



Graduate Program Requirements

Department of Agricultural & Resource Economics
Herbert College of Agriculture
The University of Tennessee

Fall Semester 2022

All policies in this document have been approved by the faculty in Agricultural and Resource Economics and are effective immediately.

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GRADUATE PROGRAM REQUIREMENTS

Department of Agricultural & Resource Economics

Welcome!

Each year we welcome new students into our Department's Graduate Programs as we say goodbye to our recent graduates. The difficulty in saying goodbye is balanced by our great anticipation of your future success as a new graduate student. The time necessary to complete your graduate degree may seem vast at this point considering the accomplishments you will achieve—participating in classes, accomplishing research, writing and presenting papers, and completing your thesis/dissertation. But we hope you will take time to enjoy the entire experience as you continue your education.

You will develop relationships during your stay here that will span your entire professional career. If you pursue your graduate degree with the necessary intent, it can pay great dividends. We are blessed with professionally competent and caring faculty, staff and students, and encourage you to ask for their assistance when needed.

As applied economists, we strive to address economic issues with well-founded theory and rigor, at the same time making sure our research is relevant and can stand the test of professional, student, and constituent scrutiny. Thus, the Department's Graduate Program is focused on development of your analytical skills used to identify and solve problems of economic importance in agriculture, agribusiness, and natural resource and environmental management. Students in our Program have an opportunity to work closely with faculty on a wide range of research topics including: locally grown foods; bioenergy; water; transportation logistics in the agricultural sector; agricultural markets; agricultural production; international trade; agricultural, natural resource and environmental economics and policy; technology adoption; economic development; land use; and much more.

We are very proud of our graduate students and we work very hard to promote an environment of scholarship, intellectual inquiry, creativity, professional development, and community among our students. Our goal is to develop in you a comprehensive set of hard and soft skills (analytical, writing, oral communication, and many other skills) through classwork, research, and mentoring by faculty. It is our experience that the hard and soft skills that students gain in our program are highly valued by private and public employers and PhD programs.

So please take full advantage of the many opportunities in our program and welcome to this adventure we call graduate school. We are looking forward to your success!

Introduction

This document provides prospective graduate students, current graduate students, and faculty a comprehensive source for degree programs in the Department of Agricultural and Resource Economics; application procedures and requirements; Departmental policies; and procedures governing programs, concentrations and fields. Graduate students are bound by policies and requirements in this document and the [Graduate Catalog](#). This means that graduate students must follow current requirements in the [Graduate Catalog](#) and this document. Notice of any changes to these policies and procedures will be provided to students by email. Thus, students are expected to routinely check their official UT email account.

Graduate students are expected to be aware of and satisfy all regulations governing their work and study at UT. In addition to the Department's policies and procedures, graduate students must also comply with all rules, regulations and requirements of UT's Graduate School. Information on Graduate School rules, regulations and requirements can be found on the [Graduate School's](#) website and in the [Graduate Catalog](#). In addition, all students should be familiar with the [Hilltopics Student Handbook](#)—UT's manual on standards of conduct, disciplinary regulations and procedures, campus and academic policies, and student support services and programs. While Departmental faculty will make every effort to advise and monitor the progress of students enrolled in the Department's Graduate Programs, the final responsibility for meeting Department, Graduate School and UT requirements in a timely fashion, including the completion of all necessary forms, resides with the student.

Graduate Program Contacts

Each academic department or program has designated a faculty member who is the Director of Graduate Studies. The Graduate Director, with the assistance of the other graduate faculty in the department, is responsible for the administration of the Graduate Programs in the department and also serves as the contact person with the Graduate School. Your primary Graduate Program contact is your Major Professor but members of the Graduate Program Committee would be happy to talk to you about our Graduate Program.

Members of the committee include:

- [Dr. Xuqi Ricky Chen](#)
- [Dr. Andrew Muhammad](#)
- [Dr. Aaron Smith](#)
- [Dr. Jacqueline Yenerall](#)
- [Dr. T. Edward Yu \(Chair\)](#)

Graduate Faculty

Prospective graduate students should review our listing of graduate faculty on the [Agricultural and Resource Economics](#) website to learn more about faculty and their research. Contact the faculty involved in research that is of interest to you to learn about opportunities in our Graduate Program.

Degree Programs

The University of Tennessee (“UT”) Department of Agricultural & Resource Economics (“Department”) offers the following graduate degree programs, concentrations, or fields:

- Accelerated Five Year Bachelor of Science (“BS”)-Master of Science (“MS”) Program
 - Agricultural Economics Concentration (Thesis)
 - Natural Resource Economics Concentration (Thesis)
- MS in Agricultural & Resource Economics
 - Agricultural Economics Concentration (Thesis or Project)
 - Natural Resource Economics Concentration (Thesis)
- Dual MS in Agricultural & Resource Economics (Project)/Master of Business Administration (“Dual MS/MBA Program”), offered in conjunction with the UT Haslam [College of Business](#)
- Natural Resource Economics Concentration, Doctor of Philosophy (“PhD”) in Natural Resources (“Natural Resources PhD”), offered in conjunction with the UT [Forestry Wildlife and Fisheries Department](#)

Admission Requirements and Application Procedures

Accelerated Five Year BS-MS Program Applications

The Department of Agricultural and Resource Economics offers an Accelerated Five Year BS-MS Program for qualified students. Students obtain a BS degree in Agricultural and Resource Economics with a concentration in [Food and Agricultural Business](#) or [Natural Resource and Environmental Economics](#) in seven semesters by completing 120 credit hours, including nine (9) credit hours of graduate courses that count towards both the BS degree and the MS degree. Students then go on to obtain a thesis-based MS degree in Agricultural and Resource Economics ([Agricultural Economics Concentration](#) or [Natural Resource Economics Concentration](#)) in three semesters and one summer, completing an additional 22 credit hours of graduate work. Students are typically considered for conditional admission to the BS-MS Program during the third year of undergraduate studies at the University of Tennessee. The MS Program requires that a student complete a thesis project of original research; therefore, a student is required to start developing a thesis research project in consultation with a thesis advisory committee immediately following their third year of undergraduate studies.

Students seeking admission into the Program must meet the following BS-MS Program requirements:

- The applicant must have declared a major in Food and Agricultural Business or Natural Resource and Environmental Economics.
- The applicant must have a minimum GPA of 3.30.
- The applicant must have completed MS Graduate Program prerequisites MATH 125, STAT 201 or STAT 207, ECON 311, and AREC 324 or BAS 320 or ECON 381 with a B or better in each course before taking graduate courses as an undergraduate.
- The applicant must have completed at least 90 hours of coursework toward a BS degree with a major in Food and Agricultural Business or Natural Resource and Environmental Economics.
- The applicant must ask for three letters of recommendation to be sent directly from the letter writer to the Director of Graduate Studies in Agricultural and Resource Economics.
- The applicant must complete an interview with the members of the Undergraduate and Graduate Committees in the Department of Agricultural and Resource Economics.
- The applicant must obtain a commitment from a faculty member in Agricultural and Resource Economics to serve as their major professor and at least two other faculty members to serve on their thesis advisory committee. The major professor serves as mentor and advisor for the MS degree portion of the Program.

Besides the aforementioned BS-MS Program requirements, the Department may consider other factors such as applicant maturity and work experience before conditionally admitting a student to the BS-MS Program. Conditional admission of a student into the BS-MS Program must be approved by both the Department of Agricultural and Resource Economics and the Graduate School. Applicants are informed of the admission decision before the beginning of the fourth year of their BS.

A student who is conditionally admitted to the BS-MS Program can complete a maximum of 9 credit hours of graduate credit during the student's fourth year of undergraduate study, and use those 9 credit hours to satisfy both BS and MS degree requirements. Before enrolling in these courses, the student must:

- (i) Identify the courses to be taken, in consultation with the student's undergraduate advisor, proposed major professor, and thesis advisory committee members;
- (ii) Obtain approval from the Department of Agricultural and Resource Economics; and
- (iii) Enroll in the approved courses **before** completing the Senior Requesting Graduate Credit form

To obtain approval from the Department of Agricultural and Resource Economics, the student must submit a completed "Agricultural and Resource Economics Conditional Admission 5 Year BS-MS" form to the Department's Director of Graduate Studies. Copies of the form are available from the Director of Graduate Studies and the Program Coordinator.

To obtain approval from the Graduate School, students must submit a completed [Senior Requesting Graduate Credit Form](#). A separate [Senior Requesting Graduate Credit Form](#) must be completed and submitted to the Graduate School **before each semester in which the student enrolls in courses for graduate credit**.

Conditional admission into the BS-MS Program does not guarantee acceptance into either the

Graduate School or the MS Program. Students in the BS-MS Program must apply for admission to the Graduate School and to the MS Program during their fourth year of undergraduate study, following the same procedures that all other student applicants follow under [Graduate Program Applications](#). Students will be fully admitted to the MS Program after they have been accepted both by the Graduate School and by the MS Program in Agricultural and Resource Economics. Students will not be eligible for graduate assistantships until they are enrolled as graduate students in the Graduate School.

