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Department of Agricultural, Environmental, and Development Economics

# Graduate Program Handbook

2018

## Introduction

This document is designed to comply with The Ohio State University Graduate School Handbook, which requires every Graduate Studies Committee to publish and make available to all graduate students and faculty "a graduate program handbook, containing the policies, rules, and procedures relevant to its own graduate programs." The policies, rules, and procedures described herein supplement, but do not supersede or replace, those contained in the Graduate School Handbook. All graduate students and faculty members in the Department of Agricultural, Environmental, and Development Economics are expected to comply with the policies, rules, and procedures set forth in both the Graduate School Handbook and this Graduate Program Handbook.

The Department of Agricultural, Environmental, and Development Economics (AED Economics) of The Ohio State University is an internationally recognized leader in the disciplinary areas of agricultural, environmental, development, and regional economics. AED Economics faculty members are expected to collaborate with graduate students in conducting innovative theoretical and applied research and to develop and train graduate students for professional positions with academic, governmental, and nongovernmental institutions and private companies and corporations. In order to achieve these goals, departmental graduate curricula are updated regularly and make liberal use of course offerings and faculty resources in other departments throughout the University.

Graduate programs in the Department of Agricultural, Environmental, and Development Economics are administered by the AED Economics Graduate Program Faculty Leader and the AED Economics Graduate Studies Committee. The Graduate Studies Committee consists of the Graduate Program Faculty Leader, who also serves as Chair, plus at least two other graduate faculty members appointed by the AED Economics Department Chair, and one graduate student appointed by the AED Economics Graduate Student Association. The AEDE Academic Program Manager and AEDE Graduate Recruitment Coordinator also serve as a part of the graduate program committee. A discussion of the role of the department Graduate Program Committee is found in the Graduate School Handbook.

This Graduate Program Handbook includes: departmental policies, rules, and procedures pertaining to the M A E, MS and PhD programs in AED Economics; departmental policies, rules, and procedures pertaining to Graduate Associateships; guidelines for fulfillment of the PhD Research Manuscript Requirement; guidelines for submission of the Doctoral Dissertation Proposal; and information on dual master's degree programs with the Fisher College of Business and the John Glenn College of Public Affairs.

Sincerely,

Dr. H. Allen Klaiber

## Master of Applied Economics Program

General Graduate School policies, rules, and procedures governing master's degree programs are documented in the Graduate School Handbook. Policies, rules, and procedures that are specific to the MAE degree are documented in this section.

### Application Deadlines

Applications must be submitted online via The Ohio State University Graduate Admissions website. All applicants must submit official undergraduate and graduate transcripts, three letters of recommendation, a statement of purpose, a resume/CV, and Graduate Record Examination scores. The deadline for receipt of completed applications for those seeking admission for the class starting the following autumn semester is April 30.

### Admission Standards

It is recommended, but not required, that applicants have earned 1) a minimum grade point average of 3.1 on a 4 point scale in all previous undergraduate coursework, or equivalent; 2) a minimum score of 156 on the quantitative portion of the Graduate Record Examination; and 3) a minimum score of 150 on the verbal portion of the Graduate Record Examination.

### International Applicants

International applicants whose native language is not English and who do not possess a bachelor's degree or higher from a US university must submit Test of English as a Foreign Language (TOEFL) scores. It is required that applicants have received a minimum score of 550 on the paper test, 213 on the computer test, or 79 on the internet test. Upon arrival, international students are required to take an English placement examination. Based on the test results, students needing English instruction will be required to complete prescribed additional coursework in English.

### Prerequisites

Students whose undergraduate majors are in areas other than economics or business are welcome to apply. Entering MAE students, however, are assumed to have successfully completed courses in Intermediate Microeconomics, Calculus, and Statistics. The equivalent courses at The Ohio State University are, respectively, Economics 4001.02, Mathematics 1131 or Mathematics 1151, and Statistics 1450. Students who have not successfully completed all of these courses may be admitted to the MAE program, subject to conditions stipulated by the MAE Program Faculty Leader.

### Start Date and Duration

Because the MAE program requires that certain core courses be taken in sequence, regular admission is granted only with an autumn semester start date. The MAE Program Faculty Leader may grant admission to the MAE program with other start dates under special circumstances.

Full-time students will be expected to complete all degree requirements in nine consecutive months, covering an autumn semester and a spring semester. However, a student may take longer, depending on the student's long-term educational and professional objectives, funding availability, and other special circumstances. Prospective and current graduate students are encouraged to discuss their options with the MAE Program Faculty Leader.

## Funding

Master's students generally are not offered Graduate Associate appointments or other forms of funding and financial aid from Department funding sources.

## Academic Calendar

The Ohio State University operates on a semester academic calendar, consisting of 14-week autumn and spring semesters and a summer term consisting of 4-week sessions 1, 2, and 3; 6-week sessions 1 and 2; 8-week sessions 1 and 2; and a 12-week full summer term.

