PH.D. PROGRAM REQUIREMENTS

This page details the requirements for a Doctorate of Philosophy degree in the Department of Agricultural and Resource Economics at Colorado State University, for any student entering Fall 2013 or later.

Credit Requirements

- A minimum of 72 semester credits beyond the baccalaureate is required:
  - A minimum of 42 credits earned in 500-level or above courses beyond the B.S./B.A. degree, with a minimum of 30 of these credits earned in regular graduate courses (not special studies or research credits).
  - Students may apply an earned Master’s degree for up to 30 credits toward the PhD requirements conditioned on satisfying course requirements for the Agricultural and Resource Economics M.S program.
  - A maximum of 12 dissertation credits.
  - At least 32 credits earned at Colorado State University after admission to the Ph.D. program.
  - Up to 10 credits in courses earned after the date on which the master's degree was awarded may be accepted in transfer if approved by the student’s advisory committee, the department, and the Graduate School.
  - At least 9 credits must be at earned at Colorado State University at the 700 level in AREC or ECON classes, not including AREC 784, 795, and 799.

- No student-option pass-fail grading is permitted in the program of study (i.e., GS-6).
- Students must maintain an overall GPA of 3.0 or above to remain in good academic standing.

Required Courses

Core Courses:
- 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
- AREC 770: Advanced Research Methods and Topics in Agricultural and Resource Economics
- ECON 501: Quantitative Methods for Economists
- ECON 504: Applied Macroeconomics
FIELD COURSES
A field in Agricultural Economics or Natural Resource and Environmental Economics will be declared by taking two field courses:

- AREC 705: Advanced Production and Technological Change AND
- AREC 710: Advanced Agricultural Marketing Issues
- OR
- AREC 740: Advanced Resource and Environmental Economics

ELECTIVE COURSES
Ph.D. students will take additional courses to complete their program. Specific course electives beyond the requirements 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 (excluding courses listed below), but need to be approved by the student’s advisor and committee.

Courses Not Counted

- The following courses should be completed before starting your Ph.D. program and may not be counted towards the Ph.D. degree:
  - Any course listed on the Plan of Study from a Master's degree conferred at CSU
  - STAT 301: Introduction to Statistical Methods
  - STAT 304: Multiple Regression Analysis
  - All 300-level courses in AREC and ECON
  - All 100- and 200-level courses and all Continuing Education courses

Substitution & Transfer Policy

The student may work with his/her advisor to identify appropriate substitution course(s). Approval of appropriate substitution is required by the student’s advisory committee and the Graduate Curriculum Committee.

A maximum of 10 credits may be transferred to Colorado State University from another institution with the student’s advisory committee, Graduate Curriculum Committee and Graduate School. Transfer credits are only allowable if the grades earned were at least B’s (3.0 grade points).
All additional proposed exceptions to the policies listed herein must be submitted in writing to the Graduate Curriculum Committee for consideration.

Examinations

Students pursuing the Ph.D. are required to pass two written qualifying examinations (one in microeconomics and one in quantitative methods), one written field examination, one oral preliminary examination (also known as the “proposal defense”), and one oral dissertation defense.

Qualifying Examinations

- The intent of the qualifying examinations is to test and certify that a student has the basic skills and abilities to succeed in Ph.D. coursework and chosen field of study in the Department of Agricultural and Resource Economics.
- Each qualifying examination will be administered as a closed-book, in-classroom written examination lasting several hours.
- Students who do not pass each qualifying examination on the first attempt must retake the examination at its next offering or will receive a fail for the second offering.
- 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 Curriculum Committee for a third attempt.

Quantitative Qualifying Exam

- The quantitative qualifying exam is offered twice each summer (early summer and late summer).
- The quantitative qualifying exam will cover topics discussed in AREC 635 and AREC 735.
- Students will be automatically signed up to take the quantitative qualifying exam immediately following completion of AREC 735 and in good academic standing. Failure to take the exam in the absence of a formal exemption (granted by the Graduate Curriculum Committee) will be treated as a failed exam.
Microeconomic Qualifying Exam

- The microeconomic qualifying exam is offered twice each year (before the start of the Spring semester and early summer of each year).
- The microeconomic qualifying exam will cover topics discussed in ECON 501, AREC 606, and AREC 706.
- Students will be automatically signed up to take the microeconomic qualifying exam immediately following completion of AREC 706 and in good academic standing. Failure to take the exam in the absence of a formal exemption (granted by the Graduate Curriculum Committee) will be treated as a failed exam.

Field Examinations

In addition to successful completion of each qualifying examination, all Ph.D. students in the Department of Agricultural and Resource Economics must complete one written field exam. The field examination is generally offered the week before courses begin in the Fall and Spring semesters. Students are expected to have econometric and microeconomic skills equivalent to AREC 606, 706, 635, and 735. The exam consists of an in-class exam with questions from core field classes.

The qualifying courses related to the two tested fields are:

Agricultural Economics

- Core Courses: AREC 705 and AREC 710
- Supporting Courses: AREC 508, AREC 605, and AREC 610

Resource and Environmental Economics

- Core Courses: AREC 740
- Supporting Courses: AREC 540, AREC 541, AREC 542, and AREC 547

Students are required to take the core course(s) for their chosen tested field. Nevertheless, completion of the supporting courses is strongly encouraged.

Students not passing the tested field examination on the first attempt must take the examination again at its next offering; otherwise a fail is recorded. In rare situations where there are
extenuating circumstances beyond a student’s control, students that did not pass the exam on the second attempt can petition for a third and final attempt (see Ph.D. Exam Appeal Policies).

**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 adviser and committee, and must be approved by them. As an alternative to the standard dissertation format, the advisor and committee may approve a dissertation constructed around the presentation of three publishable journal articles integrated around a central theme.

The Preliminary Examination over the dissertation proposal (also known as ‘Proposal Defense’) is the final step to candidacy and only may be completed after passing the tested field exam. The Ph.D. dissertation proposal usually consists of: (a) a problem statement; (b) literature review related to the problem; (c) proposed theoretical and empirical models; (c) anticipated hypotheses to be evaluated; (d) identification of data sources and plan for data collection; (e) plan/timeline for conducting the analysis and writing the first draft of the dissertation. If a three paper option is chosen, these components would be identified for each paper, but repetition is not needed if they share common elements (e.g., data sources). Preparations for the dissertation proposal defense should be undertaken in close collaboration with the student’s major professor (advisor) as specific preferences may vary by project and professor.

The final dissertation defense must occur at least two semester’s after the preliminary exam of the dissertation proposal.

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.