Graduate Program Applications

Application for admission to graduate study at UT is made to the [Graduate School](#), through the [Office of Graduate and International Admissions](#). To apply for graduate study in the Department, students must upload the following into the online application to the Office of Graduate and International Admissions:

- A completed online graduate application accompanied by payment of the application fee.
- Official transcripts of academic records from all colleges and universities previously attended.
- MS applicants, official test scores for the Graduate Record Exam ([GRE](#)) or the Graduate Management Admission Test ([GMAT](#)) are required.
 - Students with an undergraduate degree from the Department are not required to take the GRE or GMAT to apply for admission to the MS Program in Agricultural & Resource Economics; however, matriculating students are encouraged to take one of these examinations
- Dual MS/MBA applicants, official test scores for the GRE or GMAT are required.
- PhD applicants, official test scores for the GRE are required.
- For applicants whose first language is not English, official test scores from either the Test of English as a Foreign Language ([TOEFL](#)) or the International English Language Testing System ([IELTS](#)) exam are required.
- Prerequisite courses for MS applications include:
 - Calculus (3 hours)
 - Intermediate Microeconomics (3 hours)
 - Statistics (6 hours)
- Three (3) email addresses of individuals, such as former professors or employers, who have agreed to upload Graduate School Rating Forms and Letters of Recommendation. The individuals completing the recommendations should be familiar with the applicant's ability to succeed in graduate school.
- Brief Statement of Purpose describing their professional goals and reasons for applying to the Program.

More information on application procedures and deadlines can be obtained from the [Office of Graduate and International Admissions](#). Applications that meet the [Graduate School's Admission Requirements](#) are forwarded to the Department for evaluation by the Department's Graduate Program Committee ("Graduate Committee"). The Graduate Committee's evaluations are based on transcripts of prior coursework, GRE or GMAT scores, TOEFL or IELTS scores for applicants whose first language is not English, the statement of purpose, and Graduate School Rating Forms.

All applicants are expected to have completed the prerequisites for the particular Program and concentration to which they are applying, as set forth on Forms B-1 through B-5 in this booklet. Students who have not successfully completed the prerequisites may be required to take these courses in addition to all other Program requirements. Prerequisites must be taken before entering the Program or as soon as possible thereafter and the student must earn an average grade of B (3.0/4.0 scale) or better in prerequisite courses.

Students applying for admission to the MS Program are expected to have at least a B average (3.0 on a 4.0 scale) in undergraduate work. Applicants to the PhD Program will normally have earned a master's degree in economics, agricultural economics, natural resources or a related field with at least a B average (3.0 on a 4.0 scale) prior to enrolling in the PhD Program. After evaluating an application, a recommendation is made by the Graduate Committee to the Department Head who is then responsible for the final decision on whether to admit the applicant into a Graduate Program, and also whether to offer the applicant a Graduate Assistantship.

Seniors seeking to take courses such as AREC 505 and 524 for graduate credit while completing an undergraduate degree program (including the accelerated combined bachelor's/master's program) must meet all requirements set by the Graduate School as well as complete the [Senior Requesting Graduate Credit](#) form. Courses taken for graduate credit cannot be used to satisfy degree requirements for both baccalaureate and a graduate degree, except in the case for students already accepted into the accelerated program.

Dual MS/MBA Program Applications

Applicants for the Dual MS/MBA Program must make separate applications to and be accepted by the Office of Graduate and International Admissions for both the MBA and the MS. Students should indicate on both applications the intent to pursue the Dual MS/MBA Program. Students accepted for both the MBA and MS degree Programs will be assigned to an advisor from the MBA Program and another from the Agricultural & Resource Economics MS Program. These advisors will be responsible for course approval and supervision of the students' progress through the Dual MS/MBA Program. Applications for the Dual MS/MBA Program are accepted for fall semester only. After the MBA application deadline of February 1, applications by United States citizens and permanent residents will still be considered as space allows. Deadlines for international applications prevent consideration of international applications received after February 1.

Academic Standards

All students are expected to adhere to the Student Code of Conduct and Honor Statement as provided in the [Hilltopics Student Handbook](#). The Honor Statement requires that students maintain a strict code of intellectual integrity and academic honesty.

An essential feature of the University of Tennessee, Knoxville, is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. "As a student of the university, I pledge that I

will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity."

Academic Standing

Graduate students are expected to maintain a minimum cumulative grade point average (GPA) of 3.0 in courses taken for graduate credit and must have at least a 3.0 cumulative GPA to graduate. Students are also expected to maintain a minimum cumulative GPA of 3.0 in the mandatory courses listed on Form B. Upon completion of three (3) hours of graduate coursework, students will be placed on academic probation if their cumulative GPA is below 3.0. While on academic probation, the student's degree status will be terminated by the Graduate School if the student's single semester GPA is below 3.0. Read more on academic standing [here](#) on the Graduate Catalog webpage.

When particular circumstances may be deemed to justify continuation, and upon recommendation of the Department and approval of the Graduate School, the student on probation whose single semester GPA is below 3.0 may be allowed to continue on a semester-by-semester basis.

All "incomplete" (I) grades must be removed within one year. No student may graduate with an I on his/her record.

Courses may not be repeated for the purpose of raising a grade already received.

Dismissal from the Program

A graduate student on academic probation earning less than a 3.0 semester grade point average, or less than a C in any course, or NP in AREC 500, or withdrawal from courses without prior approval of the graduate advisory committee may be dismissed from the program. A graduate student earning less than a 3.0 cumulative grade point average in mandatory agricultural and resource economics courses may be dismissed from the program. Other reasons for dismissal from the program include failure to make adequate progress towards other degree requirements (e.g., research project, thesis preparation), academic dishonesty (e.g., plagiarism, falsification of data), or other forms of gross misconduct as defined by the Office of Equity and Diversity, Human Resources, Dean of Students' Office, Hilltopics or Graduate Council. The Graduate Committee in consultation with the student's Major Professor will decide whether continuation or dismissal will be recommended to the Department Head who will make the final decision. Dismissal will be accomplished by written notice to the student with a copy to the Graduate School. Dismissal from the program will result in the termination of graduate assistantship and/or other financial support.

Academic and Research Misconduct

Plagiarism

Plagiarism is using the intellectual property or product of someone else without giving proper credit ([Hilltopics Student Handbook](#)). The undocumented use of someone else's words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a

serious offense, subject to disciplinary action that may include failure in a course, dismissal from the program, and/or dismissal from the university. Students may also be subject to revocation of their degree after graduation if an allegation of plagiarism is verified in thesis/dissertation research.

[Specific examples](#) of plagiarism include, but are not limited to:

- Using without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source;
- Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge);
- Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge);
- Collaborating on a graded assignment without the instructor's approval; and
- Submitting work, either in whole or in part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).

Students must use extreme caution to avoid plagiarism in classroom work and in assistantship and thesis/dissertation research activities. If in doubt, you should check with your instructor, your Major Professor, work supervisor, or the Graduate Director.

The University Library has a [Getting Started guide](#) on their website which provides excellent information on plagiarism and proper citation of sources and published works. Another excellent source on how to avoid plagiarism and the correct citation of sources and published works is the pamphlet entitled [Straight Talk about Plagiarism](#) from Bedford/St. Martins. Finally, the [Office of Research Integrity](#) at the U.S. Department of Health and Human Services has a publication entitled [Avoiding Plagiarism, Self-Plagiarism, and Other Questionable Writing Practices: A Guide to Ethical Writing](#). Students are strongly encouraged to use the iThenticate plagiarism software detection program available on the Graduate School [website](#) as a learning tool to avoid problems with plagiarism.

Other Forms of Misconduct

Besides not plagiarizing, students must not falsify, fabricate, or misrepresent data, research results, citations, or other information in connection with an academic assignment, assistantship research duties, and thesis/dissertation research. With regard to research, the [U.S. Department of Agriculture](#) defines research misconduct as the “[f]abrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Research misconduct does not include honest error or differences of opinion.” Fabrication is “the making up data or results and recording or reporting them.” Falsification is “manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.” The consequences to a student of an allegation of research misconduct that is verified are similar to those of plagiarism and could include dismissal from the program, dismissal from the university, and revocation of the degree after graduation. If in doubt, you should check with your instructor, your Major Professor, work supervisor or the Graduate Director.

Research Conduct Training

All incoming graduate students within the Department must complete Responsible Conduct of Research (RCR) and Institutional Review Board (IRB)/Human Subjects Research training through the online Collaborative Institutional Training Initiative (CITI) program. Graduate students must complete their online RCR and IRB/Human Subjects Research training before working with research data.

Both of the online courses can be accessed via the [CITI Program](#) website. To insure proper reporting, when you create an account you must choose “Log In Through My Organization”, scroll down the list, choose “University of Tennessee - Knoxville” and register using your UT NetID and password. Once you have registered, choose the “Social and Behavioral Responsible Conduct of Research Course” and complete the training.

The online CITI IRB/Human Subjects Research course can be accessed via instructions at the [Institutional Review Board Training](#) website. To ensure proper reporting of training, choose “Social & Behavioral Research - Basic” and complete the training.

Upon completion of the training, students must email PDF copies of the Social and Behavioral RCR and IRB/Human Subjects Research certificates of completion to the Graduate Program Administrative Assistant (Brittany Gentry, bgentry4@tennessee.edu). Paper copies of the certificates of completion are to be placed in the student’s academic file. If you have questions about the aforementioned CITI courses, you should consult your Initial Advisor/Major Professor, the Graduate Director, or Graduate Program Administrative Assistant.

Graduate Assistantships

Graduate research or teaching assistantships provide students with a [tuition and maintenance fee waiver](#), central fee waiver, health insurance, and a stipend for work toward fulfilling the research or teaching needs of the Department. Assistantships are allocated among students accepted into the Department’s Graduate Programs on a competitive basis. The number of assistantships available depends upon the level of funding the Department receives and on the success of faculty in securing research-based grants and contracts. Students who are admitted into a Graduate Program without an assistantship may be offered an assistantship at a later date if funds become available. This offer may occur before the student arrives on campus, or in some cases, after the student completes a semester of coursework in the Graduate Program. Students in the BS-MS Program are not eligible for graduate assistantships until they are enrolled as graduate students in the Graduate School.