## Credit Requirements

The MAE program requires a student to complete 31 credit hours of coursework:

<b>Core Applied Courses</b>		<b>Cr.</b>
Econ 6711	Survey of Microeconomics	4
Econ 6721	Survey of Macroeconomics	4
<b>Core Quantitative Methods Courses</b>		<b>Cr.</b>
AED Econ 6110	Applied Quantitative Methods I	4
AED Econ 6120	Applied Quantitative Methods II	4
AED Econ 6330	Benefit-Cost Analysis	3
Econ 6700	Survey of Mathematical Methods in Economics	3
<b>Elective Courses</b>		<b>Cr.</b>
AED Econ 6200	International Economics and Policy	3
AED Econ 6300	Environmental and Resource Economics	3
AED Econ 6400	International and Regional Development	3
Econ 6731	Survey of Econometric Methods I	3
Econ 5001	Game Theory in Economics	3
Econ 5250	National and International Money Markets	3
Econ 5660	Financial Aspects of International Trade	3
Econ 5700	Industrial Organization	3
Econ 5850	Labor Economics	3
Econ 5860	Health Economics	3
<b>Total Hours (Minimum):</b>		<b>31</b>

## MAE Elective Courses

Students are required to take a minimum of 9 elective credit hours, 6 of which must be at the 6000 level or above and offered by AEDE or ECON. If a student feels there is not a fit between offered AEDE or ECON elective courses and their career/educational goals, the student may petition to substitute classes from other departments with economic elements in course content for the suggested AEDE electives. Email the AEDE Graduate Program Coordinator for more information about this option. In order to count toward the 31 required graduate degree credit hours, a course at the 5000 level must **not** be instructed by a graduate student enrolled at OSU.

Under special circumstances, and subject to approval of the MAE Program Faculty Leader, students will be permitted to deviate from the standard MAE program. Foreseeable exceptions include part-time students, and students enrolled in dual degree programs.

### Faculty Advisor

A faculty member will be assigned as the Faculty Advisor to all students when they enroll in the graduate program. Students needing to deviate from the standard MAE program must seek the written approval of their Faculty Advisor and the MAE Program Faculty Leader.

### Final Examination

As the MAE is a coursework-only degree, students are not required to complete any comprehensive examination or thesis.

### Registration

Registration for AED Economics courses and Economics courses should be coordinated through the AED Economics Graduate Program Coordinator.

### Academic Progress

In order to maintain satisfactory academic progress, students must maintain a cumulative grade point average of 3.0 or better in all graduate courses. Students who fail to maintain satisfactory academic progress will be placed on Academic Probation by the Graduate School and are prohibited from holding a Graduate Associateship appointment.

## Dual Master of Public Affairs – Master of Applied Economics

### Introduction

The Department of Agricultural, Environmental and Development Economics and the John Glenn School of Public Affairs collaboratively offer a dual Master of Public Administration – Master of Applied Economics degree program. Students completing this program earn two degrees: an MAE from the Department of Agricultural, Environmental, and Development Economics and an MPA from the John Glenn College of Public Affairs. The special structure of the dual degree program allows students to earn both degrees in less time than it would take to earn the degrees separately.

### Admission

Students must separately apply and be admitted to both the AED Economics MAE and Glenn School MPA programs in order to participate in the dual degree program. Application to the dual MPA-MAE program, however, need not be simultaneous. Students may initially apply to one of the constituent degree programs and seek admission to dual degree program after matriculating at OSU

### Program Structure

The dual MPA-MAE degree is designed to be accomplished in 2 years. Students entering this program will interweave courses in AEDE with courses in the John Glenn School. The dual MPA-MAE degree requires the student to complete a minimum of 68 credit hours, including 16 credit hours from AED Economics, a minimum of 26 credit hours in the MPA program, and 26 dual degree credits, which are approved by both academic units in which the student will earn a degree. Electives may be taken from the Department of Agricultural, Environmental and Development Economics, the John Glenn School, or other Ohio State University academic units, subject to approval of the student's Faculty Advisor. Core courses and electives in AEDE are:

#### Secondary Program Core Requirements

Course Number	Course Title	Cr.
Econ 6711	Survey of Microeconomics	4
AED Econ 6110	Applied Quantitative Methods I	4
AED Econ 6120	Applied Quantitative Methods II	4
AEDE 6330	Benefit-Cost Analysis	3
AEDE 7999		1

#### Dual Degree Course Requirements

Course Number	Course Title	Cr.
AEDE or ECON Elective (6000+ level)	Applied Econ Elective	3
AEDE or ECON Elective (6000+ level)	Applied Econ Elective	3

### MAE Dual Degree Elective Courses

Students are required to take at least 2 elective courses at the 6000 level or above offered by AEDE or ECON to provide them with experience applying economic concepts in various contexts. If a student feels there is not a fit between offered AEDE or ECON elective courses and their career/educational goals, the student may petition to substitute classes from other departments with economic elements in course content for the suggested AEDE electives. Email the AEDE Graduate Program Coordinator for more information about this option. In order to count toward graduate degree credit hours, a course at the 5000 level must **not** be instructed by a graduate student enrolled at OSU.

Approved Elective Courses include:

- AED Econ 6200 International Economics and Policy
- AED Econ 6300 Environmental and Resource Economics
- AED Econ 6400 Regional and International Development
- ECON 6731 Survey of Econometric Methods I

Other Elective Options Pending Instructor Assigned:

- AED Econ 5900 Food Systems Planning and Economy
- ECON 5001 Game Theory in Economics
- ECON 5720 Comparative Institutional Analysis of Firms and Markets
- ECON 5250 National and International Money Markets
- ECON 5660 Financial Aspects of International Trade
- ECON 5700 Industrial Organization
- ECON 5850 Labor Economics
- ECON 5860 Health Economics
- ECON 6700 Methods in Economics
- ECON 6721 Survey of Macroeconomics

### Advising

Upon acceptance to the dual degree program, a student must select one unit or the other to serve as his or her primary advising unit. He or she can choose to switch his or her primary advising unit during the program based on career interest, and is free to set up advising appointments in his or her non-primary unit as necessary. The primary advising unit will work with students on curriculum planning and approve electives taken, and will assume responsibility for ensuring that the student's program meets all Graduate School regulations governing dual degree programs. Students are advised to seek all academic guidance relating to AEDE curriculum from the AEDE Graduate Program Coordinator or the MAE Program Faculty Leader.

