

DFs include the following funding sub-types:

- 1) TA-ships
- 2) Dean's RA-ship (special research funds administered directly by the College)
- 3) Departmental operating funds
- 4) College tuition waiver, if accompanied by one of (1)-(3)

NDFs include all other funding sources, such as:

- 1) external (grant) funding
- 2) Faculty startup funds, faculty salary savings, and other faculty-specific funding sources
- 3) Funding related to independently teaching a course, e.g. through the academic scholar program mentioned above.
- 4) College tuition waiver, if accompanied by one of (1)-(3)

Students will be informed every semester under which type of funding they are being supported, and about their total accumulated months on DF-type funding. This affects the duration of their assistantship, as described next:

### **Duration of Assistantships**

The following guidelines govern the length of time students may earn assistantship support, depending on funding sources:

1. Master's degree students may be carried for a maximum of twenty-four (24) months on a research assistantship, regardless of funding source (DF or NDF).
2. Ph.D. students may be carried for a maximum of twenty-two (22) months on DF-type funding during their program. These 22 months of DF funding do not need to be consecutive. Thus, to be funded for the remaining time in the program, NDF-type funding sources will need to be procured.
3. After five years, students can no longer receive any kind of funding from the department, except by written request of their major advisor.
4. No extensions of the duration of assistantships will be made unless prior approval is obtained from a student's Department Head/Chair. Extension will not be the normal case. If an extension is to be sought, a request should be made in writing by the student's advisory committee chair as early in the program as possible.
5. Students are strongly encouraged to align with a faculty on an externally funded research project at the latest in their second year, to minimize reliance on DF-type funding.
5. Continuation of any type of funding is always contingent on satisfactory academic progress, satisfactory assistantship performance, and the availability of funds. Students will be evaluated twice a year, once at the end of the spring semester and once before the fall semester, to determine their funding status.
6. Students who go on academic probation in the spring semester (i.e., have a cumulative GPA below 3.0) will not be funded during the summer months, but may be funded the following fall if the graduate advisory committee and department head determine the student should be given a probationary semester for raising her/his GPA.
7. Students who fail the qualifier exam twice will automatically lose all funding by the end of the semester during which the second attempt was taken (usually their second fall semester).

### **Stipends and Tuition**

As of August 2017, monthly stipends for a student on a full (one-half time) graduate research or teaching assistantship in Agricultural and Applied Economics is \$1800 for master's students and \$2000 for Ph.D. students. Academic year tuition is waived for students on full (one-half-time) assistantships.

For 2017-2018, tuition and fees per semester are just over \$7,536 for in-state and \$14,405 for out-of-state students. Included fees cover activity fee, athletic events, student health service, bus fee, and other services. Students receiving assistantships receive a waiver of academic-year tuition but must pay the comprehensive fees totaling \$1,068.50 per semester. Normally, students do not register for summer courses however if they do, they are responsible for all fees.

Because of limited funds, and in order to give a financial support opportunity to more students, a department may offer an individual student less than one-half time assistantship support with the possibility of a reduction in the amount of tuition that is covered by the department. Students on less than one-half time assistantships are expected to work a pro-rated share of the 20 hours per week required of holders of one-half time assistantships.

## **CAREER OPPORTUNITIES**

There are numerous services available to assist PhD and MS students in finding and preparing for career employment opportunities including the following:

- AAEC 6004 Professional Engagement and Communication—a one-hour seminar taken by MS students in the spring of their first year and by PhD students in their second spring semester. Topics covered include articulating career goals, resume development, job search techniques, and job interview and negotiation skills.
- Career fairs—there are several job fairs held on campus which provide information on employment opportunities. For an up to date listing see <https://career.vt.edu/events/Career-fairs.html> Interested students should consult the fair website to learn more about attending employers and the skills for which they are recruiting as well as pertinent advance requirements.
- Past placements. Graduates of the program are an excellent source of information about opportunities in the firm or organization where they are employed. Recent MS and PhD placements are listed at <https://aaec.vt.edu/academics/graduate/job-placement.html> In addition, graduates can provide advice on specific courses to enhance job success. Classes in GIS, Nonprofit Budgeting, Statistics, R, SAS, Policy, Communications may be especially relevant.
- Virginia Tech Career Services—provides a number of placement services for students including advice on interview skills and resume development <https://career.vt.edu/advising.html>
- Non-traditional employment/volunteer opportunities—a number of volunteer organizations including Peace Corps, Peace Corps Response, Americorps, and others provide volunteer opportunities that can lead to careers in development and other areas. For further information see <https://www.peacecorps.gov/unexpected/?gclid=CKuYx63T3M0CFVNZhgodBIMNLg>