Assistantship appointments for MS Thesis Option students will be for a period of up to two years. Accelerated BS-MS Program students on assistantship are normally provided funding for four semesters (spring-summer-fall-spring) in the MS portion of the Program. Regular MS thesis students on assistantship are normally provided funding for five semesters. For example, a student beginning in the fall would be funded for fall-spring-summer-fall-spring. For both BS-MS Program and regular MS students, the assistantship may be extended for one additional summer at the discretion of the

Department Head in consultation with the Major Professor and the Graduate Director. The Department Head may request a meeting with the student, Major Professor and Graduate Director to review the request.

Assistantship awards to MS students enrolled in a Project (Non-thesis) Degree Program will be limited to one semester with potential for renewal. Project (Non-thesis) students awarded an assistantship may be required to work for different faculty supervisors during different semesters or within a single semester.

Graduate research assistantship appointments for PhD students will be for a period of four years.

Students may request that the term of the graduate assistantship be extended beyond the two-year limit for MS students or the four-year limit for PhD students. These requests must be made in writing by both the student and the Major Professor and must provide justification for the extension. These requests will be considered by the Department Head in consultation with the Graduate Director in competition with new assistantship applications, as well as other extension requests. The Department Head may request a meeting with the student, Major Professor and Graduate Director to review the request. Extension of the period of appointment will be granted only where extenuating circumstances exist.

The stipend for a particular assistantship will be based on the terms set in the student's offer letter unless the assistantship is augmented by external funds or across-the-board raises are mandated by the University.

Responsibilities

Students holding an assistantship appointment will be assigned research, Extension, and/or teaching-related responsibilities by their work supervisor. Your Major Professor and Work Supervisor for the assistantship may be different depending on research and teaching needs of the Department and the source of funding for your assistantship. Commensurate with their appointment, graduate research and teaching assistants are required to devote the equivalent of one-half time (20 hours per week) or one-quarter time (10 hours per week) to the research or teaching Program of the Department under the supervision of their work supervisor, except for official university holidays. The 10- or 20-hour assistantship work requirement is separate from the thesis/dissertation research project that is an academic requirement for the MS Thesis Option/PhD Degree. However, there is the potential for thesis/dissertation and assistantship projects to overlap with each other.

The Department has the following expectations for graduate assistants:

1. Communicate fully and often with your assigned work supervisor. At the beginning of the semester you should agree on:
 - a. Work hours for the graduate assistant,
 - b. Physical location of the graduate assistant during those office hours,
 - c. Assigned tasks, and
 - d. Performance review criteria.

2. Graduate assistants must receive permission from the work supervisor to travel on behalf of the University and/or take personal leave. Graduate assistants are expected to meet work supervisor deadlines, so please plan well in advance and share with the supervisor.
3. Graduate assistants are expected to report any difficulties experienced in the job to the Department Head and/or Graduate Director immediately so that actions can be taken to remedy the situation.
4. The Department may call upon the graduate assistant to assist with other tasks that help fulfill the mission of other faculty or the Department as a whole.
5. Graduate assistants may be assigned teaching assistant duties depending on the needs of the teaching program of the Department.

Satisfactory Progress

All students on assistantship or other forms of financial aid will be expected to perform satisfactorily in the research, extension or teaching program of the Department and to make satisfactory progress toward completion of their degree program. Satisfactory performance and progress will be judged by the Department Head at the end of each semester based upon work performance under the assistantship, grade performance, normal progress through the coursework program, and adherence to this Graduate Program Requirements booklet. Continuing access to graduate assistantship support is dependent on the student maintaining a 3.0 cumulative grade point average in graduate courses, mandatory courses, and completing other milestones in a timely manner (e.g., forming a committee, completion of coursework, submitting a research proposal, making progress in project or research objectives, and thesis/dissertation preparation). Additionally, each month students on assistantship are required to complete a *Monthly Time and Plans Report* via DocuSign ([Form E](#)).

Termination of a Graduate Student on Assistantship

Graduate assistants are considered “contract employees” since they have a written contract (offer letter) with the University providing employment for a specified period of time. A contract employee may be terminated during the term of his or her employment for gross misconduct or inadequate job performance.

Failure to achieve satisfactory progress will be cause for termination of the assistantship or other form of financial aid. A request to terminate an assistantship or other form of financial aid can be initiated by the Major Professor or by the Graduate Director with written justification. The Graduate Committee will review such termination requests and forward its recommendation to the Department Head who will make the final decision. If an assistantship terminates during a semester, the student must pay the prorated portion of waived fees from the termination date until the end of the semester in accordance with University policy. Additional information on graduate assistantships can be found on the [Graduate School's](#) website and in the [Graduate Catalog](#).

Minimum and Maximum Credit-Hour Requirements per Semester

Assistantship responsibilities do NOT require domestic MS students to register for a minimum number of credit hours during any semester (Fall, Spring, Summer). With one exception outlined below, international MS students on half-time assistantship must register for a minimum of six (6) credit hours during Fall and Spring semesters to satisfy full-time student VISA requirements and, if on less than half-time assistantship, they must register for a minimum of nine (9) credit hours during Fall and Spring semesters (See [Center for Global Engagement](#)). International students are encouraged to take fewer than the minimum credit-hours outlined above if they meet one of the requirements specified on the [International Student Enrollment Requirements](#) webpage. In the event of a special request, such as a serious medical condition, they must be submitted to the Center for Global Engagement for approval before dropping below full-time status.

Domestic and international students are not required to register for courses during Summer semester, the exception being for three (3) credit hours of AREC 500 (Thesis) which are required in the semester of graduation.

PhD students are required to continuously register for three (3) credit hours per semester (including Summer) for AREC 600 (Dissertation) after their first semester of enrollment in the course (Dissertation).

Under the assistantship agreement, tuition for a total of 31 credit hours is generally covered towards an MS degree. Every effort should be made to use the electives in the 31 credit-hour total for specialized courses that enhance a student's capacity to undertake thesis and other assistantship responsibilities. Exceeding 31 credit hours requires approval on Form B.

Bursar's Office Enrollment Status

The consequences of being enrolled in fewer than nine (9) hours during the Fall and Spring semesters are determined by the [Bursar's Office](#) in the form of the [Programs & Services Fee \(PSF\)](#). Contact the [Bursar's Office](#) for enrollment requirements and consequences for Summer semester.

Two categories within the PSF should be considered:

Primary PSF

Students registered for classes at UT must pay the **Primary** portion of the PSF (\$47.00 per hour up to a maximum of \$418.00 per semester). Students may not purchase student athletic tickets unless they have paid the maximum. Students enrolled in fewer than nine (9) semester hours, but with a minimum of six (6) hours, may elect to pay the difference between the amount of the **Primary** PSF they are required to pay for their credit hours and the maximum of \$418.00. The **Primary** portion of the PSF becomes non-refundable on the first official day of classes. Questions should be addressed to the [Dean of Students Office](#).

Health PSF

Students registered for nine (9) or more hours at UT must pay the **Health** portion of the PSF (\$101.00 per semester). Students enrolled in at least three (3) but fewer than nine (9) semester hours may elect to pay the **Health** portion of the PSF. Use of the Student Health Center and purchase of athletic tickets are limited to students who have paid the **Health** portion of the PSF. The **Health** portion of the PSF becomes non-refundable on the first official day of classes. Questions should be addressed to the [Dean of Students Office](#).

Initial Advisor, Major Professor and Faculty Committee

An initial advisor will be appointed by the Graduate Director to assist the student in registering for the first semester's coursework. Selection of a Major Professor from the Department faculty will be made by the student with the consent of the Major Professor and approval of the Department Head. A student will normally remain with the Major Professor through completion of the Program but can request a different Major Professor with the approval of the current and requested Major Professors, Graduate Director and Department Head. If a student is on an assistantship, continuation of the assistantship is contingent upon approval of the aforementioned parties and the availability of assistantship funds.

The student and the Major Professor will select the remainder of the student's Faculty Committee with the consent of such faculty members and approval of the Department Head. The student's Faculty Committee will be recorded on *Appointment of MS or PhD Faculty Committee* ([Form A](#)) and submitted to the Graduate Director prior to the end of the student's first semester for MS and Dual MS/MBA Program students or the student's second semester (excluding summer) for PhD students. PhD students are also required to submit the [Doctoral Committee Form](#) to the Graduate School before the end of the student's second semester (excluding summer). A copy of the signed Doctoral Committee Form must also be submitted to the Graduate Director and placed in the student's file.

It is the responsibility of the Major Professor and Faculty Committee to aid the student in course selection; guide the student's dissertation or thesis research, for PhD or MS Thesis Option students; administer comprehensive examinations for students enrolled in a Project (Non-thesis) option; oversee the professional internship experience for students enrolled in the Dual MS/MBA Program; and determine the content, nature and schedule of comprehensive examinations, as well as certify the results of such examinations, for PhD students. Changes in Faculty Committee membership may be made by submitting an amended Form A. For PhD students, or MS students enrolled in a thesis option, Form A is also used to identify a tentative dissertation or thesis topic.

All Faculty Committee members must be at the rank of assistant professor or above. For MS students, the Faculty Committee must consist of the Major Professor and at least two other faculty members. If an MS student has a minor program, at least one member of the Faculty Committee must be from the program in which the minor is housed.