To graduate, a student must successfully complete all coursework as outlined above. There is no comprehensive exam or thesis component to this program.

## Doctoral Program

General Graduate School policies, rules, and procedures governing doctoral degree programs are documented in the Graduate School Handbook. Policies, rules, and procedures that are specific to the AED Economics doctoral degree program are documented in this section.

### Academic Calendar

The Ohio State University operates on a semester academic calendar, consisting of 14-week autumn and spring semesters and a summer term consisting of 4-week sessions 1, 2, and 3; 6-week sessions 1 and 2; 8-week sessions 1 and 2; and a 12-week full summer term.

### Application Deadlines

Applications must be submitted online on The Ohio State University Graduate Admissions website. All applicants must submit Graduate Record Examination scores. The deadline for receipt of completed applications for those seeking admission to the class starting the following autumn class, with funding, is December 15 for domestic applicants and December 15 for international applicants; the deadline for those not seeking funding is rolling.

### Admission Standards

It is recommended, but not required, that applicants have earned 1) a minimum grade point average of 3.3 on a 4 point scale in all previous undergraduate coursework, or equivalent; 2) a minimum grade point average of 3.5 on a 4 point scale in all previous graduate coursework, or equivalent; 3) a minimum score of 163 on the quantitative portion of the Graduate Record Examination; and 4) a minimum score of 156 on the verbal portion of the Graduate Record Examination.

### International Applicants

International applicants whose native language is not English and who do not possess a bachelor's degree or higher from a US university must submit Test of English as a Foreign Language (TOEFL) scores. It is recommended, but not required, that applicants have received a minimum score of 600 on the paper test, 250 on the computer test, or 100 on the internet test. Upon arrival, international students are required to take an English placement examination. Based on the test results, students needing English instruction will be required to complete prescribed additional coursework in English.

### Prerequisites

Students whose undergraduate majors are in areas other than economics or business are welcome to apply. Entering PhD students, however, are assumed to have successfully completed courses in Intermediate Microeconomic Theory, Intermediate Macroeconomic Theory, Calculus, and Statistics (see Appendix 6). The equivalent courses at The Ohio State University are, respectively, Economics 4001.02, Economics 4002.01, Mathematics 1151 and 1152, and Statistics 1450. Students who have not successfully completed all of these courses may be admitted conditionally to the PhD program, subject to conditions stipulated by the Graduate Program Leader. An MS degree is not required for admission to the PhD program. Courses in Advanced Calculus and Linear Algebra are highly recommended, but not



required. The equivalent courses at The Ohio State University are, respectively, Mathematics 2153 and Mathematics 2568.

### Start Date and Duration

Because the PhD program requires that certain core courses be taken in sequence, regular admission is granted only with a start date of autumn semester. The Graduate Program Leader may grant conditional admission to the PhD program with other start dates under special circumstances.

Full-time students may complete all PhD degree requirements in as few as four calendar years, but may take longer, depending on the student's preparation, long-term professional objectives, funding availability, and other special circumstances. Current graduate students are encouraged to discuss their options with the Graduate Program Leader and their Faculty Advisor.

### Funding

Doctoral students are eligible for University Fellowships, Graduate Associateships, and other forms of funding and financial aid provided by the University and the Department. Such appointments cover tuition and fees and provide monthly stipends. Eligibility requirements for nomination for University Fellowships include an undergraduate grade point average of 3.6 on a 4.0 scale, an average of 75% percentile scores on the verbal and quantitative portions of the Graduate Record Examination, and a 4.0 on the writing portion of the Graduate Record Examination; eligibility requirements for nomination for Graduate Enrichment Fellowships, which are available to domestic applicants from underrepresented groups, include an undergraduate grade point average of 3.1 on a 4.0 scale, an average of 40% percentile scores on the verbal and quantitative portions of the Graduate Record Examination, and a 3.5 on the writing portion of the Graduate Record Examination.

Potential applicants who fail to strictly satisfy all of the eligibility requirements for University and Graduate Enrichment Fellowship nomination, but come near to doing so, may be nominated for such Fellowships under special waivers that may be exercised by the Graduate Program Leader or may be offered funding by the Department from other sources of funding, if they possess exceptional records of academic and personal achievement. Prospective applicants to the doctoral program with outstanding records are encouraged to contact the Graduate Program Coordinator to discuss the possibility of funding.

### Credit Requirements

The PhD program requires a student to complete a minimum of 90 graduate semester credit hours. Semester courses at the 4000 level and below, if offered by the Department of Economics or the Department of Agricultural, Environmental, and Development Economics, do not carry graduate credit in the AED Economics PhD program.

