

**Agricultural & Resource Economics**  
**Graduate Program Policies & Procedures**

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# 1 Academic Programs

## 1.1 Master of Science (M.S.)

The Master of Science (M.S.) degree certified by the Department of Agricultural and Resource Economics (DARE) is a formal program of study consisting of **30 credit hours** including a work of original research (**thesis or technical paper**). The program is designed as a standard two year M.S. degree, but students who work diligently can finish earlier. Class work is focused on microeconomic applications and quantitative methods, and can typically be completed in approximately three semesters. Most M.S. students in DARE opt to prepare a thesis, which must be defended publically before a degree is granted.

Completion of the M.S. in DARE signifies a mastery of fundamental microeconomic theory and econometrics, and an ability to perform applied economic research. This preparation makes M.S. graduates suitable for employment in the public and private sectors as analysts, consultants, researchers, and other occupations. Students with a Masters from our department have gone on to rewarding careers in CSU and peer University's Extension programs, Federal agencies such as the National Park Service, U.S. Department of Agriculture, State Departments of Agriculture, NGO's like Nature Conservancy, and the private sector. The M.S. in DARE also provides an excellent basis for those inclined to pursue doctoral degrees. Many of our students have decided to pursue a Ph.D., either in our own program or in other top-level institutions across the country. The program also provides the flexibility to switch from M.S. to Ph.D. after one or two semesters of instruction if a student is so inclined. This allows considerable time savings compared to pursuing a PhD after full completion of the M.S.

Relative to undergraduate instruction, study at the Master's level is faster-paced, uses considerably more formality in the classroom, and requires original research. Students are expected to be self-motivated, professional, and actively invested in their own education.

### 1.1.1 Admission Policies

Applications to the M.S. degree program are reviewed by the Graduate Admissions Committee in order to determine suitability for study in agricultural and resource economics at the graduate level. In general, successful applicants for the M.S. program will have completed an undergraduate degree program with a grade point average greater than or equal to 3.0 on a 4.0 point scale, and have successfully completed classes in differential calculus, statistics and econometrics, and intermediate microeconomic theory. While an undergraduate background in agricultural and resource economics, economics, or a related field is encouraged, it is not strictly required. **All applicants to the program are required to take the Graduate Record Exam (GRE).** A high score on this exam can help a student lacking in some areas to document the strengths necessary to gain acceptance in the program and will be considered in funding

decisions. However, the Graduate Admission Committee evaluates each prospective student based on the totality of their application packet. As such, there is no minimum requirement for the GRE scores. If admitted, please notify us of your intention to enroll in the semester of admission (or to defer to subsequent semesters) as soon as that decision has been made.

### **1.1.2 Academic Advising**

After admission to DARE, the Chair of the Graduate Program will serve as your temporary advisor during the first one/two semesters. During this period, you are expected to work at devising your program of study, and identifying a faculty member who will serve as your permanent advisor and supervise your thesis work. Your temporary advisor will help you with these tasks. **All students must declare their permanent advisor on the GS-6 form, generally by the end of the second semester after arrival.** Students are encouraged to familiarize themselves with the work of the DARE faculty in order to identify a permanent advisor.

Students pursuing an M.S. degree also choose a Graduate Advisory Committee following the procedures detailed in section 2.1.1. The student's graduate committee provides guidance in completing a research study suitable for your thesis or technical paper. Examples of M.S. thesis titles can be found at: <http://dare.agsci.colostate.edu/graduate/theses-dissertations/>.

### **1.1.3 Credit Requirements**

Total credits required for the M.S. degree are:

- **Plan A** – 30 credits including a thesis (maximum of 6 credits for thesis).
- **Plan B** – 30 credits including a technical paper (no thesis credit awarded).

A Minimum of:

- 24 credits must be earned at Colorado State University.
- 21 credits must be earned after admission to the Agricultural and Resource Economics Graduate Program.
- 16 Credits must be in 500-level or above courses.
- At least 12 credits must be from formal AREC or ECON 500-level or above courses (i.e., not independent studies or research).
- Please note that we expect you to be actively engaged in devising your program of study, and the responsibility of complying with these requirements rests on the student. No student-option pass-fail grading is permitted in the program of study (i.e., courses listed

on GS-6 Form). Students must maintain a cumulative 3.0 GPA or above to remain in good academic standing.

#### **1.1.4 Courses**

M.S. students are required to take three core classes (AREC 506, 507, 535) within their first two semesters, one methods course (AREC 615 or AREC 635) and field courses (AREC 605 and 610 or 540) within their first three semesters. The courses are listed in the following section, and Appendix B presents a sample M.S. program complying with such constraints.

##### **1.1.4.1 Core Courses:**

- AREC 506: Applied Microeconomic Theory
- AREC 507: Applied Welfare and Policy Analysis
- AREC 535: Applied Econometrics

##### **1.1.4.2 Methods Courses (Choose one course):**

- AREC 615: Optimization Methods for Applied Economics **OR**
- AREC 635: Econometric Theory I

##### **1.1.4.3 Field Courses**

A field in Agricultural Economics or Natural Resource and Environmental Economics will be declared by taking field courses:

- AREC 605 (2 credits): Agricultural Production and Cost Analysis **AND**
- AREC 610 (2 credits): Agricultural Marketing and Demand Analysis

**OR**

- AREC 540 (3 credits): Environmental and Natural Resource Economics

##### **1.1.4.4 Elective Courses**

Masters students will take additional courses to complete their program. Specific course electives beyond the required core, method and field courses will be selected and agreed upon by the student and the student's advisor in consideration of the student's background and objectives.

Such courses can be from DARE or other departments and can include 300 and 400 level courses. However, Econ 306 (Intermediate Microeconomics), AREC/ECON 335 (Introduction to Econometrics) and STAT 301 (Introduction to Statistical Methods) are considered prerequisites to enter the M.S. program, and therefore credit from such classes cannot be used to fulfill minimum credit requirements (See Appendix A for DARE offered graduate level courses). Students that choose the Plan A track may also use a maximum of 6 credits of the variable credit AREC 699 – Thesis towards their degree. A typical full-time student at CSU is registered for 9 credits per semester.

Formal coursework from a properly planned degree program can thus be completed in three semesters. See <http://dare.agsci.colostate.edu/graduate/graduate-courses/> for the catalog description of DARE classes.

### **1.1.5 Thesis (Plan A)**

A Master's thesis in DARE is an independent, original piece of research prepared by the student addressing a particular topic of interest related to agricultural and resource economics, and submitted to the Graduate School in support of the candidate's petition for the degree. The thesis should contribute to scholarly knowledge. In practice, it is a written formal document that usually reports the results of a research project, often testing theoretical hypotheses with empirical data. Specific guidelines for submitting a thesis are determined by the Graduate School, and can be found at <http://graduateschool.colostate.edu/current-students/thesis-dissertation/index.aspx>.

### **Technical Paper (Plan B)**

A technical paper in DARE is typically the application of empirical methods to a particular managerial decision or problem of interest within the agricultural and resource economics field. It is a research paper, but may not contribute to scholarly knowledge to the degree expected of a formal thesis. Students that choose Plan B cannot utilize thesis credits (AREC 699) toward their requirement of 30 credits, implying that this plan requires two more formal courses than Plan A.

### **1.1.6 Final Exam**

Candidates for an M.S. degree must pass a final examination (also known as a thesis or technical paper defense), which must be held by the published deadlines of the student's graduating term. The examining committee is the student's graduate committee with the advisor serving as chairperson. **It is the student's responsibility to schedule the final examination in consultation with the advising committee and the graduate coordinator, and to give a minimum of two week notice to the broader academic community.**

In DARE, the final exam typically consists of the candidate presenting the results of his/her research (thesis or technical paper) and answering questions by those in attendance (outside of the committee) and by the committee related to that research specifically and the candidate's field of study more generally. Exams typically last two hours.

Voting at all final oral examinations shall be limited to the members of the student's committee, and a majority vote is necessary to pass the examination. A tie vote is interpreted as failure to pass the examination. Committee members who are not academic faculty do not have a vote on the final examination.

Provided that the committee approves, a candidate who fails the final examination may be reexamined once and, for the reexamination, may be required to complete further work. The reexamination must be held not later than 12 months after the first examination. The examination must not be held earlier than two months after the first examination unless the student and committee agree to a shorter time period. Failure to pass the second exam results in dismissal from the Graduate School.

The student is responsible for taking the **Report of Final Examination (GS-24)** to the examination and returning it, completed and signed, to the Graduate School Office within two working days after results are known; this must occur before the deadline for graduation for the term, as published by the graduate school (<http://graduateschool.colostate.edu/policies-and-procedures/deadline-dates/>). The student and committee also complete an evaluation form assessing their graduate education experience.