<https://www.peacecorps.gov/volunteer/is-peace-corps-right-for-me/peace-corps-response/>  
<http://www.nationalservice.gov/programs/ Americorps>

- Job search engines—job search engines including Indeed (<http://www.indeed.com/jobs>), and Devex (<https://www.devex.com/jobs>) can be used to locate employment opportunities and post resumes.

## **WORK ENVIRONMENT**

### **Office Space and Budget Support**

Students on assistantship are allotted office space in the department in which they are employed. Offices are also made available to those students not on assistantship as space allows. Expenses incurred by students on GRAs working on a funded research project will be reimbursed. Expenses incurred for their own classroom assignments are the students' responsibility.

### **Computer Facilities**

Students are responsible for creating a PID (personal ID) through Computing Services. The PID provides access to VT online services, and serves as the VT email address. Both the Departments of Economics and Agricultural and Applied Economics have computer facilities for use exclusively by graduate students, faculty, and staff. These computers are connected to a server that provides access to a wide variety of word processor, statistical, spreadsheet, graphic, mathematical, and other software packages. In addition to the graduate computer labs, students have access to various University computer labs.

### **Thesis and Dissertation Preparation and Distribution**

Thesis and dissertation typing and distribution are subject to the following policies.

1. Students are responsible for producing the first, subsequent, and final drafts, including charts and tables, as approved by the chair of the student's advisory committee.
2. The student must give all advisory committee members an electronic copy of the draft of the thesis or dissertation on which the student will base his/her final oral defense.
3. The student must make all data sets and analytical procedures available to the chair of his/her advisory committee in a fully documented form. The thesis or dissertation must be submitted electronically to the Graduate School. A copy of the final thesis or dissertation must be given to the chair of the advisory committee electronically.

## **GRADUATE STUDENT ORGANIZATIONS**

Graduate students are encouraged to participate fully in the professional and social activities of the departments. The Graduate Student Association is an informal organization designed to serve the needs of graduate students and represent their interests. The Association has representation on various departmental committees. The Association also helps to facilitate recruitment and

orientation of new students and host various social activities. Membership in the Association is open to all graduate students in the Department of Agricultural and Applied Economics.

A larger organization, The Graduate Assembly, is a University organization to which graduate students of all departments may send delegates. The Graduate Assembly provides a forum for discussion of issues affecting graduate students at Virginia Polytechnic Institute and State University. Members of the Graduate Assembly serve on University-wide committees to insure adequate graduate student input in University activities.

The CALS (College of Agriculture and Life Sciences) Graduate Student Council addresses graduate issues in CALS. There are 2 student representatives from each CALS department including AAEC.

**Link to Graduate Course Descriptions in AAEC and ECON**

[https://secure.graduateschool.vt.edu/graduate\\_catalog/](https://secure.graduateschool.vt.edu/graduate_catalog/)

**Link to Faculty Profiles**

<https://aaec.vt.edu/people/faculty.html>

**Link to Plan of Study Form:**

<https://aaec.vt.edu/academics/graduate/current.html>

## Appendix

Occasionally a PhD student who has taken 1<sup>st</sup> year economic theory and econometric courses and done well in those courses and/or passed the qualifying exam elsewhere wishes to transfer to VT as a 2<sup>nd</sup> year PhD student (receive waiver of 1<sup>st</sup> year theory and econometric courses). In such a case, the Department has the option to offer the student the opportunity to take the Qualifier here in summer before beginning classes. If the student passes, he/she is considered a 2<sup>nd</sup> year student (receives waiver of 1<sup>st</sup> year micro, macro, and econometrics courses). If the student fails one or more sections, he/she has two options: 1) start over with a clean slate. Take the first year classes and qualifier in the following summer with two tries as a normal PhD student. 2) retake the parts of the exam that were failed at the next offering. If the student fails again, he/she is out of the program (unless an exceptional appeal for a third try is granted). If the student passes on the second try, he/she is considered a 2<sup>nd</sup> year student.