## Course Requirements

PhD students must take the non-credit Math Camp offered by the Economics Department in August immediately preceding the start of classes in the first year. In addition, they must complete the following courses:

<b>Microeconomics Theory Courses (required)</b>		<b>Cr.</b>
Econ 8711	Microeconomic Theory IA	3
Econ 8712	Microeconomic Theory IB	3
Econ 8713	Microeconomic Theory IIA	3
Econ 8714	Microeconomic Theory IIB	3
<b>Econometric Theory Courses (required)</b>		<b>Cr.</b>
Econ 8731	Econometrics I	4
Econ 8732	Econometrics II	4
<b>Applied Economics Core (required)</b>		<b>Cr.</b>
AED Econ 7110	Quantitative Methods I	3
AED Econ 7120	Quantitative Methods II	3
AED Econ 7130	Applied Econometrics I	3
AED Econ 7140	Applied Econometrics II	3
<b>AEDE Field Courses (Students must take 6 field courses, with a minimum of 4 courses from the following AED courses)</b>		<b>3</b>
AED Econ 7310	Advanced Environmental Economics	3
AED Econ 7320	Advanced Resource Economics	3
AED Econ 7410	Advanced Regional Economics I	3
AED Econ 7415	Advanced Regional Economics II	3
AED Econ 7420	Advanced Development Economics I	3
AED Econ 7425	Advanced Development Economics II	3
<b>Workshops and Seminar Courses (required)</b>		<b>Cr.</b>
AED Econ 8800	Seminar in AED Economics	6
AED Econ 8895	PhD Research Seminar	4
<b>Electives and Dissertation Research (Minimum)</b>		<b>30</b>
<b>Minimum Total Credit Hours</b>		<b>90</b>

Under special circumstances, students will be permitted to deviate from the standard PhD program, subject to approval by the Graduate Program Leader and their Academic Advisor.

### Seminar courses

PhD students are required to take AED Econ 8800 each autumn and spring semester they are registered for classes beyond their first year. PhD students are required to take AED Econ 8895 each autumn and spring semester they are registered for classes beyond their second year. This requirement is above and beyond the minimum credit hour requirement listed above.

### AEDECON 8800 (Seminar) Guidelines

Students will enroll in AEDECON 8800 in all autumn and spring semesters past their first year in the PhD program. Each semester, students will be required to attend 8 seminars and complete a written assignment for each seminar attended, which will be submitted through a Carmen shell for the course (carmen.osu.edu). This assignment should be about 2 paragraphs in length and contain a summary of and reactions to the seminar.

AEDE will be bringing in some seminar speakers throughout the semesters, however, it is possible a student's TA or RA duties may conflict with the time of departmental seminars. If this is the case, students are able to attend seminars offered by other departments at The Ohio State University.

### Field of Specialization

PhD students are required to take six doctoral level (7- or 8000 level) field courses, four of which must be taken in AED Economics. It is suggested that students choose to take two AEDE sequences to meet their four AEDE course requirements. The AEDE field courses include: environmental and resource economics, regional economics and development economics. Field courses outside of AED Economics should be discussed and agreed upon between the student, their advisor, and the Graduate Program leader.

### Faculty Advisor

All courses taken by PhD students must be approved by their Faculty Advisor. Each student admitted to the PhD program is assigned a tentative Faculty Advisor when they first enroll in the graduate program. Once a student determines that their interests lie in a particular specialty area, they should choose a permanent Faculty Advisor in that area. This choice must be made by the conclusion of the first semester of the second year. The Faculty Advisor must be a member of the AED Economics Graduate Faculty holding Category P status.

### Guidance Committee

PhD students must select a Guidance Committee by the conclusion of the second semester of their second year. The Committee is composed of the student's Faculty Advisor, who serves as chair and at least two additional members of the University Graduate Faculty holding Category P status, unless an exception is granted by the Graduate Program Leader and the Graduate School.

### Program of Study

PhD students must submit an approved Program of Study form to the Graduate Program Office prior to the conclusion of the first semester of their second year (see Appendix 3). The program of study is to be developed with the assistance and explicit approval of the student's Faculty Advisor. Failure to comply with this procedure will result in the suspension of funding until compliance is achieved.

### Microeconomic Theory Examination

The PhD Microeconomic Theory examination is a written examination administered by the Department of Economics in June and July. PhD students must take the examination in June, after the conclusion of the spring semester of the first year. PhD students must obtain an “MA Pass” from the grading committee. PhD students who fail to obtain an “MA Pass” on their first attempt may retake the exam at the next scheduled offering. Failure to obtain an “MA Pass” prior to the beginning of the second year will result in automatic dismissal from the PhD program, unless prior permission is granted by the Graduate Program Leader.

### Research Manuscript Requirement

PhD students are required to submit a sole-authored research manuscript that meets high standards of scholarship and exposition at the conclusion of the spring semester of the second year. If the Research Manuscript Evaluation Committee judges the manuscript unsatisfactory, they may demand revisions. Failure to submit a satisfactory manuscript by the beginning of the third year will result in automatic dismissal from the PhD program. Guidelines for the preparation and submission of the research manuscript are provided as Appendix 1 to this Handbook.

### Candidacy Examination

The PhD Candidacy Examination is administered by an Examination Committee consisting of at least four graduate faculty members. If the student's Guidance Committee consists of three members, then the Examination Committee shall consist of the student's Guidance Committee plus an additional member of the AED Economics Graduate Faculty. The student's Faculty Advisor shall serve as Chair of the Examination Committee.

The Candidacy Examination consists of a written and an oral portion. The written portion of the Candidacy Examination consists of a written dissertation proposal that conforms to Guidelines provided as Appendix 2 to this Handbook. The dissertation proposal is intended to provide evidence that the student has set forth a plan of research that promises to contribute to the body of knowledge in the field of agricultural, environmental, and development economics.

The oral portion of the Candidacy Examination is a two-hour oral examination that may focus on the dissertation proposal, but may cover any aspect of the student's PhD program. Successful completion of the Candidacy Examination requires a unanimous vote of the Examination Committee and admits the student to PhD Candidacy. It is the student's responsibility to submit the official form to the Graduate School by the published deadline. This form can be found on the GradForms website at <https://gradforms.osu.edu>.