Participation in oral examinations by the student and/or one or more members of the examining committee may be via electronic link so long as all are participating simultaneously and all committee members and the student have agreed to this in advance.

### **1.1.7 Assessing Academic Performance**

To meet the requirements for graduation and to remain in good academic standing, a student must demonstrate acceptable performance in course work after being admitted to a graduate program. This requires a minimum cumulative grade point average of 3.00 in all regular course work. Regular course work is defined as courses other than independent or group studies, research courses, open seminars, thesis/dissertation credits, study abroad, U.S. travel, supervised college teaching, student teaching, practicum, internship, field placement, unique title courses offered through Continuing Education, and any courses graded pass/ fail.

Grade requirements:

- 1) An overall 3.00 grade point average must be maintained in regular and non-regular courses graded traditionally (A through F).

- 2) The grade point average in required courses included on the approved program of study (GS-6) must also equal at least 3.00.
- 3) Grades of C or higher must be earned in all required courses on a program of study.

D grades may be accepted in background courses, but such courses must be included in the computation of the cumulative grade point average.

Standards and requirements for off-campus graduate study are the same as those standards and requirements on campus. The academic Department Head has the basic responsibility for the implementation of this policy.

**Academic probation: failure to maintain good academic standing results in the student being placed on academic probation and a loss of eligibility for departmental funding.** New regularly admitted students will not be placed on probation until they have completed 12 regular credits or two semesters of graduate work, whichever comes first. The probationary period extends for one semester beyond the one in which this status is acquired and during which the student registers for courses that affect the grade point average (i.e., traditionally graded regular and non-regular courses). The period allowed between being placed on probation and registering for courses that affect the grade point average shall be limited by the student's advisory committee within their criteria for determining satisfactory progress. Students on probation are subject to dismissal by the academic department or the Vice Provost for Graduate Affairs at the end of the probationary semester unless good academic standing has been regained. This requires adequate improvement in cumulative grade point averages (3.00) and/or satisfactory progress as determined by the student's graduate advisory committee.

### **1.1.8 Assessing Degree Progress**

In addition to minimum GPA requirements, good academic standing requires satisfactory progress in the overall program of study. Students' individual graduate advisory committees may render judgments as to whether satisfactory progress is being made toward the degree, taking into account all aspects of academic performance and promise, not necessarily course work alone. A positive judgment is required to remain in good academic standing.

When a student's graduate advisory committee or an appropriate departmental graduate committee finds that a student is making unsatisfactory progress toward the degree due to factors

other than grade point average and that satisfactory progress cannot be anticipated, a plan should be created and the following steps should be taken.

1. Inform the student of the concerns, create a progress plan with the student, develop a timeline and inform the student of the potential consequences (dismissal) if the progress is not satisfactory.
2. The committee should keep in contact with the student to give feedback during the progress plan timeline and document such contacts and their outcomes.
3. At the end of the timeline, if progress is not adequate, the committee may recommend dismissal from the program. The recommendation goes to the Department Head and the Dean of the Graduate School and should include documentation on the steps taken with justification for this action.

The recommendation must be referred to the Department Head for approval and the Dean of the Graduate School for final action.

#### **1.1.8.1 Timing and Milestones to Degree Completion for M.S.**

The following are suggested guidelines intended to result in expeditious completion of a student's degree requirements. Typical timing for the M.S. degree is as follows:

<b>M.S. Milestones</b>	<b>Normal Progress</b>	<b>Limit</b>
Select thesis advisor	End of 2 <sup>nd</sup> semester	End of 3 <sup>rd</sup> semester
Select thesis committee	Beginning to midpoint of 3 <sup>rd</sup> semester	End of 3 <sup>rd</sup> semester
Complete courses	End of 3 <sup>rd</sup> semester	End of 10 years
Final Exam	End of 3 <sup>rd</sup> semester and contiguous summer	End of 10 years

Sample M.S. programs of studies are presented in Appendix B.

## ***1.2 Doctor of Philosophy***

The Doctor of Philosophy (Ph.D.) degree certified by the Department of Agricultural and Resource Economics is a program of study consisting of 72 credit hours (42 earned following a 30-credit M.S. degree) including credits from a substantial work of original research written in the form of a dissertation. Class work is focused on microeconomic theory, quantitative methods, and at least one tested field (Agricultural Economics or Environmental and Resource Economics). Successful candidates must pass:

- I. two written Qualifying Examinations (Econometrics and Microeconomic Core Theory Exam);
- II. a Preliminary Oral Examination (comprising a written and oral component) of their proposed research, and
- III. a Final Oral Dissertation Defense.

With proper planning and pre-enrollment academic preparation, a Ph.D. degree can be earned in approximately four years. Completion of the Ph.D. in DARE signifies a mastery of advanced microeconomic theory and quantitative methods, with a particular expertise in either Agricultural Economics or Natural Resource and Environmental Economics. Those who earn a Ph.D. must demonstrate significant intellectual achievement, high scholarly ability, and great breadth of knowledge. Successful Ph.D. graduates will be experts in applied economics and have the ability to develop and execute research programs, teach undergraduate and graduate level economics courses, and present theoretical and applied economic concepts and results to a wide variety of audiences. Individuals holding a Ph.D. from DARE have gone on to success in a variety of positions at universities, the public sector, and private enterprise.

Ph.D. students are held to the highest academic standards and are expected to become experts in their field. Significant independent inquiry outside of the classroom is expected. Successful students are self-motivated, professional, and proactive in achieving their academic goals.

### **1.2.1 Admission Policies**

Applicants to the Ph.D. degree program are reviewed by the Graduate Admissions Committee in order to determine suitability for study in agricultural and resource economics at the PhD level. Applicants with a strong background in quantitative methods and economics are most likely to gain admission to the Ph.D. program with departmental funding, but strong applicants with other types of degrees will be considered. All applicants to the program are required to take the Graduate Record Exam (GRE). Generally, a high score in this exam can help a student lacking in some areas to document strengths necessary to gain acceptance and will be considered in funding

decisions. The Graduate Admission Committee evaluates each perspective student based on the totality of their application packet, and there is no minimum requirement for the GRE scores.

### 1.2.2 Academic Advising

After admission to DARE, the Chair of the Graduate Program will serve as your temporary advisor in the first year. During this period, you are expected to work at devising your program of study, and identifying a faculty member who will serve as your permanent advisor and supervise your thesis work. Your temporary advisor will help you with these tasks. **All students must declare their permanent advisor on the GS-6 form, generally by the end of the second semester after arrival.** Students are encouraged to familiarize themselves with the work of the DARE faculty, as well as those in other departments across the University, in order to identify a permanent advisor and committee members.

Students pursuing the Ph.D. degree choose a committee of at least four people following the procedures detailed in section 2.1.1. The chair of this committee, with input from the committee members, will guide the student through the research process and the writing of a doctoral dissertation. Examples of Ph.D. dissertation titles can be found at: <http://dare.agsci.colostate.edu/graduate/theses-dissertations/>.

### 1.2.3 Credit Requirements

A minimum of 72 semester credits are required for the Ph.D. degree, including:

- A minimum of 42 credits earned in 500-level or above courses beyond the B.S. degree, with a minimum of 30 of these credits earned in regular graduate courses (i.e., not independent studies or research).
- Students may apply an approved Master's degree for up to 30 credits toward the PhD requirements provided such degree fulfills course requirements analogous to the Agricultural and Resource Economics M.S program offered by DARE. The transfer of such credits will be assessed on a case by case basis by the Chair of the Graduate Program.
- A maximum of 12 dissertation credits.
- At least 32 credits earned at Colorado State University after admission to the Ph.D. program.
- A maximum of 10 credits in courses earned after the date on which an M.S. degree was awarded may be accepted in transfer if approved by the student's advisory committee, the department, and the Graduate School. Transfer credits are only allowable for completed

courses receiving a grade of B or better (3.0 grade points), in accordance with the substitution policy.

- At least 9 credits must be earned at Colorado State University at the 700 level in AREC **OR** ECON classes, not including AREC 784, 795, and 799.
- The responsibility for complying with these requirements rests on the student

No student-option pass-fail grading is permitted in the program of study (i.e., GS-6). 300-level courses in ECON and AREC are not allowed, but undergraduate courses at the 300-level and above from other disciplines in support of secondary course fields may be approved, on a course by course basis, by the student's graduate committee.

## **1.2.4 Courses**

A typical full-time student at CSU is registered for 9 credits per semester. Core courses are taken by all Ph.D. students, while field courses are taken by all students within a specialization (Agricultural Economics or Natural Resource and Environmental Economics). Elective courses are chosen by the student to fulfill the minimum credit requirements of the degree.