For Natural Resources PhD students, the Faculty Committee must consist of at least four faculty members, at least two of which must be from the Department and at least one of which must be from the Forestry, Wildlife and Fisheries Department. In addition, one member shall be from outside the Departments of Agricultural and Resource Economics and Forestry, Wildlife and Fisheries. The Faculty Committee for PhD students must be nominated by the AREC Department Head and approved by the Dean of the Graduate School.

Programs of Study

Students must identify the program, concentration and thesis/project (non-thesis) option they will pursue and the coursework the student will use to satisfy the program requirements by completing and submitting a course requirements form (Forms B-1 through B-5) to the Graduate Director before the end of the seventh semester for BS-MS Program students, the first semester for MS and Dual MS/MBA Program students, or the second semester for PhD Program students. The five different versions of Form B (a copy of each is included in this booklet) correspond to the five different programs, concentrations and thesis/non-thesis options available to Agricultural & Resource Economics graduate students, as follows:

- MS Agricultural Economics Concentration Thesis Option ([Form B-1](#))
- MS Natural Resource Economics Concentration Thesis Option ([Form B-2](#))
- MS Agricultural Economics Concentration Project (Non-Thesis) Option ([Form B-3](#))
- Dual MS/MBA Program Project (Non-Thesis) Option ([Form B-4](#))
- PhD Natural Resource Economics Concentration ([Form B-5](#))

The student must consult with and obtain the approval of his or her Faculty Committee in developing a planned program of coursework to be recorded on Form B. The Faculty Committee's approval of the student's program of coursework is evidenced by their signatures on Form B. Only courses appearing on Form B will be counted toward fulfilling minimum degree requirements. Changes to Form B may be made only with approval of the Faculty Committee prior to the actual taking of the courses—as evidenced either by Faculty Committee signatures on a revised Form B or by Faculty Committee initials on changes to the original Form B. Normally, substitutions for mandatory courses are not made. To substitute another course for a course specified as mandatory on Form B, the Faculty Committee must petition the Departmental faculty and the Departmental faculty must approve the substitution by majority vote. The approved Form B should be used in completing the [Application for Admission to Candidacy](#), which must be approved by the Graduate School at least one full semester prior to graduation.

A student may not change MS concentrations or thesis/project (non-thesis) options after the student's first semester without approval of the Departmental faculty. For a student to change concentration or thesis/project (non-thesis) option after the student's first semester, the Faculty Committee must petition the Departmental faculty and the Departmental faculty must approve the change by majority vote.

Course Requirements for MS Programs

If approved by the Faculty Committee, up to six (6) semester hours of graduate level coursework may be transferred into the MS Program from another academic institution. To be eligible for transfer, each course must have a grade of B or higher. There is an overall time limit of six (6) years from the date of matriculation for completion of all requirements for the MS degree. Thus, courses used toward the MS degree must have been taken within six (6) calendar years of graduation. The specific course requirements for the different MS Program concentrations and thesis/project (non-thesis) options are as follows:

Agricultural Economics Concentration Thesis Option ([Form B-1](#))

- A minimum of 31 semester hours of graduate-level work is required. No more than six (6) hours of thesis credit may be counted in meeting this minimum requirement.
- At least 28 hours must be in courses at the 500-level or above (including six hours of thesis).
- The Program must include Agricultural & Resource Economics 505, 520, 524, 525, and either 542 or 550 as well as at least six (6) hours of 500-level or above Agricultural & Resource Economics electives, excluding thesis hours and Agricultural & Resource Economics 593.

Natural Resource Economics Concentration ([Form B-2](#))

- A minimum of 31 semester hours of graduate-level work is required. No more than six (6) hours of thesis credit may be counted in meeting this minimum requirement.
- At least 28 hours must be in courses at the 500-level or above (including six hours of thesis).
- The Program must include Agricultural & Resource Economics 505, 520, 524, 525, and 570.
- In addition, 12 credits of directed electives are required, including six (6) hours at the 500-level or above, six (6) of which must be in Agricultural & Resource Economics. The latter six (6) credits cannot include Agricultural & Resource Economics 593.

Agricultural Economics Concentration Project (Non-Thesis) Option ([Form B-3](#))

- A minimum of 36 semester hours of graduate-level work, with at least 30 of these at the 500-level or above, is required.
- A minimum of 30 semester hours of courses in Agricultural & Resource Economics must be completed, including Agricultural & Resource Economics 505, 524, 525, 593 (Non-thesis Research Project under Special Topics), and 18 hours of Agricultural & Resource Economics electives, at least 12 of which must be at the 500-level or above (Agricultural & Resource Economics 593 cannot satisfy these 12 hours of electives).
- An additional six (6) hours of graduate-level electives approved by the student's Faculty Committee are required (maximum of 3 hours of Agricultural & Resource Economics 593 can count toward these electives).
- Students must register for 3 credit hours of Agricultural & Resource Economics 593 (Special Topics) and complete a Non-thesis Research Project. More information on this project can be

found in the Guidelines for the Non-Thesis Agricultural Economics Concentration Research Project (pg 63). The Agricultural & Resource Economics 593 Non-thesis Research Project must be approved by the Faculty Committee and supervised by the Major Professor or a member of the Faculty Committee. Upon satisfactory completion and approval of the Non-thesis Research Project, [Form F](#) must be completed, signed by the Faculty Committee, and submitted to the Graduate Director to be kept in the student's file. A grade of S or NC will be assigned by the supervising faculty member. No more than 3 credit hours of Agricultural & Resource Economics 593 may be counted toward the Non-thesis Research Project, and a maximum of six (6) credit hours of Agricultural & Resource Economics 593 can be counted toward the 36-semester hour degree requirement.

Dual MS/MBA Program Non-Thesis Option ([Form B-4](#))

- The Dual MS-MBA Program curriculum consists of 60 hours of coursework, 30 hours for the MBA portion and 30 hours for the MS portion.
- A minimum of 30 hours must be from the Haslam College of Business.
- The Program must include AREC 505, 512, 524, 525, 542, 550, and 595. A student completing the series of two MBA Concentration courses in Finance, Operations Management or Marketing can substitute another Agricultural & Resource Economics elective for AREC 512, 542 or 550, respectively.
- Of the 30 hours required for the MS, a minimum of 21 hours must be at the 500 level or above and a minimum of 21 hours must be in Agricultural & Resource Economics while up to nine (9) other hours may be from the Haslam College of Business or other courses approved by the Faculty Committee.
- A ten- to twelve-week professional internship with an agribusiness firm or agency and a written Internship Report integrating coursework material with an approved internship project are required. Three (3) hours of credit (via AREC 595) will be given for successful completion of the internship experience, written Internship Report, and internship oral presentation (see [Form B-4](#)). The requirements and responsibilities for the professional internship are described in the [Professional Internship Guidelines](#) document attached to this booklet.

The dual degree candidate must satisfy the curriculum and graduation requirements of both the MS in Agricultural & Resource Economics and the MBA. Students withdrawing from the dual degree program before completing both degrees will not receive credit toward graduation in either degree program for courses taken in the other degree program, except as such courses qualify for credit without regard to the dual degree program. The MS and the MBA degrees will be awarded upon successful completion of the requirements of the Dual MS/MBA Program.

Comprehensive Examinations and Thesis Requirements for MS Students

Comprehensive Examinations

All MS students are required to pass a final comprehensive examination. Only two outcomes are possible on the final comprehensive examination—pass or fail. In the case of failure, the candidate may not appear for re-examination until the following semester. Students failing a second examination will not be allowed to graduate from the Program. Students taking the final comprehensive examination, but not otherwise using university facilities, must register for three hours of graduate thesis credits (AREC 500).

Students must schedule the final comprehensive examination through the academic department at least two weeks in advance as directed by the [Graduate Academic Catalog](#). The final thesis, as approved by the Major Professor, should also be distributed to the Faculty Committee at **least two weeks** prior to the examination.

After the final comprehensive exam completion and prior to the examination deadline date, the student's Major Professor is responsible for completing the [Report of Final Examination/Defense of Thesis](#) (pass/fail form) and the student is responsible for submitting the completed form to the Graduate School, with the assistance of a departmental representative (Graduate Program Administrative Assistant) if submitting electronically.

Thesis Option

MS students enrolled in the thesis option must complete a thesis in the agricultural or natural resource economics field. The thesis represents the culmination of an original research project. In preparing for the thesis, students are required to prepare a written thesis proposal. The purpose of the proposal is to outline the student's research plans for approval by his or her Faculty Committee. The proposal must include [Form C](#) as a cover sheet and should adhere to the suggested outline that follows Form C in this booklet. The written thesis proposal must be scanned and analyzed with university approved plagiarism detection software prior to approval of the proposal by the Faculty Committee as indicated on Form C. The major professor is responsible for analyzing the software output and providing constructive feedback to the student on the proper citation of sources and published works and how to avoid plagiarism.

Students are required to present the proposal to their Faculty Committee at an oral presentation meeting arranged by the student. The thesis proposal, in the form approved by the Major Professor, should be distributed to the Faculty Committee at least one week prior to the date of the presentation. Approval of the proposal is indicated by signatures of all of the Faculty Committee members on Form C. The major professor must indicate on Form C that the proposal has been analyzed using university

approved plagiarism software. Upon approval, both Form C and the written thesis proposal must be submitted to the Graduate Director and placed in the student's academic file. Failure to obtain approval by all members of the Faculty Committee within 12 months of beginning the MS Program will be considered failure to achieve satisfactory progress and may be cause for termination of assistantship funding.

All theses must be examined by the Graduate School's Thesis/Dissertation Consultant to assure that they are properly formatted. Students must consult the [Thesis/Dissertation Consultant](#) and the [Guide to the Preparation of Theses and Dissertations](#). Upon completion, an electronic copy of the thesis must be submitted to the Graduate School. Information on electronic submission can be found the [Graduate School's site regarding TRACE](#).