### Final Oral Examination

The Final Oral Examination is administered by an Examination Committee consisting of the student's Guidance Committee plus a Graduate Faculty Representative appointed by the Dean of the Graduate School. The student's Faculty Advisor shall serve as Chair of the Examination Committee.

Two hours must be allotted to the final oral examination. At the discretion of the Chair of the Examination Committee, the student may be permitted to provide a presentation of the dissertation research, provided that at least one hour of the examination period is allotted to discussion of the research and to questions of and answers by the student. Successful completion of the final oral examination requires a unanimous vote of the Examination Committee. It is the student's responsibility to submit the official form to the Graduate School by the published deadline. This form can be found on the GradForms website at <https://gradforms.osu.edu>.

### Academic Progress

In order to maintain satisfactory academic progress, a PhD student must maintain a cumulative grade point average of 3.0 or better in all graduate credit courses and must further satisfy the following requirements: i) pass the Microeconomics Theory Qualifying Examination prior to the end of the summer term of the first year; ii) fulfill the Research Manuscript Requirement prior to the end of the summer term of the second year; iii) pass the Candidacy Examination prior to the end of the first semester of the fourth year, and iv) complete all PhD requirements, including a successful Final Oral Examination, within four calendar years of enrollment in the PhD program. A PhD student who does not maintain satisfactory academic progress may be denied otherwise guaranteed departmental funding by the Graduate Program Leader. By a majority vote of the Graduate Studies Committee, a student who has failed to maintain satisfactory academic progress may be dismissed from the PhD program, subject to approval by the Graduate School.

### Registration

Pre-candidacy Graduate Fellows and Graduate Associates must register for a minimum of 12 credit hours during the autumn and spring semesters and 6 credit hours during the summer term. Post-candidacy Graduate Fellows and Graduate Associates must register for a minimum of 3 credit hours during the autumn and spring semesters and during the summer term. Registration for courses should be coordinated through the AED Economics Graduate Program Coordinator.

### Master's Degree

A student enrolled in the AED Economics PhD program and making satisfactory academic progress may be awarded an MS in AED Economics if the student satisfies all requirements for of the second year research manuscript requirement.

## Graduate Associateships

General Graduate School policies, rules, and procedures governing Graduate Associateships are documented in Section IX of the Graduate School Handbook. Policies, rules, and procedures that are specific to the AED Economics graduate program are documented in this section. AEDE students are required to meet the Standards of Satisfactory Academic Progress towards a Doctoral Degree, found in Appendix 4 of this document. Any students who are enrolled starting in Autumn 2018 or after is also required to meet the AEDE Standards of Progress for Graduate Associates, found in Appendix 5 of this document.

## Duties

Graduate Associates may be required to teach classes; lead recitations and labs; counsel students; grade papers, homework assignments, and examinations; gather and analyze data; write proposals and reports; and assist faculty members, staff, and administrators as needed. Graduate Associate duties are determined and conveyed to the Graduate Associate by his/her assigned supervisor prior to the beginning of the term of assignment, and may not exceed 20 hours per week. Graduate Associates are expected to be available to perform their duties on campus from the first day of regularly scheduled classes until the last day of finals, except in cases of excused illnesses, exigent personal circumstances, explicit consent of their supervisor and the Graduate Program Leader.

## Appointment Periods

Graduate Associates are typically offered appointments annually several weeks prior to the start of autumn classes, allowing two weeks for acceptance or rejection. The appointments will typically be for nine months, to include the subsequent autumn semester, spring semester, and May term, assuming that they have at least nine months of funding remaining as stipulated in an offer letter they received from the AED Economics Graduate Program Leader, if any. Other appointments may be for less than these time periods, at the discretion of the Graduate Program Leader.

The Department generally does not provide summer session support to graduate students unless such support is stipulated in the student's letter of offer or there is a need to staff a course with a qualified teaching assistant. Limited funding is typically available, however, from individual faculty members drawing on sponsored research accounts on which they are Principal or Co-Principal Investigators.

## Spoken English Requirement

New international graduate students for whom English is not the first language must certify their proficiency in spoken English before assuming Graduate Teaching Associate (GTA) duties that involve formal spoken presentations in front of course lectures, recitation sessions, or laboratory sessions. They may become certified through the following scores: TOEFL iBT Speaking 28 or higher, IELTS Speaking 8.5 or higher, or Oral Proficiency Assessment 4.0 or higher. The Oral Proficiency Assessment administered by the Department of English as a Second Language (ESL), more information can be found here: <http://esl.ehe.osu.edu/home/testing/spoken-english/>. Graduate Teaching Associateships that involve only grading and/or laboratory assistance do not require this certification.

## Selection of Graduate Associates

The number of Graduate Associateships awarded by the AED Economics Graduate Program Leader in consultation with the Graduate Studies Committee is subject to availability of funds and departmental staffing needs. The Director will allocate available departmental associateships among graduate students according to the following priority criteria:

1. Incoming or continuing graduate students with guaranteed funding in their offer letters from the AED Economics Graduate Program Leader making satisfactory progress towards a degree
2. Currently funded PhD. students in years 1 through 4 without guaranteed funding in their offer letters from the AED Economics Graduate Program Leader making satisfactory progress towards a degree
3. Previously funded PhD students in years 1 through 5 without guaranteed funding in their offer letters from the AED Economics Graduate Program Leader making satisfactory progress towards a degree
4. Previously unfunded PhD students in years 1 through 5 making satisfactory progress towards completion of degree.

Students not maintaining satisfactory progress may be denied departmental funding, even if they have not yet received the minimum support stipulated in their offer letters. The Graduate Program Leader reserves the right to deviate from these guidelines under extenuating circumstances that impact the Department's missions, including the need to staff courses with qualified teaching assistants.