### **1.2.4.1 Core Courses**

To maintain good academic standing students must complete the following core classes by the end of the second year after admission to the Ph.D. program:

- AREC 615: Optimization Methods for Applied Economics
- AREC 635: Econometric Theory I
- AREC 735: Econometric Theory II
- AREC 736: Advanced Econometric Methods: A (Discrete Choice Models) or B (Panel Data Models)
- AREC 606: Microeconomic Analysis I
- AREC 706: Microeconomic Analysis II
- AREC 570: Methodology of Economic Research
- ECON 501: Quantitative Methods for Economists
- ECON 504: Applied Macroeconomics (or other graduate level macro course)

### 1.2.4.2 Field Courses

Field courses depend on the chosen specialization.

Students pursuing a field in Agricultural Economics are required to successfully complete the following classes:

- AREC 605 (2 credits): Agricultural Production and Cost Analysis
- AREC 610 (2 credits): Agricultural Marketing and Demand Analysis
- AREC 705 (2 credits): Advanced Production and Technological Change **AND**
- AREC 710 (2 credits): Advanced Agricultural Marketing Issues

Students pursuing a field in Environmental and Resource Economics are required to successfully complete the following two classes:

- AREC 540 (3 credits): Environmental and Natural Resource Economics
- AREC 740 (3 credits): Advanced Natural Resource Economics **AND**
- AREC 741: Advanced Environmental Economics

### 1.2.4.3 Elective Courses

Ph.D. students will take additional courses to complete their program. Specific course electives beyond the required core and field courses will be selected and agreed upon by the student and the student's advisory committee in consideration of the student's background and objectives. Such courses can be from DARE or other departments. 300 and 400 level courses are acceptable for graduate credit, but need to be approved by the student's advisor and committee (See Appendix A for graduate level courses offered by DARE). However, 300-level courses with AREC and ECON prefixes are not admissible.

Note: students are required to maintain a grade point average of 3.0 or better to maintain good academic standing, and all classes declared on the GS-6 form must be completed with a grade of C or better.

### 1.2.5 Qualifying Examinations

Students pursuing the Ph.D. are required to pass two qualifying examinations: one in microeconomic theory and one in quantitative (econometrics) methods. The intent of the examinations is to test and certify that a student has mastered the fundamental core knowledge necessary to succeed in advanced Ph.D. coursework and the chosen field of study.

Each qualifying examination will be administered as a closed-book, in-classroom, written examination lasting four hours. Doctoral students are expected to sign up and take the test immediately after completing the supporting coursework (see following sections). Students who do not pass each qualifying examination on the first attempt must retake the examination at its next offering. Failure to take the test at the subsequent offering constitutes an automatic fail.

**Students who do not complete the qualifying exams in a timely manner will lose their good academic standing and be deemed not to be making satisfactory academic progress.**

In rare situations where there are extenuating circumstances beyond a student's control, students who did not pass the exam on the second attempt may petition the Graduate Committee for a third attempt (see Ph.D. Exam Appeal Policies).

#### 1.2.5.1 Econometrics Core Theory Qualifying Exam

The Econometrics Qualifying exam is offered twice each summer in May and August, usually one week after the end of the spring term and one week before the beginning of the fall term. This exam covers econometric topics discussed in AREC/ECON 635 (offered in Fall) and AREC/ECON 735 (offered in Spring), but also test more basic concepts and intuition typically presented in M.S. level courses. Students are required to complete this sequence of classes by the end of their second academic year, but students with a previously earned M.S. degree will typically complete the sequence in their second semester. Students will take the quantitative qualifying exam following successful completion of AREC/ECON 735. Failure to take the exam in the absence of a formal exemption (granted by the Graduate Committee) will be considered a failed exam.

#### 1.2.5.2 Microeconomic Core Theory Qualifying Exam

The microeconomic qualifying exam is offered in January and May/June of each year, usually one week before the beginning of the spring term and shortly after the end of the spring term. This exam will cover topics discussed in ECON 501 (offered in Fall), AREC/ECON 606 (offered in Spring), and AREC/ECON 706 (offered in Fall). Students are required to complete the 606-706 sequence by the end of their second academic year.

Students will take the microeconomic qualifying exam following successful completion of AREC/ECON 706, usually in Fall of Year 2. This implies that the student's first attempt of the

microeconomic qualifying exam will usually be in January of year 2. Failure to take the exam in the absence of a formal exemption (granted by the Graduate Committee) will be considered a failed exam.

### **1.2.6 Preliminary Exam**

The Preliminary Exam (also known as ‘Proposal Defense’) is the final step to candidacy (also known as A.B.D., “All But Dissertation”, status). Per Graduate School regulations, the Preliminary Examination for a PhD degree has to be completed *at least two terms before the final examination*. For example, a student passing the preliminary examination in the spring term, cannot take the final examination in the summer term, and needs to wait until the following fall term. In DARE, completing the Preliminary Examination involves the following three components: 1) research proposal 2) written exam and 3) oral exam.

The written and oral exams can be scheduled to occur only after meeting the following requirements:

1. Passing the Microeconomics and Econometrics Qualifying Exams
2. The research proposal has been approved as “ready to defend” by all members of the advisory committee
3. Successful completion of the AgEcon or NRE PhD field course listed in the GS6
  - a. AgEcon: AREC 605, AREC 610, AREC 705, AREC 710 (8 credits total)
  - b. NRE: AREC 540, AREC 740, AREC 741 (9 credits total)

The intention to hold a Preliminary Examination is to be publicized to the Department at least two weeks before the date of the exam. A **two-page summary** of the research proposal prepared by the student and approved by the members of the advisory committee shall be shared with the DARE faculty at this time. The written component is to be assigned two weeks before the oral exam. Students have one week to return written materials for evaluation by their committee.

#### **1.2.6.1 Research proposal**

The objective of the research proposal is to lay the foundation for the doctoral dissertation. While there is no specific requirement, the research proposal should assure that substantial progress has been made on a portion of the research, the student is conducting PhD-level work, and, for the research that remains, there is a reasonable and complete plan of work. This will imply showing that data is available (if appropriate), the methods for analysis are known and understood, and that hypothesized results are provided. As a general rule, the student should engage and request feedback from all members of his/her advising committee in an iterative process. This iterative process continues until all committee members are in favor of proceeding to the written component of the exam, or the advising committee determines that the student has lost the status

of good academic standing because of a lack of satisfactory progress towards the degree (see section 1.2.9)

A basic template and suggested structure of a research proposal is:

One research contribution should be close to completion, and be representative of the quality and rigor the advisory committee expects from a PhD student in their final doctoral dissertation. This involves an extensive literature review, a well formulated research question, solid methods and results, coherent conclusions and relevant discussion.

The second and third contributions can be at a more preliminary state, and may build or extend on the first contribution. At the very minimum, the following questions will be clearly addressed.

- 1) What is your primary research question for this contribution? How does this fit into the broader literature?
- 2) Why (and for whom) is this research question important?
- 3) How are you approaching the research question? Can you document that the necessary information/data is accessible and/or how you will collect it?
- 4) What is novel about your approach, compared to what others in the literature have done? How are you contributing to the literature?
- 5) What results do you expect, and why?

#### **1.2.6.2 Written component of the preliminary examination**

After a research proposal is approved, the advisory committee will devise a set of questions for the written component of the prelim exam. Every departmental member of the advisory committee is required to write at least one question, while the outside member is encouraged but not required to write a question. The main advisor is in charge of compiling all the questions, adjusting for any redundancy, and to administer the exam. The written exam is open-book, open-notes and take-home, but no other outside help can be accessed (the student can discuss the questions with the committee members as appropriate). The answers will include the signed statement of academic integrity: ***"I have not given, received, or used any unauthorized assistance."***

The written component of the preliminary exam is not a stand-alone exam, but rather the first part of the preliminary examination. Its primary function is to allow the members of the advising committee to ask complex and in-depth questions about the proposed research plan, which may be hard to address during an oral examination. Possible questions include (but are not limited to) the following objectives:

- 1) Address potential flaws or uncertainties in the research proposal.

- 2) Assess student knowledge and understanding of the broader methods and concepts relative to the chosen field of expertise (AGECON, NRE), even if not immediately related to the research proposal.
- 3) Survey student knowledge of the academic literature relevant to his/her research proposal, and challenge the relevance of the proposed contributions.
- 4) Test student knowledge of the methods and tools relevant to the proposed dissertation work.
- 5) Further explore interdisciplinary dimensions and connections with the non-economic literature.

The members of the advisory committee will determine the timing and content of the exam, but the exam will be limited to occur over not more than five business days. The committee will assess the student performance in the written exam before the oral component, but the pass/fail determination is made only at the end of the oral component.