For students pursuing the thesis option, the final comprehensive examination will take the form of an oral examination (Thesis Defense). The examination will be directed primarily toward the candidate's thesis but may also cover other subject matter in the discipline. The thesis, in the form approved by the Major Professor, should be distributed to the Faculty Committee at least two weeks prior to the date of the examination. The draft thesis must be scanned and analyzed with university approved plagiarism detection software prior to distribution to the Faculty Committee. The major professor is responsible for analyzing the software output and providing constructive feedback to the student on the proper citation of sources and published works and how to avoid plagiarism. A written copy of the analyzed thesis output must be presented to the Graduate Director and placed in the student's academic file.

The accrediting organization (Southern Association of Colleges and Schools) for the University of Tennessee requires that each UT major have a culture of assessment. Consequently, the AREC Graduate Committee developed three learner outcomes to represent the Program's goals and to identify academic expectations for MS students. Each Faculty Committee member will complete all three rubrics based on the student's thesis and performance at the time of his/her Thesis Defense. The criteria and rubrics can be found under SACS Assessment Criteria in this booklet ([SACS Assessment Criteria and Rubrics](#)). Students are expected to work with their Major Professor to meet these goals.

Project (Non-Thesis) Option

Students pursuing a project (non-thesis or dual MS/MBA option) must pass a written comprehensive examination in the form of a written Research Project Report for Non-thesis Agricultural Economics concentration students ([Form F](#)) or a written Internship Report for Dual MS/MBA students ([Form G](#)). The written report must integrate the research or internship project with relevant subject matter contained in the coursework approved by the student's Faculty Committee on Form B-3 for the Non-thesis Agricultural Economics concentration or Form B-4 for the Dual MS/MBA Program. The written Research Project Report must follow the [Guidelines for the Non-thesis Agricultural Economics](#)

[Concentration Research Project](#) and the written Internship Report must follow the [Guidelines for Professional Agribusiness Internship Report](#). The student must obtain approval of the written report from the student's Faculty Committee ([Form F](#) or [Form G](#)) and submit [the Report of Final Examination/Defense of Thesis](#) (Pass/Fail Form) to the Graduate School prior to the [final comprehensive examination deadline](#).

Natural Resource Economics Concentration in Natural Resources PhD Program

Course and Competency Requirements ([Form B-5](#))

PhD students must complete 72 semester hours of graduate coursework beyond the bachelor's degree. Forty-eight hours must be in graduate coursework approved by the Faculty Committee. Up to 24 hours of coursework completed for a master's degree may be applied to the 48-hour requirement. A minimum of 12 of the remaining 24 hours (or 30 of the 48 if no master's degree) must be graded A-F. If approved by the Faculty Committee, graduate-level courses taken at another institution may be used to meet specific coursework requirements. A minimum of six (6) hours of 600-level coursework, exclusive of dissertation hours, must be completed at UT. Students are required to complete a minimum of 24 hours of AREC 600: Doctoral Research and Dissertation.

For the PhD, a minimum of two consecutive semesters of residence is required. Comprehensive examinations must be taken within five years, and all requirements must be completed within eight years, from the time of a student's initial enrollment in the PhD Program.

Students must successfully complete FWF 601 (3 credit hours), FWF 612 (1 credit hour) and AREC 520 (1 credit hour) or equivalent graduate-level courses. Students must demonstrate competence in:

- Microeconomic Theory by qualifying examination. Prior to taking the examination students must complete Economics 511 and Economics 512 for graduate credit or petition the Department faculty for exemption from these courses.
- Macroeconomic Theory by the completion of a three or more hour graduate-level course in macroeconomics with a grade of B or better.
- Quantitative Methods by completion of Economics 581 with a grade of B or better and completion of Economics 582 and Economics 583 with a combined average grade of B or better.
- Natural Resource Economics by written comprehensive examination administered by the student's Faculty Committee. Preparation for the comprehensive examination will require completion of AREC 570, or graduate-level equivalent, and AREC 670.
- Environmental Economics or another field related to natural resources, economics or agricultural economics by completing two or more courses approved by the Faculty Committee in the field of specialization with grades of B or better.

- All coursework by oral comprehensive examination. The examination is scheduled by the student and administered by the Faculty Committee when the student has completed all or nearly all of the coursework.

Microeconomic Qualifying Examination

Students are expected to complete Economics 511 and Economics 512 before taking the Microeconomic Qualifying Examination. They must take the examination on its first offering during the first summer after completing these courses, or they will receive a failing grade. Students failing the qualifying examination or passing the examination at the MA level must retake the examination the next time it is offered, or they will receive a failing grade. The following procedures will determine the academic standing of students after taking the Microeconomics Qualifying Examination.

- If a student passes the qualifying examination at the PhD level, the student will remain in the Natural Resource Economics (NRE) concentration, retain the assistantship, and continue to have a Department of Agricultural & Resource Economics (AREC) faculty member as Chair of his/her Dissertation Committee. Upon completion of all requirements for the NRE concentration and upon graduation, both the NRE concentration and the Natural Resources PhD major will appear on the student's transcript.
- Students passing the qualifying examination at the MA level in either of the two offerings during their first summer, but not at the PhD level, will remain in the Natural Resources PhD major, retain the assistantship, and continue to have an AREC faculty member as Chair of their Dissertation Committee, but be dismissed from the NRE concentration. Upon completion of all other requirements for the NRE concentration and upon graduation, the Natural Resources PhD major will appear on the transcript, but not the NRE concentration.
- If a student is unable to pass the qualifying examination at the MA level or PhD level during the two offerings of the examination, the student will be dismissed from the NRE concentration and the assistantship will be terminated. A student who fails to pass the qualifying examination at the MA or PhD level in either of the two offerings will not have an AREC faculty member as Chair of his/her Dissertation Committee even if the student is able to pay or secure funding to remain in the Natural Resources PhD major.

Students in the NRE concentration wishing to remain on assistantship and continue to have an AREC faculty member as Chair of their Dissertation Committee are required to make satisfactory progress toward completion of all requirements for the NRE concentration in addition to passing the Micro qualifying exam at the MA level or higher.

Written Comprehensive Examination

Students are expected to take the required courses that prepare them for the NRE written comprehensive examination and must take this examination on its first offering after completing the recommended coursework, or they will receive a failing grade. Students failing the comprehensive

examination must retake the examination the next time it is offered, or they will receive a failing grade. Failing the comprehensive examination for the second time will ordinarily result in dismissal from the NRE concentration and termination of the assistantship. The written comprehensive examination may be taken a third time with the approval of the Departmental faculty. Students must file a petition with the Graduate Director who will submit the petition to the faculty. Generally, extenuating circumstances are needed to warrant approval to take the NRE written comprehensive examination for a third time. Failing the examination for a third time or not meeting the aforementioned minimum Quantitative Methods grade requirements will result in dismissal from the NRE concentration and termination of the assistantship.

Oral Comprehensive Examination

Students must take the NRE oral comprehensive examination after passing the Microeconomics qualifying examination and the NRE written comprehensive examination and after completing all or nearly all of the coursework. Students failing the oral comprehensive examination must retake the examination the next time it is offered, or they will receive a failing grade. Failing the oral comprehensive examination for the second time will ordinarily result in dismissal from the NRE concentration and termination of the assistantship. The NRE oral comprehensive examination may be taken a third time with the approval of the Departmental faculty. Students must file a petition with the Graduate Director, who will submit the petition to the faculty. Generally, extenuating circumstances are needed to warrant approval to take the NRE oral comprehensive examination for a third time. Failing the examination for a third time or not meeting the aforementioned minimum Quantitative Methods grade requirements will result in dismissal from the NRE concentration and termination of the assistantship.

Dissertation and Examination Requirements for PhD Students

PhD students must complete a doctoral dissertation in the natural resource economics field. PhD students are required to prepare a written dissertation proposal. The purpose of the proposal is to outline the student's research plans for approval by his/her Faculty Committee. PhD students are required to defend the proposal to their Faculty Committee at an oral defense arranged by their Major Professor.

The proposal must include Form C as a cover sheet and should adhere to the suggested outline that follows Form C in this booklet. Approval of the proposal is indicated by the signatures of all of the Faculty Committee members on Form C. The written dissertation proposal must be scanned and analyzed with university approved plagiarism detection software prior to the approval of the proposal by the Faculty Committee as indicated in Form C. The major professor is responsible for analyzing the software output and providing constructive feedback to the student on the proper citation of sources and published works and how to avoid plagiarism. Upon approval, both Form C and the

written dissertation proposal must be submitted to the Graduate Director. Failure to obtain approval by all members of the Faculty Committee no later than two semesters after the student passes the Microeconomic Theory qualifying examination will be considered failure to achieve satisfactory progress and may be cause for termination of assistantship funding.

All dissertations must be examined by the Graduate School's Thesis/Dissertation Consultant to assure that they are properly formatted. Students must consult the Thesis/Dissertation Consultant and the Guide to the Preparation of Theses and Dissertations.

Upon completion, an electronic copy of the dissertation must be submitted to the Graduate School. Information on electronic submission can be found at the Electronic Theses and Dissertations (ETD) web site.