The guidelines for selection of Graduate Associates documented here apply to the awarding of associateships by the AED Economics Graduate Program Leader from the Department Graduate Program budget, but not to the awarding of associateships by individual faculty drawing on sponsored research accounts on which they are Principal or Co-Principal Investigators.

## Stipend Levels

With very few exceptions, Graduate Associates receive a standard Department base monthly stipend that depends on the graduate program in which the Associate is enrolled. During fiscal year 2018-2019 the base monthly stipend was \$2212.98 for PhD students. Base monthly stipends will be adjusted for fiscal year 2019-2020 and for subsequent fiscal years in accordance with the general University-wide salary increase approved by the University Board of Trustees at its annual spring meetings. Students who were awarded University Fellowships or OARDC/CFAES Fellowships and Associateships upon admission to an AED Econ graduate program may receive higher stipends, as documented in their original letters of offer.

## Support Services

Graduate Associates are expected to use the services of supporting departmental personnel and equipment in discharging appointment responsibilities. Computer and graphic arts personnel support and the use of departmental copiers, computers, and laser printers are examples of services available to Graduate Associates. Authorization for the use of departmental support services is obtained through the Graduate Associate's supervisor.

Use of departmental support services, however, is limited to departmental business. Specifically excluded, for example, are the use of departmental personnel and equipment in production of term papers, theses, and dissertations, and in data collection and processing related to coursework. Such needs fall under the heading of individual or personal business.

When space is available, Graduate Associates will be provided a desk and access to a computer. All graduate students have a mailbox in room 320A. Meeting rooms may be scheduled through the AEDE Administrative Suite, room 250.

## Termination of Appointment

Graduate Associateship appointments may be terminated by the Graduate Program Leader if it is determined that either 1) the Associate has failed to adequately perform duties assigned to him/her by his/her supervisor or 2) the Associate is failing to make satisfactory academic progress as defined in this Graduate Program Handbook. As documented in the Graduate School Handbook, a graduate student who has completed more than 10 graduate credit hours and whose Grade Point Average in all graduate courses is below 3.0 may not be appointed or reappointed as a Graduate Associate.

## Grievance Procedures

A Graduate Associate with a grievance should consult first with his/her Faculty Advisor or Associateship supervisor. If this does not lead to satisfactory resolution of the grievance, the Associate should consult the Graduate Program Leader. The Graduate Program Leader may elect to involve the Department Chair, the Graduate Studies Committee, the Faculty Advisor, or other graduate faculty and professional staff in discussions in an attempt to resolve the grievance. In the event that this process is unsuccessful, the Associate should consult the Department Chair with the objective of resolving the grievance through the Chair or through a formal hearing in accordance with established Council on Research and Graduate Studies procedures. Copies of the Council on Research and Graduate Studies grievance procedures are available from the Graduate School.



## Appendix 1

### Procedures for Fulfillment of the AED Economics Doctoral Research Manuscript Requirement

#### Introduction

Each student is required to complete a sole-authored research manuscript that meets high standards of scholarship and exposition. The completed research manuscript must be submitted by electronic mail to the Graduate Program Leader by no later than the last day of the 4-Week Session 1 by 5:00 pm EST. The deadline is binding and can be changed only with prior approval of the AED Economics Graduate Program Leader.

#### Objective

The Research Manuscript Requirement is designed to develop a PhD student's ability to conduct and communicate original, independent research in a manner appropriate for scholarly publication and presentation. Fulfilling the requirement verifies that a student is qualified to conduct scholarly research on the frontiers of economics and helps prepare the student for the research, writing, and oral defense efforts required to successfully complete a doctoral dissertation.

#### Content

The manuscript must address a question of scholarly significance in economics, ideally in the student's area of specialization. The manuscript should clearly pose the researchable question, appropriately place it within the relevant scholarly literature, and make substantive progress towards answering the question. The student may use whatever analytical tools are most appropriate to answer the question including, but not limited to, theoretical, econometric, numerical, and case-study methods. The manuscript must be free of glaring technical and expository mistakes.

#### Originality

The manuscript must be authored exclusively by the student and must be based on original research independently conducted by the student. The manuscript may be based on graduate coursework undertaken at The Ohio State University or work conducted as a research assistant while at the Ohio State University, but must not be based on work conducted before entering the AED Economics PhD program. The student's Faculty Advisor may offer broad guidance in preparation of the manuscript, but may not contribute to the writing of the manuscript or offer specific editorial assistance. The manuscript must represent an independent effort on the part of the student and must include the following signed statement on the title page:

"This manuscript presents original research conducted independently by me, after joining the AED Economics PhD program, specifically in satisfaction of the AED Economics Research Manuscript Requirement."

Electronic Signature \_\_\_\_\_

Date \_\_\_\_\_

## Format

The manuscript must be written in the form of a conventional journal article and will contain the following separate sections: a title page, a one-page abstract, a body not to exceed 25 pages, and references. The proposal must be clear, readily legible, and conform to the following requirements:

a) the letters must not be smaller than 12 point; b) the proposal must be double spaced; and c) margins, in all directions, must be at least 1 inch. Visual materials, including tables, charts, graphs, maps, and photographs must be included in the body of the manuscript and are subject to the 25-page limit. Students must follow accepted scholarly practices in citing source materials relied upon when preparing the manuscript. Reference citations must conform to American Journal of Agricultural Economics guidelines. There is no page limit for the references.