### **1.2.6.3 Oral component of the preliminary examination**

The oral exam will involve a 30-45 minute presentation by the student illustrating the research proposal, followed by questioning by the advising committee. At their discretion, committee members can follow up on the questions and answers provided in the written component of the exam and/or inquire about the feasibility/methodological soundness of the research conducted and proposed. Per graduate school rules, participation in the oral exam by the student and/or one or more members of the examining committee may be via electronic link (online) so long as all are participating simultaneously and all committee members and the student have agreed to this in advance.

At the end of the oral exam, each faculty member on the advisory committee will express a vote of pass/fail based on the overall performance of the student in the 1) written exam and related follow up questions during the oral, and 2) the merit of the research conducted and proposed. If the majority is opposed (or there is a tie), the student fails and works with the committee to devise a remediation path. Regardless of the outcome, a GS16 “Report of Preliminary Examination” ([GS Form 16](#)) is filed with the graduate school. The student is responsible for obtaining the Report of Preliminary Examination from the Graduate School and returning it, appropriately completed, after the conclusion of the examination.

A candidate who fails the Preliminary Examination may be reexamined once and, for the reexamination, may be required to complete further work. The reexamination must be held not later than 12 months after the first examination. The examination must not be held earlier than two months after the first examination unless the student agrees to a shorter time period. Failure to pass the second exam results in dismissal from the Graduate School.

#### 1.2.6.4 Timing and Milestones to Degree Completion for Ph.D.

The following guidelines are suggestions intended to favor an expeditious completion of your degree requirements. Sample Ph.D. programs of studies are presented in appendix B.

Ph.D. students entering the program with a MS degree from a program comparable to the DARE MS (transferring 30 credits) are required to take five classes associated with the preliminary examinations (AREC 606, 706, 635, 735, and ECON 501), plus AREC 736A or 736B within their first two years, two methods courses (AREC 570, 615) and the required field core courses (AREC 605, 610, 705, 710 or 540, 740, 741) within their first three years. The Chair of the Graduate Program may consider waiving one or more of these requirements if the student can demonstrate the equivalence of coursework eligible for transfer of credit. Students may also use a maximum of 12 credits of the variable credit AREC 799: Dissertation course towards their degree. Although there are a maximum number of thesis credits from AREC 799 that can be formally counted towards the degree, there is no limit to the number of thesis credits for which a student may register. **As such, a typical full-time Ph.D. degree program would consist of 9 credits of formal coursework per semester (three classes).** Formal coursework from a properly planned degree program can thus be completed in five semesters with a previously earned M.S. Note, however, that certain courses (notably field courses) are only offered every other year, so planning is essential. See appendix A or <http://dare.agsci.colostate.edu/graduate/graduate-courses/> for the catalog description of DARE classes.

Typical timing for the Ph.D. degree is as follows:

Ph.D. Milestones	Normal Progress	Limit
Quantitative Core Exam	Summer after 2 <sup>nd</sup> semester	Summer after 4 <sup>th</sup> semester
Microeconomic Core Exam	Winter after 3 <sup>rd</sup> semester	Winter after 4 <sup>th</sup> semester
Select thesis advisor/committee	End of 3 <sup>rd</sup> semester	End of 3 <sup>rd</sup> semester
Preliminary Oral Exam	End 5 <sup>th</sup> semester	End of 6 <sup>th</sup> semester

Final Dissertation Exam	End of 7 <sup>th</sup> semester	End of 10 years
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Students entering the PhD program without transferring MS degree credits will develop and follow the full 72 credits program, which will include, in addition to the program just described, the MS core and field classes. A template for such program is provided in appendix B.

### 1.2.7 Dissertation

Students take primary responsibility for identifying a dissertation topic, developing the dissertation content, and preparing the presentation and format of the dissertation. The dissertation is supervised by the student’s advisor and committee, and must be approved by them. As an alternative to the standard monographic dissertation format, the advisor and committee may approve a dissertation constructed of shorter, stand-alone articles integrated around a central theme. This approach is often favored because it expedites the process of submission and publication of original dissertation work in academic journals.

The final dissertation defense must occur at least two terms after the preliminary exam of the dissertation proposal (one term between the preliminary and final defense). So, if a student passes the preliminary exam in the fall term, they cannot defend the dissertation in the ensuing spring term and need to wait until the summer term.

The Ph.D. degree is completed when the student’s advisory committee and the Department Head has approved the dissertation, the dissertation is filed with the Graduate School, all appropriate forms have been submitted and approved, and an electronic copy of your dissertation is submitted to the Department of Agricultural & Resource Economics.

### 1.2.8 Assessing Academic Performance

To meet the requirements for graduation and to remain in good academic standing, a student must demonstrate acceptable performance in course work after being admitted to a graduate program. This requires a minimum cumulative grade point average of 3.00 in all regular course work. Regular course work is defined as courses other than independent or group studies, research courses, open seminars, thesis/dissertation credits, study abroad, U.S. travel, supervised college teaching, student teaching, practicum, internship, field placement, unique title courses offered through Continuing Education, and any courses graded pass/ fail.

Grade requirements:

- 4) An overall 3.00 grade point average must be maintained in regular and non-regular courses graded traditionally (A through F).
- 5) The grade point average in required courses included on the approved program of study (GS-6) must also equal at least 3.00.

- 6) Grades of C or higher must be earned in all required courses on a program of study.

D grades may be accepted in background courses, but such courses must be included in the computation of the cumulative grade point average.

Standards and requirements for off-campus graduate study are the same as those standards and requirements on campus. The academic Department Head has the basic responsibility for the implementation of this policy.

**Academic probation: failure to maintain good academic standing results in the student being placed on academic probation and a loss of eligibility for departmental funding.**

New regularly admitted students will not be placed on probation until they have completed 12 regular credits or two semesters of graduate work, whichever comes first. The probationary period extends for one semester beyond the one in which this status is acquired and during which the student registers for courses that affect the grade point average (i.e., traditionally graded regular and non-regular courses). The period allowed between being placed on probation and registering for courses that affect the grade point average shall be limited by the student's advisory committee within their criteria for determining satisfactory progress. Students on probation are subject to dismissal by the academic department or the Vice Provost for Graduate Affairs at the end of the probationary semester unless good academic standing has been regained. This requires adequate improvement in cumulative grade point averages (3.00) and/or satisfactory progress as determined by the student's graduate advisory committee.

### **1.2.9 Assessing Degree Progress**

In addition to grade point average requirements, good academic standing requires satisfactory progress in the overall graduate program. For DARE Ph.D. students, this includes sufficient progress on the qualifying and field exams, as well as the dissertation proposal and final dissertation defense. Students' individual graduate advisory committees may render judgments as to whether satisfactory progress is being made toward the degree, taking into account all aspects of academic performance and promise, not necessarily course work alone. A positive judgment is required to remain in good academic standing.

When a student's graduate advisory committee or an appropriate departmental graduate committee finds that a student is making unsatisfactory progress toward the degree due to factors other than grade point average and that satisfactory progress cannot be anticipated, a plan should be created and the following steps should be taken.

1. Inform the student of the concerns, create a progress plan with the student, develop a timeline and inform the student of the potential consequences (dismissal) if the progress is not satisfactory.

2. The committee should keep in contact with the student to give feedback during the progress plan timeline and document such contacts and their outcomes.
3. At the end of the timeline, if progress is not adequate, the committee may recommend dismissal from the program. The recommendation goes to the Department Head and the Dean of the Graduate School and should include documentation on the steps taken with justification for this action.

The recommendation must be referred to the Department Head for approval and the Dean of the Graduate School for final action.

## **2 Department Policies and Procedures**

### **2.1.1 Forming an Advisory Committee**

The graduate experience involves engagement in a host of activities and the simultaneous pursuit of several competing requirements. Careful and comprehensive planning is a must. This planning is done by the student, the advisor, and the graduate advisory committee and should take place early in the graduate career. Comprehensive planning assures that the greatest possible benefit will be gained from graduate study.

Temporary and permanent advisor: Upon entering the graduate program, the Chair of the Graduate Program will serve as temporary advisors. Students are expected to consult with the departmental faculty and choose their permanent advisor within a year of entering the program. The advisor helps the student in planning the pursuit of his or her degree, following the student throughout the graduate career on all matters related to the degree program. A close, cordial, and professional relationship is therefore of the utmost importance. Both student and advisor should work at achieving mutual understanding and respect. It is the student's responsibility to identify a permanent advisor and a committee, all of whom are willing and qualified to serve. The Department Head and the Chair of the Graduate Program will use their best efforts to facilitate selection of the committee and subsequent changes therein.