PhD students must pass an oral examination on their dissertation. The dissertation, in the form approved by the Major Professor, must be distributed to Faculty Committee members at least two weeks before the examination. The draft dissertation must be scanned and analyzed with university approved plagiarism detection software prior to distribution to the Faculty Committee. The major professor is responsible for analyzing the software output and providing constructive feedback to the student on the proper citation of sources and published works and how to avoid plagiarism. A written copy of the analyzed dissertation output must be presented to the Graduate Director and placed in the student's academic file. The examination must be scheduled through the Office of the University Registrar at least one week prior to the examination and must be conducted in university-approved facilities. The examination must be announced publicly and is open to all faculty members. The defense of dissertation will be administered by all members of the Faculty Committee after completion of the dissertation and all course requirements. This examination must be passed at least two weeks before the date of submission and acceptance of the dissertation by the Graduate School. After the doctoral dissertation defense and prior to the examination deadline date, the student's Major Professor is responsible for completing the Report of Final Exam/Defense of Dissertation (which s/he will receive from a Graduation Specialist) and the student is responsible for submitting the completed form to the Graduate School.

Minor for MS Students

Students pursuing a master's degree in another program may graduate with a minor in Agricultural & Resource Economics. An Agricultural & Resource Economics minor requires a minimum of six (6) hours of coursework in Agricultural & Resource Economics, at least three of which must be at the 500-level or above. In addition, the student's Faculty Committee must include a member of the faculty of the Department and this faculty member must approve the choice of courses to be used to satisfy the requirements for the Agricultural & Resource Economics minor.

Students pursuing an MS in Agricultural & Resource Economics may graduate with a minor in another program or in one of several interdisciplinary minors including: environmental policy, statistics

and data science, and watershed. Information on the availability of minors is found in the Graduate Catalog.

Environmental Policy Minor

The Program is designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. To learn more about the Minor, consult the [Environmental Policy Minor description](#) in the Graduate Catalog.

Intercollegiate Graduate Statistics and Data Science Program (IGSDSP) Minor

The IGSDSP allows students to complete a minor in statistics and data science through nine (9) credit hours of approved coursework. AREC 524—Econometric Methods in Agricultural Economics (3 credit hours) is an approved course in the Minor. In addition, you must have an IGSDSP approved faculty member on your advisory committee. To learn more about the IGSDSP Minor, consult the [IGSDSP website](#) or contact one of our department representatives in the Program.

Department Representatives: Dr. Xuqi “Ricky” Chen (xchen88@utk.edu)
 Dr. Seong-Hoon Cho (scho9@utk.edu)

Watershed Minor

The Program allows students to compete a Watershed Minor through nine (9) credit hours of approved coursework. You must have a Watershed Minor faculty member on your advisory committee. To learn more about the Minor, consult the [Watershed Minor](#) website, the [Graduate Catalog](#), or contact our department representative in the Program.

Department Representative: Dr. Christopher Clark (cclark3@utk.edu)

Seminars

A series of Departmental noncredit seminars is scheduled each year as part of the professional development program for faculty and graduate students. All graduate students are expected to attend and participate in all seminars.

Rights of Appeal

Graduate students have the right to appeal any decision made in the administration of the rules for admission, continuation or graduation (as outlined both in this booklet and in the UT Graduate

Catalog). Appeals are made first to the faculty of the Department and then to the Department Head. If the appeal is denied or is determined to be outside the purview of the Department, the student may appeal to the Dean of the Herbert College of Agriculture. Further appeal may be made to the Associate Dean of Graduate Studies and to the Graduate Council. The procedures for student appeal of Departmental decisions are described in UT's [Graduate Council Appeal Procedure](#).

Leave of Absence (LOA)

Information on Graduate School's LOA policy for graduate students can be found on the [Graduate School](#)'s website and in the [Graduate Catalog](#).

Agricultural and Resource Economics Conditional Admission 5 Year BS-MS

The Accelerated Five Year BS-MS Program enables qualified students to obtain a BS degree in Agricultural and Resource Economics with a major in Food and Agricultural Business or Natural Resource and Environmental Economics in seven semesters by completing 120 credit hours, including nine (9) credit hours of graduate courses that count towards both the BS degree and the MS degree. Students go on to obtain a thesis-based MS degree in Agricultural and Resource Economics (Agricultural Economics Concentration or Natural Resource Economics Concentration) in three semesters and one summer, completing an additional 22 credit hours of graduate work. To apply for conditional admission to the Program, complete this form, obtain the required signatures, and return the form to the Director of Graduate Studies in Agricultural and Resource Economics for processing with the Graduate School.

Student Name _____
 Student ID Number _____
 AREC Undergraduate Major: Food & Agricultural Business
 (Check appropriate box) Natural Resource & Environmental Economics
 Undergraduate Academic Advisor _____
 Cumulative GPA _____
 Credit Hours Completed towards BS _____

Reviewed MS Thesis Program Requirements in the **Agricultural and Resource Economics Graduate Program Requirements Booklet**:

Yes No

The applicant must complete MS Thesis Option prerequisites MATH 125, STAT 201 or STAT 207, ECON 311, and AREC 324 or BAS 320 or ECON 381 with a B or better in each course before taking graduate courses as an undergraduate. Please indicate in Table 1 below the courses you have taken to satisfy the prerequisites for the MS thesis Option.

Table 1. MS Thesis Option Prerequisites Completed

Course	Semester Taken		Course Grade
	Term	Year	
MATH 125	_____	_____	_____
STAT 201 or STAT 207	_____	_____	_____
AREC 324 or BAS 320 or ECON 381	_____	_____	_____
ECON 311	_____	_____	_____

Name of AREC Faculty Member Willing to Serve as Your Initial Major Professor:

Please provide the names and email addresses of three individuals uniquely qualified to submit a reference letter on your behalf attesting to potential to complete requirements for completing a thesis-based MS degree.

Reference	Name	Email Address
1		
2		
3		

Qualified students may take up to nine (9) credit hours of ***graduate level courses*** for their senior undergraduate requirements and have them count toward both the BS degree and the MS degree. The applicant must complete at least 90 hours of coursework toward a BS degree before taking graduate courses. ***Students must take AREC 505 and AREC 524 for six (6) of the nine (9) credit hours of graduate level courses. In addition, AREC 505 and AREC 524 must be taken in the fall (seventh) semester of the fourth year of the program immediately preceding their entry into the MS portion of the five year program in the spring semester of the fourth year of the program.*** The student in consultation with the undergraduate advisor and the proposed major professor should select one other three (3) credit hour course in agricultural and resource economics to complete the nine (9) credit hours in graduate level courses. Besides 500-level courses, 400-level courses that are listed in the Graduate Catalog may be used to complete the nine (9) credit hours. Please refer to the **Agricultural and Resource Economics Graduate Program Requirements Booklet** for courses that can be used to meet the requirements of the Agricultural Economics Concentration or Natural Resource Economics Concentration. Please complete Table 2 below indicating your plan to complete the nine (9) credit hours of graduate credit.

Table 2. Planned Graduate Level Courses for BS Program

Course	Number	Semester to be Taken		Credit Hours
		Term	Year	
1	AREC 505	Fall		3
2	AREC 524	Fall		3
3				
4				
Total Credit Hours				

In addition to coursework, the MS Thesis Option also requires a student to write a thesis based on original research. Therefore, a student is required to identify a potential thesis research project in consultation with a proposed major professor immediately following their third year of undergraduate studies. After consultation with your proposed major professor, please indicate in Table 3 on the next page the estimated timeline to achieve important milestones necessary to complete the MS Thesis project.

Table 3. Timeline for Completing MS Thesis Project

Milestone	Term	Year
Identify thesis research project with proposed major professor	_____	_____
Establish graduate advisory committee and submit Form A: <u>Appointment of MS or PhD Faculty Committee</u> that identifies the thesis committee members and a tentative thesis title (Must be completed before the end of the final (seventh) semester in the BS Program).	_____	_____
Submit Form B-1: <u>Course Requirements for Master of Science Agricultural Economics Concentration Thesis Option</u> or Form B-2: <u>Course Requirements for Masters of Science Natural Resource Concentration Thesis Option</u> (Must be completed before the end of the final (seventh) semester in the BS Program).	_____	_____
Present thesis proposal to graduate advisory committee and submit Form C: <u>Graduate Student Thesis or Dissertation Research Proposal</u> (Must be completed before the end of the summer after the first spring semester in the Graduate Program (Summer between terms 8 and 9) .	_____	_____
Submit <u>Admission to Candidacy Masters or Specialist Degree</u> form to the Graduate School (Must be submitted at least one semester before the semester in which the thesis is defended before the advisory committee).	_____	_____
Complete final comprehensive examination before advisory committee and submit to the Graduate School the <u>Report of Final Examination/Defense of Thesis/Project/Capstone—Master’s, Specialist in Education, or DSW Degrees.</u>	_____	_____
Please indicate the scheduled date and time of your Interview with the Undergraduate Advisor, Undergraduate Coordinator, Proposed Major Professor, and Graduate Program Committee.	Date	Time
Undergraduates conditionally admitted to the BS-MS Program are also required to attend the new graduate student orientation held before the start of each fall semester. Please contact the Administrative Assistant (Brittany Gentry, bgentry4@tennessee.edu) for the Graduate Program in agricultural and resource economics to determine the date for the orientation that coincides with the last (seventh) semester of the undergraduate program. Please indicate the scheduled date and time of the new graduate student orientation you will be attending.	Date	Time
New Graduate Student Orientation	_____	_____

Applicant's Signature

Print Name	Signature	Date
_____	_____	_____
_____	<i>Student Signature</i>	_____

Applicant's Graduate Program Approval Signatures

Print Name	Signature	Date
_____	_____	_____
<i>Initial Major Professor</i>	_____	_____
<i>Director of Graduate Studies</i>	_____	_____

Confirmation/approval of graduate level coursework to be used for meeting BS degree requirements must also be obtained from the Undergraduate Advisor and the Undergraduate Coordinator.