## Evaluation

The manuscript must meet standards comparable to those used to evaluate contributed papers to major scholarly meetings though it does not have to be of publishable quality. The manuscript may represent only a modest departure from published work, but it must be well conceived, justified, and communicated.

The Research Manuscript Evaluation Chair will appoint two AED Economics faculty reviewers to each manuscript. Faculty members will evaluate the manuscript and confer a grade of “pass” or “revise and resubmit”. A manuscript judged to require revision will be returned by the Evaluation Chair to the student with review comments. The student will be required to address the review comments and submit a revised manuscript to the Evaluation Chair by the established deadline. The faculty reviewers will evaluate the revised manuscript and, within two weeks of submission, confer a grade of “pass” or “fail”. A student who receives a fail grade on the revised manuscript will be automatically dismissed from the program. The Evaluation Chair will confer a “Best Research Manuscript by a Second-Year PhD Student” award.

## Appendix 2

### Guidelines for AED Economics Doctoral Dissertation Proposals

#### Purpose

The doctoral dissertation proposal is intended to provide evidence that the student has set forth a plan of research that promises to contribute to the body of knowledge in the field of agricultural, environmental, and development economics. It is recognized, however, that experience gained while the research is being carried out will sometimes suggest to the student and his/her Guidance Committee that the dissertation should deviate from the outline in the proposal. The proposal does not prevent the Committee from approving such changes, nor does approval of the proposal constitute an agreement between the student and the Committee that the dissertation, when completed, will be approved.

#### Format

The proposal must be clear, readily legible, and conform to the following requirements: a) the letters must not be smaller than 12 point; b) the proposal must be double-spaced; and c) margins, in all directions, must be at least 1 inch.

#### Content

**Title Page:** The title page must include the title of the proposal, the date of the proposal defense, and the names and signatures of both the student and the student's Faculty Advisor.

**Summary:** The proposal must contain a summary of the proposed research, not more than one page in length. The summary should be a self-contained description of the proposed research activity. The summary should include a statement of objectives and methods to be employed. It must clearly address the intellectual merit of the proposed activity and the broader impacts resulting from the proposed activity. The Summary should be informative to other persons working in the same or related fields and, insofar as possible, understandable to a technically literate lay reader.

**Description:** The Description should provide a clear statement of the work to be undertaken and must include: objectives for the proposed research activity, the expected significance of the proposed research activity, and relation of the proposed research activity to the present state of knowledge in the field. The Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of methods and procedures. It must describe as an integral part of the narrative, the broader impacts resulting from the proposed activities, addressing how the project will enhance scientific and technological understanding and/or generate benefits to society at large. The Description may not exceed 25 pages. Visual materials, including tables, charts, graphs, maps, and photographs must be presented within the 25-page limitation.

**References:** Students must follow accepted scholarly practices in providing citations for all source materials relied upon when preparing the proposal. Reference citations must conform to American Journal of Agricultural Economics guidelines. There is no page limit for the references.

### Appendix 3

#### PhD. Program of Study Form

Submit the completed form to the Graduate Program Coordinator, who will forward it to Graduate Program Leader for final approval and signature. The form must be submitted by the last day of classes of autumn semester of the second year in order to be eligible for departmental funding the following semester. Please use the following abbreviations: Au=autumn semester, Sp=spring semester, Su=May/summer session.

Student Name \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

#### 1<sup>st</sup> Year Required Courses

Course Number	Course Title	Cr.	Grade
Econ 8711	Microeconomic Theory IA	3	
Econ 8712	Microeconomic Theory IB	3	
Econ 8713	Microeconomic Theory IIA	3	
Econ 8714	Microeconomic Theory IIB	3	
Econ 8731	Econometrics I	4	
Econ 8732	Econometrics II	3	
AED Econ 7110	Quantitative Methods I	3	
AED Econ 7120	Quantitative Methods II	3	
AED Econ 7130	Applied Econometrics I	3	
AED Econ 7140	Applied Econometrics II	3	
AED Econ 8999	Research Hours (summer)	2	

#### 2<sup>nd</sup> Year Required Courses

Course Number	Course Title	Cr.	Grade
AED Econ 7310	Advanced Environmental Economics	3	
AED Econ 7320	Advanced Resource Economics	3	
AED Econ 7410	Advanced Regional Economics I	3	
AED Econ 7415	Advanced Regional Economics II	3	
AED Econ 7420	Advanced Development Economics I	3	
AED Econ 7425	Advanced Development Economics II	3	
AED Econ 8999	Research Hours (summer)	2	
AED Econ 8800	Seminar in AED Economics	2	

### Required Seminar Courses – 3<sup>rd</sup> through 5<sup>th</sup> Years

Course Number	Course Title	Cr.	Grade
AED Econ 8800	Seminar in AED Economics	2	
AED Econ 8895	PhD Research Seminar	2	

### Examination Schedule

Examination	Term and Year
Microeconomics Qualifying Exam	
Second Year Research Manuscript	
PhD Candidacy Examination	
Oral Dissertation Defense	

### Exemptions

In order to maintain satisfactory academic progress, unless otherwise approved by the Graduate Program Leader, the Microeconomic Theory qualifying examination must be passed by the end of the summer term of the first year; the Research Competency Requirement must be fulfilled before the end of the summer term of the second year; the PhD Candidacy Examination must be passed before the end of the autumn term of the fourth year; and the oral dissertation defense must be passed by the end of the summer term of the fourth year. If, based on what you know now, you face extenuating circumstances that will prevent you from meeting this timetable, please provide an explanation on a separate sheet stapled to this form.