The graduate advisory committee is appointed through filing a GS Form 6 with the Graduate School, which is due before the time of the fourth regular semester registration at the latest. The purpose of the advisory committee is to make available to the student a broad range of knowledge and expertise. It aids in general advising of the student and assists in planning the major elements of the program. The committee also evaluates student progress throughout the graduate career and it administers the preliminary and final examination. Members of the committee should be chosen on the basis of the student's interests, the student's experience with faculty members, and the advisor's knowledge and expertise. You may also find it helpful to look at faculty publications as an indicator of the wide diversity of departmental research interests at: <http://dare.agsci.colostate.edu/people/faculty/>. The makeup of a graduate committee

must be approved by the Department Head and, of course, agreed to by the potential members themselves. The committee is not responsible for reminding students of published deadlines or monitoring procedural details. The student should manage such matters independently.

With notification, temporary replacement of a member may be arranged. A member, including the advisor, may resign from the committee and in such cases, the affected student and his or her Department Head will be notified promptly by the departing member. It is then the student's responsibility to obtain a replacement, assisted as needed by the Department Head and Chair of the Graduate Program. Any permanent changes are recorded through the filing of GS Form 9A with the Graduate School.

Advisory committee for M.S. students: the committee must consist of at least **three faculty members**. Committee members are as follows: 1) the advisor who serves as chair (or co-chairs of the committee of any appointment type within the department); 2) one or more additional members from the department; and 3) one member from an outside department who is chosen by the student, but appointed by the Vice Provost for Graduate Studies and represents the Graduate School. The outside committee member appointed by the Vice Provost for Graduate Studies must hold a regular, special, transitional, joint, or emeritus/emerita faculty appointment at Colorado State University.

Advisory committee for Ph.D. students: the committee must consist of at least **four faculty members**. Committee members are as follows: 1) the advisor who serves as chairperson of the committee and who must hold academic faculty rank as a professor or associate professor, (assistant professors may only co-chair per department regulations) of any appointment type within the department; 2) one or more additional faculty members from the department; 3) any non-departmental faculty member who may be appropriate; and 4) one member from an outside department who is chosen by the student, but appointed by the Vice Provost for Graduate Studies and represents the Graduate School.

The outside committee member appointed by the Vice Provost for Graduate Studies must hold a regular, special, transitional, joint, or emeritus/emerita faculty appointment at Colorado State University. According to the graduate school manual, "The outside member should serve as an impartial external evaluator on the committee, ensuring quality of scholarship and fairness in process." The chair of the advisory committee will ensure that the outside member is fully informed of the departmental policies and procedures, especially with regard to the exams administered by the advisory committee (final examination for M.S., preliminary and final dissertation defense for Ph.D.).

Persons who are not academic faculty<sup>1</sup> of Colorado State University may be appointed full voting members of graduate student advisory committees following the procedures outlined in the “graduate Study” section of the Graduate Professional bulletin.

If the initial selection of committee turns out to be a poor fit, the student may (with the Department Head’s approval) change the advisor and (or) committee members. Committees can be changed by filing a GS-9A form. More information about advisers, committees, and other requirements can be found under “Graduate Study” in the Graduate and Professional Bulletin.

### **2.1.2 Graduate School Forms**

#### **2.1.3 GS-6: Program of Study**

The Program of Study is a document which lists all courses taken in pursuit of the degree as well as the graduate committee. This is the formal statement of what is done to achieve the degree, the summary of all academic planning. The Program of Study must be filed with the Graduate School before the time of the fourth regular semester registration. Students who fail to meet this requirement may be denied subsequent registration. In addition, this form must be submitted to the Graduate School prior to applying for graduation.

#### **2.1.4 GS-9A: Petition for Committee Member Changes**

This form is used to make changes to a student's committee **after the student's GS-6 Program of Study has been approved by the Graduate School.** A student's committee must be up-to-date at the time of the preliminary examination (Ph.D. students), final examination/defense, and thesis/dissertation submission.

#### **2.1.5 GS-16: Report of Preliminary Examination for the Ph.D. Degree**

A preliminary examination shall be administered at least two terms before the final examination/defense to determine whether the student is qualified to continue toward the doctorate. The completed and signed form must be submitted to the Graduate School Office within two working days after the results of the examination are known.

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<sup>1</sup> According to the *Academic Faculty and Administrative Professional Manual* (section E.1) “The faculty includes all personnel who carry academic rank (professor, associate professor, assistant professor, instructor, and faculty affiliate) and additional personnel as defined by C.R.S. 23-31-104.”

### **2.1.6 GS-24: Report of Final Examination Results**

All Ph.D. students and Master's Plan A and Plan B students are required to complete and pass a final examination/defense. The examination must be held by the published deadline of the student's graduating term. The completed and signed form must be submitted to the Graduate School Office within two working days after the results of the examination are known.

### **2.1.7 GS-25: Application for Graduation**

A student must apply for graduation by the published deadline of the student's graduating term. A student applying to graduate for the first time must submit this form.

### **2.1.8 Reapplication for Graduation**

An online process is in place for a student who has applied to graduate in a previous term and who needs to update to a future term. A student must reapply for graduation by the published deadline of the student's updated graduating term.

### **2.1.9 GS-30: Thesis/Dissertation Submission**

This form is required of all Master's Plan A students and Ph.D. students submitting a thesis or dissertation after the final thesis/dissertation has been reviewed and approved by the student's committee. The completed and signed form must be submitted to the Graduate School Office by the published deadline date of the student's graduating term and **before** the electronic submission of the thesis or dissertation.

### **2.1.10 Continuing Registration**

All students admitted to a graduate program at Colorado State University are required to be continuously registered in the fall and spring semester throughout their degree programs. This policy applies from the time of first enrollment through the graduation term. Students may fulfill this requirement by registering for any graduate credit-bearing course (regular or non-regular).

As an alternative, students may opt for a Continuous Registration (CR) status. Registration for CR status is accomplished in the same way as registration for courses. Section ID numbers appear in the class schedule under the CR prefix. Students registering for CR will be assessed a fee for each semester of CR registration. Graduate degree candidates must be either enrolled for at least one credit or must register for CR during the term (fall, spring, or summer) they will complete their degree requirements.

## *2.2 Assistantship Policies & Procedures*

### **2.2.1 Eligibility for Departmental Funding**

The Department of Agricultural and Resource Economics has typically funded a limited number of graduate students from the Department's budget sources that are based on State of Colorado appropriated funds, either from teaching or agricultural experiment station allocations, as well as from contracts and grants awarded to DARE faculty. Together these sources constitute department funding. Departmental assistantships are assigned by the Department Head. As funding is limited, the allocation of this support is competitive and will be reviewed annually.

Graduate assistants, regardless of funding source, are funded as "employees at will", as stated in the Graduate and Professional Bulletin. Depending on individual circumstances, all funded students will enter into employment contracts of no longer than one academic year, and no shorter than one academic semester. Renewals of contracts will be made at the discretion of the Department Head and the Chair of the Graduate Program. **Renewal of contracts is not guaranteed. An unsatisfactory performance evaluation by the supervising professor, or a notification from the Graduate School placing the student on probation, will eliminate department funding opportunities.**

### **2.2.2 Duration of Assistantships**

The maximum duration for a departmental assistantship for an M.S. student is 24 months, and for a Ph.D. student is 56 months. Ph.D. students entering the program with M.S. degree credit transfer can be funded for a total of 48 months. It is the responsibility of the student to petition the Department Head for extensions and document why such an extension should be granted. Included in the petition would be the time requested for extension, justification for extension, and a letter of support from the student's advisor.

### **2.2.3 Obligations for Student on Assistantship**

Obligations are dependent on the type of assistantship awarded:

Graduate research assistantships: the student duty is to assist the supervisor in his research program. It is the responsibility of the supervisor to make expectations and assigned duties clear.

Graduate Teaching assistantships: the primary duty of a teaching assistant is to assist the supervising faculty member with the instruction of classes. This may include grading papers, preparing class materials, substituting in the classroom, and/or tutoring students. Depending on student experience/interest and departmental needs, a teaching assistant may be assigned to be the primary instructor of a course.

Joint research assistant/graduate teaching assistant appointments are also possible. The advisor or immediate supervisor is responsible for seeing that the assistantship obligations are balanced based on sources of funding so that all expectations can be realistically fulfilled.

### **2.3 Office Space Policies**

The Department of Agricultural and Resource Economics will attempt to supply all graduate students with office space. However, space is limited and therefore not everyone will always have an office, and some people will have more desirable office space than others. DARE also has access to lockers in Clark C-wing. Please see Denise Davis (B-318) for an office or locker assignment.