Applicant's Undergraduate Program Approval Signatures

Print Name	Signature	Date
_____	_____	_____
<i>Undergraduate Advisor</i>	_____	_____
<i>Director of Undergraduate Studies</i>	_____	_____

Submit the completed form to the Director of Graduate Studies in Agricultural and Resource Economics. Conditional admission into the Accelerated Five Year BS-MS Program must be approved by the Department of Agricultural and Resource Economics and the Graduate School. Students will be typically informed of the outcome of their application before the beginning of their fourth year of undergraduate study.

FOR DEPARTMENTAL AND GRADUATE SCHOOL APPROVAL ONLY

Print Name	Signature	Date
_____	_____	_____
<i>Director of Graduate Studies</i>	_____	_____
_____	_____	_____
<i>Graduate School</i>	_____	_____

B.S. in Agricultural and Resource Economics/Food and Agricultural Business Major/Five- Year BS/MS in Agricultural & Resource Economics – Agricultural Economics

Term 1	Hours	Milestone Notes
AREC 110	1	One general education elective*
¹ Natural Sciences Elective*	4	
² Cultures and Civilizations Elective*	3	
ENGL 101* or ENGL 118*	3	
MATH 125*	3	
PSYC 110*, PSYC 117*, POLS 102*, SOC 120*, or SOC 127*	3	
Term 2		
Cultures and Civilizations Elective*	3	One additional general education elective*
AREC 212	3	
ECON 211*	3	
ENGL 102*	3	
MATH 123*	3	
¹ Natural Sciences Elective*	3	
Term 3		
ACCT 200 or ACCT 207	3	ENGL 101*
CMST 210*, CMST 217*, CMST 240*, or CMST 247*, or ALEC 240*	3	
ECON 213*	3	
STAT 201* or STAT 207*	3	
² Natural Sciences Elective*	3	
AREC Elective	2	
Term 4		
AREC 324 or BAS 320 or ECON 381, AREC 342 or AREC 350	9-10	ECON 211* or ECON 213*
FDSC 100 or FDSC 150* or NUTR 100*	3	
² Arts and Humanities Elective*	3	
² Natural Sciences Elective*	3	
Term 5		
AREC 310, AREC 412	4	Complete prerequisites for MS Program: calculus (MATH 125*), statistics (STAT 201* or STAT 207*, AREC 324), and intermediate microeconomics (ECON 311).
ECON 311	3	
² Arts and Humanities Elective*	3	
⁴ Nondepartmental Herbert College of Agriculture Electives	6	
² Written Communication Elective*	3	
Term 6		
AREC 442	3	Apply for conditional admission to Graduate Program after completion of at least 90 credit hours.
AREC Elective (400-level course for graduate credit)	3	
ECON 313	6	
⁴ Nondepartmental Herbert College of Agriculture Elective	3	
³ Unrestricted Electives	5-6	
Term 7		
AREC 410	1	Establish graduate advisory committee before completing BS degree and submit Form A: Appointment of MS or PhD Faculty Committee. Identify thesis research project.
⁵ Experiential Learning	3	
AREC 505, AREC 524	6	
⁶ Unrestricted Electives	4	
TOTAL	120	

¹Natural Science with Lab course chosen from University General Education list.

²Chosen from the University General Education list. No more than two of the three Natural Science electives may be Herbert courses.

³FDSC 150* can also be used to satisfy General Education Cultures and Civilizations requirement. NUTR 100* can also be used to satisfy General Education Natural Sciences requirement.

⁴Nondepartmental Herbert electives can also be used to satisfy General Education Requirements.

⁵Chosen from AGNR 491 or AREC 356 or AREC 395 or AREC 492 or AREC 499.

⁶Any courses not already required for the major.

* Meets [University General Education Requirement](#).

B.S. in Agricultural and Resource Economics/Natural Resource and Environmental Economics Major/Five-Year BS/MS in Agricultural & Resource Economics – Natural Resource Economics

Term 1	Hours	Milestone Notes
AREC 110	1	One general education elective*
¹ Natural Sciences Elective*	4	
ENGL 101* or ENGL 119*	3	
ESS 120*	3	
MATH 125*	3	
PSYC 110*, PSYC 117*, POLS 102*, SOCI 120*, or SOCI 127*	3	
Term 2		
CMST 210*, CMST 217*, CMST 240*, or CMST 247* or ALEC 240*	3	One additional general education elective*
ECON 211*	3	
ENGL 102*	3	
ESS 220*	3	
FWF 250*	3	
MATH 123*	3	
Term 3		
ACCT 200 or ACCT 207	3	ENGL 101*
AREC 270	3	
ECON 213*	3	
STAT 201* or STAT 207*	3	
² Natural Sciences Elective*	3	
AREC Elective	2	
Term 4		
AREC 324 or BAS 320 or ECON 381, AREC 342 or AREC 350	6-7	ECON 211* or ECON 213*
ECON 362	3	
² Natural Sciences Elective*	3	
PHIL 346*	3	
² Arts and Humanities Elective*	3	
Term 5		
AREC 310, AREC 314, AREC 333, AREC 345	7	Complete prerequisites for MS Program: calculus (MATH 125*), statistics (STAT 201* or STAT 207*, AREC 324), and intermediate microeconomics (ECON 311).
ECON 311	3	
² Arts and Humanities Elective*	3	
³ Directed Electives	5	
Term 6		
AREC 470	3	Apply for conditional admission to Graduate Program after completion of at least 90 credit hours.
ESS 326 or FWF 430 or GEOG 311 or GEOG 411	3	
ECON 313, ECON 463	6	
³ Directed Electives	5	
Term 7		
AREC 410	1	Establish graduate advisory committee before completing BS degree and submit Form A: Appointment of MS or PhD Faculty Committee. Identify thesis research project.
AREC 356 or AREC 492 or AREC 499 or AGNR 491	3	
AREC 505, AREC 524, AREC 570	9	
⁴ Unrestricted Electives	2	
TOTAL	120	

¹ Natural Science with Lab course chosen from University General Education list.

² Chosen from the University General Education list. No more than one of the two Natural Science electives may be a Herbert course.

³ Select from any 300-level or 400-level AREC course, [ECON 471](#); [ESS 424](#), [ESS 462](#); [FORS 314](#), [FORS 321*](#), [FORS 420](#), [FORS 422](#); [FWF 420](#); [GEOG 340](#), [GEOG 345](#), [GEOG 436](#), or [SOCI 360](#). A maximum of three credit hours can be used from each of the following courses: [AREC 356](#), [AREC 492](#), and [AREC 493](#).

⁴ Any courses not already required for the major.

⁵ Chosen from [AGNR 491](#) or [AREC 356](#) or [AREC 395](#) or [AREC 492](#) or [AREC 499](#).

* Meets [University General Education Requirement](#).

**Form A: Appointment of MS or PhD Faculty Committee
Department of Agricultural & Resource Economics**

Name _____ Date _____

Area of concentration: _____ MS Agricultural Economics, Thesis Option
 _____ MS Natural Resource Economics, Thesis Option
 _____ MS Agricultural Economics, Non-thesis Option
 _____ Dual Agricultural & Resource Economics MS/MBA
 _____ PhD Natural Resource Economics

Minor (if applicable) _____

Expected date of graduation (semester and year) _____

Tentative thesis or dissertation topic (if applicable) _____

Faculty Committee:

<u>Name</u>	<u>Signature</u>	<u>Date</u>
_____	_____	_____
<i>Major Professor</i>		
_____	_____	_____
_____	_____	_____
_____	_____	_____

If this form supersedes an earlier Form A, check here: _____

_____ _____
Graduate Student *Date*

Approved: _____ _____
Department Head *Date*

This form must be completed by Accelerated BS-MS Program students before the end of the final (seventh) semester in the BS Program, regular MS and Dual Agricultural & Resource Economics MS/MBA Program students before the end of the first semester, and by PhD students before the end of the second semester in the Graduate Program.

Form B-1: Course Requirements for Master of Science Agricultural Economics Concentration Thesis Option

(31 Hours)

Name: _____

Date: _____

Mandatory courses: Total of 19 hours

	Hours	Semester Completed or Scheduled	Grade
Microeconomic Theory: AREC 505	3	_____	_____
Research Methodology: AREC 520	1	_____	_____
Econometric Methods: AREC 524	3	_____	_____
Operations Research Methods: AREC 525	3	_____	_____
Microeconomic Applications: AREC 542 or AREC 550	3	_____	_____
Thesis: AREC 500	6	_____	_____

Directed Electives:* Nine (9) hours of electives at the 500-level, six of which must be in Agricultural & Resource Economics (the latter six hours cannot include AREC 593).

_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____

Electives:* Minimum of three hours.

_____	3	_____	_____
-------	---	-------	-------

* A maximum of three hours of AREC 593 can be used to satisfy the 31-hour degree requirement.

Oral Comprehension Exam (Date passed): _____

Prerequisites: Three hours of intermediate undergraduate microeconomics, six hours of statistics, and three hours of calculus.