### Approvals

Advisor: \_\_\_\_\_ (print) \_\_\_\_\_ (sign) \_\_\_\_\_ (Date)

Graduate Program \_\_\_\_\_ (print) \_\_\_\_\_ (sign) \_\_\_\_\_ (Date)

### Graduate Chair Notes

Revised August 2018

## Appendix 4

### Standards of Satisfactory Academic Progress towards a Doctoral Degree

The following serve as guidelines for determining satisfactory progress towards a graduate degree for the purpose of determining a student's eligibility to maintain their AEDE Graduate Associateship. If a student does not make satisfactory academic progress at any point during their time in the AED Economics doctoral program, they may lose eligibility for funding.

In order to maintain satisfactory academic progress toward a Ph.D. in the AED Economics Ph.D. program, students must meet specific benchmarks during specific years in the AED Economics program. Students must:

#### **Year 1**

- Earn and maintain a cumulative GPA of 3.0 or higher in all graduate credit courses
- Successfully complete the Microeconomics Qualifier Exam at an M.S. level or higher prior to the end of summer term of the student's first year in the AED Economics doctoral program

#### **Year 2 (having met requirements for prior years)**

- Earn and maintain a cumulative GPA of 3.0 or higher in all graduate credit courses
- Receive a grade of "Pass" on Research Manuscript requirement by the end of summer term of the student's second year in the AED Economics doctoral program
- Establish a primary advisor on record through completion of the Plan of Study Form by the end of spring semester during the student's second year in the AED Economics doctoral program
- Complete a minimum of 2 field sequences in AEDE

#### **Year 3 (having met all requirements for prior years)**

- Earn and maintain a cumulative GPA of 3.0 or higher in all graduate credit courses
- Complete all required coursework for the AED Economics doctoral program

#### **Year 4 (having met all requirements for prior years)**

- Earn and maintain a cumulative GPA of 3.0 or higher in all graduate credit courses
- Establish a research trajectory through professional conference presentations

#### **Year 5 (having met all requirements for prior years)**

- Earn and maintain a cumulative GPA of 3.0 or higher in all graduate credit courses
- Successfully defended candidacy exam by the end of autumn semester of the student's fifth year in the AED Economics doctoral program
- Have established a research trajectory through professional conference presentations
- Have established a research trajectory by submission of peer-reviewed publication

## Appendix 5

### AEDE Standards of Progress for Graduate Associates

The Department of Agricultural, Environmental, and Development Economics (AEDE) relies upon Graduate Associates (GAs) to support the teaching and research activities of the department. All students wishing to maintain eligibility for future departmental GA positions must meet the following standards. These guidelines are specific to students serving in departmentally funded Graduate Associate positions.

#### Spoken English Requirement

In accordance with the Graduate Student Handbook (Section 2.7), any international or permanent resident graduate students for whom English is not the first language must certify their proficiency in spoken English before assuming GTA duties. This is typically done through the Oral Proficiency Assessment (<https://esl.ehe.osu.edu/home/testing/spoken-english/>) at Ohio State University.

Any AED Economics GTA who does not score a C4.25 or above on the Oral Proficiency Assessment must be continuously enrolled in the appropriate course(s) suggested by the ESL office until they reach a certification level of C4.25, beginning in the autumn semester of their second year in the AED Economics Ph.D. program. All AEDE GTAs are required to reach a certified C4 level by the beginning of autumn semester in their third year and a 4.25 by the autumn of their fourth year in the AED Economics Ph.D. program.

#### Satisfactory Academic Progress

All Graduate Associates funded by AED Economics are required to meet satisfactory progress benchmarks as outlined in the *AED Economics Graduate Student Handbook*. This document includes all requirements as set forth by the Graduate School and the Department of Agricultural, Environmental, and Development Economics.

Students in their sixth year of the AED Economics doctoral program will not be considered eligible for Graduate Associate positions barring extenuating circumstances. The Graduate Studies Chair may override this guideline due to departmental staffing needs if necessary.

#### GA Performance

All Graduate Associates will be evaluated by the instructors and faculty they serve in their positions at the end of every semester. Any departmentally funded GA must receive a rating of "Satisfactory" on all job performance metrics in order to maintain eligibility for future Graduate Associate positions. Any Graduate Associate who is not meeting expectations related to duties assigned by faculty or instructors will receive a meeting to review expectations along with time to recalibrate performance before any official action is taken.

#### Adherence to HR Guidelines and Policies

Graduate Associates are employees of the Department of Agricultural, Environmental, and Development Economics and The Ohio State University. Therefore, all GAs are subject to policies outlined by the Office of Human Resources in the College of Food, Agricultural, and Environmental Sciences.

## Appendix 6

### PhD Program Prerequisite Course Descriptions Agricultural, Environmental, and Development Economics

Below are descriptions of courses students are expected to have completed prior to entering the AED Economics PhD program. The Ohio State Course equivalents are given in parenthesis.

#### Intermediate Microeconomic Theory

Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. (Economics 4001.02)

#### Intermediate Macroeconomic Theory

Analysis of the determinants of national output, income and employment levels; theory of economic growth and progressive equilibrium in an economy. (Economics 4002.01)

#### Introduction to Statistics

Topics include probability, descriptive statistics, correlation, regression, design of experiments, sampling, estimation, and testing; emphasis on applications, statistical reasoning, and data analysis using statistical software. (Statistics 1450)

#### Calculus and Analytic Geometry I

Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exponential functions. (Math 1151)

#### Calculus and Analytical Geometry II

Integral, area, fundamental theorems of calculus, logarithm and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates. (Math 1151 and 1152)

#### Calculus and Analytic Geometry III

Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space. (Math 1152)