Office allocation is at the discretion of the Department Head, but the general priority order is:

- Ph.D. and M.S. students funded as teaching assistants
- Ph.D. then M.S. students funded by the department or a faculty member that are working on the final phases of their dissertation or thesis
- Ph.D. then M.S. students not funded by the department that are working on the final phases of their dissertation or thesis
- Ph.D. then M.S. students that are funded by the department or a faculty member to conduct research
- Ph.D. students that have passed all qualifying exams
- All other Ph.D. students (ordered by tenure)
- All other M.S. students (ordered by tenure)

### **2.4 Facility and Building Key Policies**

#### **2.4.1 Keys**

Please see Donna Sosna (B-320) for keys to the building and office, if assigned. Keys must be returned before leaving the program. The Department Clearance Form (GS-25B) will not be sent to the Graduate School until DARE has received an electronic copy of your thesis/dissertation and your keys have been returned to the main office.

#### **2.4.2 Computer Lab**

The graduate student computer lab is located in Clark B-335. This lab is set up for DARE graduate students only. The equipment, paper and service calls on lab computers are paid for by student computer technical fees. Office supplies are ordered through Ed Peyronnin, Coordinator,

Center for Information Technology, College of Agricultural Sciences, at 491-2444 or [aghhelp@colostate.edu](mailto:aghhelp@colostate.edu).

### 2.4.3 Email Accounts

Email accounts must be obtained with the creation of an eID, on the web at <http://eID.colostate.edu>, and choose Register for your eID. In the next menu, you will need your CSU ID. If you do not know your CSU ID, contact the registrar's office at (970) 491-4860.

Graduate students may use the e-mail service of their choice or the free e-mail service the University provides. Please make sure your account accepts attachments and has adequate space for large files. It is the responsibility of the student to make sure that the email address in the departmental records is current, and notify Denise Davis at [denise.davis@colostate.edu](mailto:denise.davis@colostate.edu) of any email address changes so that we can update our records. Email is the primary mode of communication between the department (or the university) and the students, so students are expected to check their inbox for department notices and academic information.

### 2.4.4 Mail

Mailboxes for graduate students are located in the graduate computer lab (B-335). Please check your boxes for department notices and academic information.

## 2.5 Other Administrative Policies

### 2.5.1 Travel Policies and Subsidies

All travel, domestic or international, for official university purposes must be approved prior to travel, regardless of funding source. The appropriate travel forms and waivers can be found at <http://abc.agsci.colostate.edu/procurement-and-finance/>. See Donna Sosna (B-320) for additional information on travel.

DARE has historically helped to support travel by funded graduate students (i.e., RAs and TAs) to academic conferences and professional meetings. Travel support will be provided subject to availability, and will be allocated on a priority basis. The following criteria will be used to help determine when *Graduate Student Travel Subsidies* will be granted and the level of that support.

**Funding Eligibility and Priorities:** *Students who meet the following criteria will be given priority for Departmental funds, subject to their availability (Note: Criteria are not in priority order nor do they necessary carry equal weight in departmental support decisions):*

1. Students who applied for student travel assistance available from the meeting sponsors. (*This is a necessary condition where such support exists.*)
2. Travel to annual meetings of recognized major Economics, Agricultural Economics and Natural Resource Economics professional or other relevant organizations (examples include,

but are not limited to AEA, AAEEA, WEA, and WAEA). Typically, National conferences have a higher priority for funding than regional conferences.

3. Students who have not already received travel support in the current fiscal year (August 15 to August 14).
4. Students who have not been subsidized previously.
5. Students who are actively pursuing employment and are using a meeting-sanctioned employment service.
6. Students who are presenting at least one paper or are competing in a sanctioned graduate student competition at the professional meeting.
7. Students who are involved in a variety of activities (presenting papers, competing in Graduate activities, leadership in the Graduate Section of AAEEA, interviewing for jobs) will receive highest priority.

**Funding Levels:** Funding levels will depend on budget, demand, and priorities. The following guidelines will apply to the extent possible:

1. For students who have applied but did not receive any financial travel assistance from the other relevant professional organizations, the *DARE Graduate Student Travel Subsidy* will be an equal share of the departmental budgeted amount for the program, or your actual cost, whichever is less.
2. For students who have received financial travel assistance from the professional organizations, the *DARE Graduate Student Travel Subsidy* will be equal to #1 plus 25% of the additional assistance you have secured (as an incentive to get subsidies), or your actual cost, whichever is less.

There are no preset funding limits, but we expect for most requests to be funded between \$250 and \$500, depending upon the number of student support requests and the total budget available (and subject to the discretion of the Department Head). Students are encouraged to engage in cost saving measures, including, but not limited to, sharing accommodations and car/van pooling.

#### **Procedure for Requesting a DARE Graduate Student Travel Subsidy:**

Travel requests should include the name and location of the meetings, the nature of the student's participation, and the dates of attendance. The application must also document the other types of student travel assistance that were potentially available for travel to the meeting and that were applied for by the student. To be reimbursed, a travel expense form and receipts are required.

Students who receive a DARE Graduate Travel Subsidy but who do not attend the meeting for any reason other than approved emergencies will be expected to reimburse DARE for the full amount of the subsidy.

## **2.6 Appeal and Course Substitution Policies**

### **2.6.1 Coursework Substitution Policy**

A student may work with his/her advisor to identify appropriate substitution or transfer course(s), up to a maximum of 10 credits. If a student develops a program of study substituting or transferring from another institution any of the core and field courses, they are required to submit a proposal in writing for consideration and formal approval by the Graduate Committee, usually via the student's academic advisor and/or the Chair of the Graduate Program.

### **2.6.2 Ph.D. Exam Appeal Policies**

Ph.D. students are given two attempts to pass each qualifying core or field exam. A failed attempt must be followed by a second attempt at the subsequent exam offering. Failing the second attempt of either qualifying exam will result in automatic dismissal from the graduate program. An appeal process is in place to grant a third attempt to students who experienced extenuating circumstances which may have hindered performance in the exams. To appeal, the student will submit a letter to the Chair of the Graduate Program. The Chair will work with the student to understand the situation and then present the case to the Graduate Committee. The Department Head will make the final determination based on the recommendation of the committee. The Head's decision is final.

Approving third attempts will be the exception, rather than the rule. It is the student's burden to provide evidence that both of the conditions below are true:

- Circumstances beyond their control resulted in a situation that made passing the exam on the second attempt difficult to impossible (e.g., illness, family illness, a death in the family, etc.), **AND**
- That such extenuating circumstances have been or will be resolved shortly so that there is a reasonable expectation that the student will succeed if granted another opportunity. A student's case for requesting a third exam will be stronger if the appeal details specific information documenting that a third attempt will likely result in success.

### **2.6.3 Other Appeal Policies**

Proposed exceptions to any of the requirements or policies contained herein must be submitted in writing to the Graduate Committee for consideration, usually via the student's academic advisor and/or the Chair of the Graduate Program.

### 3 Graduate Student Rights, Responsibilities, and Opportunities

#### 3.1 Academic Rights and Responsibilities

The student is responsible for knowing departmental and University requirements and standards. If any questions arise, the student should seek clarification within the department or from the Graduate School. For more information, including a detailed documentation of student rights and responsibilities at Colorado State University, please review the Student Rights and Responsibilities section of the Graduate & Professional Bulletin at: <http://www.graduateschool.colostate.edu/faculty-staff/bulletin.aspx> (page 68).

The student is responsible for keeping his/her advisor and advisory committee members informed of progress in the program of study and for regularly consulting the advisor and committee. If changes are made in the program of study, the student is responsible for securing approval of all members of the committee beforehand.

#### 3.2 Non-Academic Rights, Responsibilities, and Opportunities

##### 3.2.1 Establishing Residency

If you are a domestic student, it is essential that you establish Colorado residency to ensure you are only charged in-state tuition after your first year (beginning of the third semester). **Students are responsible for out-of-state tuition if residency is not established before their third semester! This applies to students funded on research projects in addition to students funded through the Department.**

Residency is granted by the State of Colorado and Colorado State University cannot guarantee that residency will be granted. Residency is generally granted if you:

- Obtain a Colorado state driver's license from the Colorado Department of Revenue
- Register your car at the Larimer County Court House (if applicable)
- Register to vote in Colorado (at either of the above locations)
- Change your permanent address to Colorado with the University on RAMweb, click on "Address View/Update" under "Records" section.

**The above requirements must be in place for 12 continuous months before residence is granted. As such, please complete them by mid-August (entering fall) or early January (entering spring), so that you will be charged in-state tuition starting from the third semester!**

In addition, you should do the following during your first year:

- Keep a copy of your signed housing documents (lease, rental agreement, etc.) in a safe place.
- Keep your pay stubs for proof of Colorado employment.
- File Colorado state income taxes by April 15, and locate copies of your previous state tax forms for the previous year.
- Attend a Residency Orientation class.
- By mid-June (entering Fall) or early Nov. (entering Spring), visit the Tuition Classification Office, Centennial Hall, to turn in papers and reclassify your residency.

Additional information on residency requirements can be found at <http://sfs.colostate.edu/in-state-tuition-requirements>.

### **3.2.2 Updating Contact Information**

It is very important for the department to have each student's current contact information. It is the student's responsibility to notify Denise Davis (B-318 Clark) if/when you change your phone number, mailing address or email address.

### **3.2.3 Graduate Orientation (Fall Semester)**

The Department hosts a yearly orientation week that we hope will make the transition to Graduate School and the Department as smooth as possible. These activities begin approximately one week before classes begin, and include a "math camp" to ensure each student has the skills necessary to succeed in ECON 501, a department orientation, some orientation activities run by the University, and a few social opportunities. The department orientation is mandatory for all incoming students, math camp is only required for students taking ECON 501, but highly recommended for all students. A calendar of events and Math Camp materials will be mailed to you electronically.

#### Math Camp (Fall only)

Math camp is a prerequisite for ECON 501, and helps incoming students refresh their understanding of the basic mathematical concepts frequently used in the study of economics. ECON 501: Quantitative Methods for Economists, is generally the first class in the Microeconomics sequence for Ph.D. students or for M.S. students who are considering continuing their education beyond the M.S. level. We strongly recommend that all incoming graduate students attend math camp before beginning their programs, or risk falling behind early in the process.

### **3.2.4 DARE Graduate Student Association**

The DARE Graduate Student Association (GSA) is a group whose purpose is to provide an opportunity for current, prospective, and alumni graduate students to interact and network with other students and professors, and to address the day-to-day issues faced by these students. The GSA provides a conduit which facilitates communication between students and faculty in order to ensure a smooth and easy transition into the department, as well as through everyday life as a graduate student. The GSA also organizes several recreational activities which range from hiking trips to barbeques to evenings out in historic Fort Collins.

### **3.2.5 Additional Information**

The Graduate School is a very important as a source of information concerning required forms, financial aid, university graduate school requirements, etc. Please visit <http://www.graduateschool.colostate.edu/index.aspx> for more information.

## 4 Appendices

### 4.1 Appendix A: Graduate Courses offered by DARE

See also General Catalog Page: <http://www.catalog.colostate.edu/>

#### 500 Level Courses (credit hours in parenthesis)

➤ **ECON 501(3) Quantitative Methods for Economists (Fall)**

Prerequisite: Math 141 or Math 155 or Math160. Quantitative methods essential for graduate study in economics; functional forms, optimization, matrix methods, topological modeling.

➤ **ECON 504 (3) Applied Macroeconomics (Spring)**

Prerequisite: ECON 304 and ECON 306. Application of macroeconomic models to economic growth, economic fluctuations, and policy analysis.

➤ **AREC 506 (3) Applied Microeconomic Theory (Fall).**

Prerequisite: ECON 306. Introduction to mathematical models in modern microeconomics, including choices and demand, production and supply, and market structures and failures.

➤ **AREC 507 (3) Applied Welfare and Policy Analysis (Spring).**

Prerequisite: ECON 306. Explore how policies are crafted to effectively address social issues, especially for agriculture and the environment, and how they impact society.

➤ **AREC 508 (2) Financial Management in Agriculture (Fall, odd year).**

Prerequisite: AREC 408. Systematic approach to understanding and applying financial management in farm businesses.

➤ **AREC 528 (2) Applied Agribusiness Decision Tools (Fall, even year)**

Prerequisite: AREC 305 or AREC 408 or FIN 305. Application of quantitative tools for managerial decision making in the context of an agribusiness

➤ **AREC 535/ECON 535 (3) Applied Econometrics (Fall)**

Prerequisite: AREC 335/ECON 335; ECON 304 or ECON 306. Credit not allowed for AREC 335 and ECON 335. Econometric techniques applied to testing and quantification

of theoretical economic relationships drawn from both microeconomics and macroeconomics.

➤ **AREC 540/ECON 540 (3) Environmental and Natural Resource Economics (Spring)**

Prerequisite: AREC/ECON 506. Theory, methods, and policy in environmental and natural resource economics.

➤ **AREC 542 (3) Advanced Water Resource Economics (Spring).**

Prerequisite: AREC 342; ECON 306; MATH 141 or MATH 155 or MATH 160; STAT 301. Credit not allowed for both AREC 441 and AREC 542. Theory and application of economics in water resource planning.

➤ **AREC 570/ECON 530 (3) Methodology of Economic Research (Fall)**

Prerequisite: ECON 403; ECON 306. Credit not allowed for both AREC 570 and ECON 530. Philosophical foundations of science and research. Concepts and skills for planning, performing, reporting, and evaluating economic research.

**600 Level Courses (credit hours in parenthesis)**

➤ **AREC 605 (2) Agricultural Production and Cost Analysis (Spring)**

Prerequisite: AREC 506; AREC 535 OR ECON 535. Empirical application and analysis of production and cost issues in the agricultural and natural resource sectors.

➤ **AREC 606/ECON 606. Microeconomic Analysis I (Spring)**

Prerequisite: ECON306 and ECON 501. Advanced price/allocation theory: consumer/producer decisions; uncertainty; market structure; partial/general equilibrium; efficiency/welfare.

➤ **AREC 610 (2) Agricultural Marketing and Demand Analysis (Spring).**

Prerequisite: AREC 506; AREC 535 OR ECON 535. Empirical Application and analysis of agricultural marketing and demand theory in the agricultural and natural resource sectors.

➤ **AREC 615 (3) Optimization Methods for Applied Economics (Fall)**

Prerequisite: AREC 506. Theory and practice of optimization techniques used in economic applications with emphasis on linear and nonlinear programming.

➤ **AREC 635/ECON 635 (3) Econometric Theory I (Fall)**

Prerequisite: AREC 535 or ECON 535; ECON 501 or concurrent registration. Credit not allowed for both AREC 635 and ECON 635. Theory of mathematical statistics and classical linear regression model in context and economic application.

➤ **AREC 647/ECON647 (3) Land Use and Spatial Modeling (Fall, odd years)**

Prerequisite: AREC 506 or ECON 506; AREC 535 or ECON 535. Use of spatial data in economic analysis of land use focusing on development patterns, land conservation, spatial externalities and agricultural land.

➤ **AREC 660 (3) Development of Rural Resource-based Economies (Spring)**

Prerequisite: AREC/ECON 506. Economic literature-based exploration of human welfare measures & implications of approaches to agriculture and resource-based economic development.

➤ **AREC 695 (1-18) Independent Study.**

➤ **AREC 699 (1-18) Thesis.**

**700 Level Courses (credit hours in parenthesis)**

➤ **AREC 705 (2) Advanced Production and Technological Change (Fall, even)**

Prerequisite: AREC 706 or ECON 706 or concurrent registration; AREC 735 or ECON 735; AREC 605. Production theory is applied to real-world issues including risk, innovation, and environment, through lectures and readings of current literature.

➤ **AREC /ECON 706 (3) Microeconomic Analysis II (Fall)**

Prerequisite: ECON 606. Advanced topics in micro theory: game theory; market imperfections; adverse selection; principal-agent problems; social choice theory; incentives

➤ **AREC 710 (2) Advanced Agricultural Marketing Issues (Fall, even)**

Prerequisite: AREC 706 or ECON 706 or concurrent registration; AREC 735 or ECON 735; AREC 610. Theoretical and modeling issues of consumer demand, market structure, product differentiation and market behavior.

➤ **AREC 735/ECON 735 (2) Econometric Theory II (Spring)**

Prerequisite: AREC 635 OR ECON 635. Credit not allowed for both AREC 735 and ECON 735. Econometric models and estimators in econometrics, from fully parametric to semiparametric and nonparametric approaches.

- **AREC/ECON 736A (1) Advanced Econometric Methods. Choice (Spring, even year)**  
Prerequisite: AREC or ECON 735 or concurrent registration. Discrete Choice Models.
- **AREC ECON 736B (1) Advanced Econometric Methods. Panel (Spring, odd year)**  
Prerequisite: AREC OR ECON 735 or concurrent registration. Panel Data Models.
- **AREC/ECON 736C (1) Advanced Econometric Methods. Time Series (Spring)**  
Prerequisite: AREC OR ECON 735 or concurrent registration. Time series models.
- **AREC/ECON 740 (3) Advanced Natural Resource Economics (Fall, odd years)**  
Prerequisite: AREC 706 or ECON 706. Advanced theory, methods, and literature of natural resource and environmental economics, including dynamic programming and non-market valuation.
- **AREC/ECON 741 (3) Advanced Environmental Economics (Spring, odd years)**  
Prerequisite: AREC706 or ECON 706. Advanced theory, methods, and literature in environmental economics
- **AREC 770 (3) Advanced Methods in Applied Economics (Fall, odd year)**  
Prerequisite: AREC 735 or ECON 735; AREC706 or ECON 706 or concurrent registration. Advanced research methods in applied economics: lab and field experiments, non-market valuation and discrete choice experiments.
- **AREC 784 (1-3) Supervised College Teaching.**
- **AREC 792A (1-18) Seminar – Agriculture.**
- **AREC 792B (1-18) Seminar – International.**
- **AREC 792C (1-18) Seminar – Resources.**
- **AREC 795 (1-18) Independent Study.**
- **AREC 799 (1-18) Dissertation.**

## 4.2 Appendix B: Sample<sup>2</sup> Programs

### 4.2.1 MS AgEcon and NRE

<b>MS with field in Agricultural Economics - Thesis Option (Plan A)</b>			
Year 1 of MS program	Fall	Cr Hr Spring	Cr Hr
	AREC 506 (Applied Micro Theory)	3	AREC 507 (Applied Welfare/Policy) 3
	AREC 535 (Applied Econometrics)	3	AREC 605 (Prod/Cost Analysis) 2
	Additional Course	3	AREC 610 (Mkt/Demand Analysis) 2
			Additional Course 3
		9	10
Year 2 of MS program	Fall	Cr Hr Spring	Cr Hr
	AREC 615 (Optimization Methods) <b>OR</b>	3	Thesis 2
	AREC 635 (Econometric Theory I)	3	
	Additional Course	3	
	Thesis	3	
		9	2

<b>MS with field in Resource &amp; Environmental - Thesis Option (Plan A)</b>			
Year 1 of MS program	Fall	Cr Hr Spring	Cr Hr
	AREC 506 (Applied Micro Theory)	3	AREC 507 (Applied Welfare/Policy) 3
	AREC 535 (Applied Econometrics)	3	AREC 540 (NR & Environment) 3
	Additional Course	3	Additional Course 3
		9	9
Year 2 of MS program	Fall	Cr Hr Spring	Cr Hr
	AREC 615 (Optimization Methods) <b>OR</b>	3	Thesis 3
	AREC 635 (Econometric Theory I)	3	
	Additional Course	3	
	Thesis	3	
		9	3

<sup>2</sup> Sample programs are meant to provide an example, but will need to be adapted to changes in teaching schedule or student's transferred credits. Students are responsible to ensure that their program of study meets all the requirements in sections 1.1.3.-1.1.4 (MS) and 1.2.3-1.2.4 (Ph.D).

## 4.2.2 PhD, AgEcon Field. 72 Credits Requirement

### Odd Year Start

Year	Semester	Courses				Credits	Exams
1	Fall odd	ECON 501 3	AREC 506 3	AREC 535 3		9	
	Spring even	AREC 606 3	AREC 507 3	AREC 605 2	AREC 610 2	10	
summer 1							
2	Fall even	AREC 635 3	AREC 706 3	AREC 705 2	AREC 710 2	10	Micro
	Spring odd	AREC 735 2	AREC 736-A 1	ECON 504/604 3	Elective 3	9	
summer 2							Quant
3	Fall odd	AREC 615 3	AREC 770 3	AREC 570 3		9	
	Spring even	Elective 3	Elective 3	Elective 3		9	
summer 3							Prelim
4	Fall even	Elective 3	Elective 3	AREC 799 3		9	
	Spring odd	AREC 799 9				9	
summer 4							Dissertation
					total	74	

### Even Year Start

Year	Semester	Courses				Credits	Exams
1	Fall even	ECON 501 3	AREC 506 3	AREC 535 3		9	
	Spring odd	AREC 606 3	AREC 507 3	AREC 605 2	AREC 610 2	10	
summer 1							
2	Fall odd	AREC 635 3	AREC 706 3	AREC 570 3		9	Micro
	Spring even	AREC 735 2	AREC 736-B 1	ECON 504/604 3	Elective 3	9	
summer 2							Quant
3	Fall even	AREC 615 3	AREC 705 2	AREC 710 2	Elective 2	9	
	Spring odd	Elective 3	Elective 3	Elective 3		9	
summer 3							Prelim
4	Fall odd	AREC 770 3	Elective 3	AREC 799 3		9	
	Spring even	AREC 799 9				9	
summer 4							Dissertation
					Total	73	

### 4.2.3 PhD, NRE field. 72 Credits Requirement

#### Odd Year Start

Year	Semester	Courses			Credits	Exams
1	Fall odd	ECON 501 3	AREC 506 3	AREC 535 3	9	
	Spring even	AREC 606 3	AREC 507 3	AREC 540 3	9	
summer						
2	Fall even	AREC 635 3	AREC 706 3	AREC 570 3	9	Micro
	Spring odd	AREC 735 2	AREC 736-A 1	Elective 3	3	9
summer						Quant
3	Fall odd	AREC 615 3	AREC 740 3	AREC 770 3	9	
	Spring even	Elective 3	Elective 3	AREC 741 3	9	
summer						prelim
4	Fall even	799 3	Econ 504/704 3	Elective 3	9	
	Spring odd	799 9			9	
summer						Dissertation
					total	72

#### Even Year Start

Year	Semester	Courses			Credits	Exams
1	Fall even	ECON 501 3	AREC 506 3	AREC 535 3	9	
	Spring odd	AREC 606 3	AREC 507 3	AREC 540 3	9	
summer						
2	Fall odd	AREC 635 3	AREC 706 3	AREC 740 3	9	Micro
	Spring even	AREC 735 2	AREC 736-B 1	Elective 3	3	9
summer						Quant
3	Fall even	AREC 615 3	AREC 570 3	AREC 770 3	9	
	Spring odd	Elective 3	Elective 3	AREC 741 3	9	
summer						prelim
4	Fall odd	799 3	Econ 504/704 3	Elective 3	9	
	Spring even	799 9			9	
summer						Dissertation
					total	72

#### 4.2.4 PhD, AgEcon Field, 30 Credits Transferred from MS

##### Odd Year Start

Year	Semester	Courses				Credits	Exams
1	Fall odd	ECON 501 3	AREC 635 3	AREC 615 3		9	
	Spring even	AREC 606 3	AREC 735 2	AREC 735 B 1	Elective 3	9	
summer							Quant
2	Fall even	AREC 706 3	AREC 570 3	AREC 705 2	AREC 710 2	10	Micro
	Spring odd	AREC 735 2	AREC 736-A 1	AREC 799 3		6	
summer							
3	Fall odd	ECON 504/704 3	AREC 799 6			9	
	Spring even	AREC 799 3				3	Prelim
summer							
4	Fall even					0	Dissertation
	Spring odd					0	
total						46	

##### Even Year Start

Year	Semester	Courses				Credits	Exams
1 even	Fall even	ECON 501 3	AREC 635 3	AREC 615 3		9	
	Spring odd	AREC 606 3	AREC 735 2	AREC 735 B 1	Elective 3	9	
summer							Quant
2 odd	Fall odd	AREC 706 3	AREC 570 3	AREC 504/704 3		9	Micro
	Spring even	AREC 735 2	AREC 736-A 1	AREC 799 3		6	
summer							
3 even	Fall even	AREC 799 3	AREC 705 2	AREC 710 2		7	
	Spring odd	AREC 799 6				6	Prelim
summer							
4 odd	Fall odd					0	Dissertation
	Spring even					0	
total						46	

### 4.2.1 PhD, NRE Field, 30 Credits Transferred from MS Odd Year Start

Year	Semester	Courses				Credits	Exams
1	Fall odd	ECON 501 3	AREC 635 3	AREC 615 3	9		
	Spring even	AREC 606 3	AREC 735 2	AREC 735 B 1	Elective 3	9	
summer						Quant	
2	Fall even	AREC 706 3	AREC 570 3	ECON 504/704 3		9	Micro
	Spring odd	AREC 735 2	AREC 736-A 1	AREC 799 3		6	
summer							
3	Fall odd	AREC 740 3	AREC 799 6		9		
	Spring even	AREC 741 3	AREC 799 3		6	Prelim	
summer							
4	Fall even					0	Dissertation
	Spring odd					0	
					total	48	

### Even Year Start

Year	Semester	Courses				Credits	Exams
1 even	Fall even	ECON 501 3	AREC 635 3	AREC 615 3		9	
	Spring odd	AREC 606 3	AREC 735 2	AREC 735 B 1	Elective 3	9	
summer						Quant	
2 odd	Fall odd	AREC 706 3	AREC 570 3	AREC 740 3		9	Micro
	Spring even	AREC 735 2	AREC 736-A 1	AREC 741 3	AREC 799 3		9
summer							
3 even	Fall even	ECON 504/704 3		AREC 799 3		6	
	Spring odd	AREC 799 6				6	Prelim
summer							
4 odd	Fall odd					0	Dissertation
	Spring even					0	
					total	48	