Minor (if applicable) _____

Course Number	Title	Hours	Date Completed Or Scheduled	Grade
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses transferred from another institution (_____)
Institution

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses taken to satisfy deficiencies or prerequisites

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Faculty Committee:

Signature

Date

Graduate Student

Major Professor

Approved:

Department Head

Form B-2: Course Requirements for Master of Science Natural Resource Economics Concentration Thesis Option

(31 Hours)

Name: _____

Date: _____

Mandatory courses: Total of 19 hours

	Hours	Semester Completed or Scheduled	Grade
Microeconomic Theory: AREC 505	3	_____	_____
Research Methodology: AREC 520	1	_____	_____
Econometric Methods: AREC 524	3	_____	_____
Operations Research Methods: AREC 525	3	_____	_____
Resource Economics: AREC 570	3	_____	_____
Thesis: AREC 500	6	_____	_____

Directed Electives:* Total of 12 hours of graduate-level courses must come from a set of electives selected in consultation with the major professor and/or guidance committee that are designed to enhance student skills in natural resource economics, quantitative methods, and/or spatial analysis.

_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____

* Six hours must be in Agricultural & Resource Economics and six hours must be at the 500-level or above. A maximum of three hours of AREC 593 can be used to satisfy the 31-hour degree requirement, and AREC 593 cannot be used for the six hours of Agricultural & Resource Economics electives.

Oral Comprehension Exam (Date passed): _____

Prerequisites: Three hours of intermediate undergraduate microeconomics, six hours of statistics, and three hours of calculus.

Minor (if applicable) _____

Course Number	Title	Hours	Date Completed Or Scheduled	Grade
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses transferred from another institution (_____)
Institution

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses taken to satisfy deficiencies or prerequisites

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Faculty Committee:

Signature

Date

Graduate Student

Major Professor

Approved:

Department Head

Form B-3: Course Requirements for Master of Science Agricultural Economics Concentration Project (Non-Thesis) Option

(36 Hours)

Name: _____

Date: _____

Mandatory courses: Total of 12 hours

	Hours	Semester Completed or Scheduled	Grade
Microeconomic Theory: AREC 505	3	_____	_____
Econometric Methods: AREC 524	3	_____	_____
Operations Research Methods: AREC 525	3	_____	_____
Non-thesis Research Project: AREC 593*	3	_____	_____

Agricultural & Resource Economics Electives: Twelve hours of 500-level or above Agricultural & Resource Economics courses (excluding AREC 593).

_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____

Electives: Twelve hours of graduate-level courses approved by the student's Faculty Committee, six of which must be from Agricultural & Resource Economics, no more than six of which can be at the 400-level, and no more than three of which can be AREC 593.

_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____

*No more than six hours of AREC 593 can be used to satisfy the 36-hour degree requirement, and no more than three hours of AREC 593 can be used for the Non-thesis Research Project.

Written Non-thesis Research Project Report (Date passed): _____

Prerequisites: Three hours of intermediate undergraduate microeconomics, six hours of statistics, and three hours of calculus.

Minor (if applicable) _____

Course Number	Title	Hours	Date Completed Or Scheduled	Grade
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses transferred from another institution (_____)
Institution

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses taken to satisfy deficiencies or prerequisites

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Faculty Committee:

Signature

Date

Graduate Student

Major Professor

Approved:

Department Head

Form B-4: Course Requirements for Dual Agricultural & Resource Economics Master of Science/Master of Business Administration (Dual MS/MBA Program)

(60 Hours)

Name: _____

Date: _____

Mandatory courses: Total of 51 hours

	Hours	Semester Completed or Scheduled	Grade or GPA
Fall First Year MBA Courses	15	_____	_____
Spring First Year MBA Courses	15	_____	_____
Microeconomic Theory: AREC 505	3	_____	_____
Econometric Methods: AREC 524	3	_____	_____
Operations Research Methods: AREC 525	3	_____	_____
Advanced Agribusiness Finance: AREC 512*	3	_____	_____
Decisions, Uncertainty, and Resource Allocation: AREC 542*	3	_____	_____
Microeconomic Applications to Agricultural and Resource Markets: AREC 550*	3	_____	_____
Professional Internship: AREC 595	3	_____	_____

Electives: Nine (9) hours of electives in Agricultural & Resource Economics, MBA Concentration, or other graduate-level courses approved by the student's Faculty Committee.

_____	3	_____	_____
_____	3	_____	_____
_____	3	_____	_____

Written Internship Report (Date passed): _____

Prerequisites: Three hours of calculus.

** A student completing the series of two MBA Concentration courses in Finance, Operations Management or Marketing can substitute another Agricultural & Resource Economics elective for Agricultural & Resource Economics 512, 542 or 550, respectively.*

Minor (if applicable) _____

Course Number	Title	Hours	Date Completed Or Scheduled	Grade
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses transferred from another institution (_____)
Institution

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Courses taken to satisfy deficiencies or prerequisites

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Faculty Committee:

Signature

Date

Graduate Student

Major Professor

Approved:

Department Head

Dual Agricultural & Resource Economics MS/MBA Program Course Showcase

Fall–First Year

Session 1: 7 ½ weeks

ACCT 505 - Financial Accounting I	1.5
MGT 506 - Competitive Strategy	1.5
STAT 505 - Quantitative Methods	1.5
MARK 505 - Marketing and Demand Management I	1.5
BUAD 515 - Business Skills Development	1.5

Session 2: 7 ½ weeks

ACCT 506 - Managerial Accounting I	1.5
FINC 505 - Financial Management I	1.5
MARK 506 – Marketing and Demand Management II	1.5
ECON 505 - Economics of Strategy	1.5
BUAD 516 - Business Skills Development II	1.5

Semester Total	15.0
-----------------------	-------------

Spring–First Year

Session 1: 7 ½ weeks

MGT 505 - Leading Complex Organizations	1.5
SCM 505 - Supply Chain Management I: Strategic Issues in Supply Side Supply Chain Management	1.5
BZAN 505 - Operations Management	1.5
BZAN 506 - Prescriptive Modeling	1.5
BUAD 517 - Business Skills Development III	1.5

Session 2: 7 ½ weeks

SCM 506 - Supply Chain Management II: Strategic Issues in Demand Side Supply Chain Management	1.5
FINC 506 - Financial Management II	1.5
BULW 505 - Foundations of Business Law and Ethics	1.5
ECON 506 - Market Forces in Global Environment	1.5
BUAD 518 - Innovation in Practice	1.5

Semester Total	15.0
-----------------------	-------------

Summer

Agricultural & Resource Economics 595 (Professional Internship) ^a	3
Semester Total	3

Fall–Second Year

Agricultural & Resource Economics 505 (Microeconomic Analysis)	3
Agricultural & Resource Economics 512 (Advanced Agribusiness Finance) ^b	3
Agricultural & Resource Economics 524 (Econometric Methods in Ag Econ)	3
Elective(s) ^c in Agricultural & Resource Economics, MBA Concentration ^d , or other graduate-level course(s) approved by the student’s Faculty Committee	0-6
Semester Total	9-15

Spring–Second Year

Agricultural & Resource Economics 525 (Operations Research Methods)	3
Agricultural & Resource Economics 542 (Advanced agribusiness Production Decisions) ^b	3
Agricultural & Resource Economics 550 (Advanced Agribusiness Marketing) ^b	3
Elective(s) ^c in Agricultural & Resource Economics, MBA Concentration ^d , or other graduate-level course approved by the student’s Faculty Committee	0-6
Semester Total	9-15

Total	60
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^a The internship must be experienced during the summer, but registration for AREC 595 can occur during summer semester or a subsequent semester of the Second Year. The written Internship Report can be approved by the student’s MS Committee any semester before the Graduate School’s spring semester [final comprehensive examination deadline](#) (See [Form G](#)).

^b A student completing the series of two MBA Concentration courses in Finance, Operations Management or Marketing can substitute another Agricultural & Resource Economics course for AREC 512, 542 or 550, respectively.

^c Electives must sum to nine (9) hours or more.

^d MBA Concentration courses in Finance, Logistics, Marketing or Operations Management.

Microeconomic Qualifying Exam (Date passed): _____
Natural Resource Economics Written Comp. Exam (Date passed): _____
Oral Comprehensive Exam (Date passed): _____
Oral Dissertation Defense (Date passed): _____

Courses substituted from another institution (_____):

Course	Hours	Institution	
		Semester Completed	Grade
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Courses taken to satisfy deficiencies or prerequisites:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Faculty Committee

Signature

Date

_____	_____	_____
<i>Graduate Student</i>	<i>Major Professor</i>	
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Approved:

Department Head

**Form C: Graduate Student Thesis or Dissertation Research Proposal
Department of Agricultural & Resource Economics**

Student Name: _____

Proposed Title: _____

Attach proposal to this form:

Faculty Committee:*,**

Name	Signature	Date
<i>Major Professor</i>	<i>Major Professor</i>	
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

*Signature of major professor indicates that the attached proposal has been scanned and analyzed with university approved plagiarism software.

** Faculty Committee member signatures indicate acceptance of the attached proposal. Failure to obtain approval by all members of the Faculty Committee within eight months of beginning of Graduate Program for BS-MS students, twelve months of beginning the Graduate Program for regular MS students, or no later than two semesters after the student passes the Microeconomic Theory qualifying examination for PhD students, will be considered failure to achieve satisfactory progress and may be cause for termination of financial support.

Graduate Student Thesis or Dissertation Research Proposal: Suggested Outline

All Agricultural & Resource Economics MS thesis option or Natural Resource Economics Concentration PhD students are required to prepare an acceptable research proposal as the first phase of their thesis or dissertation research. Prior to writing the proposal, students should consult with their Major Professors and other faculty members about possible topics, relevant literature, suggested methods and procedures, data sources, and other research issues. The written proposal must be scanned and analyzed with university approved plagiarism detection software prior to approval of the proposal by the Faculty Committee as indicated on Form C. Students are highly encouraged to work with their Major Professor to avoid problems with plagiarism in their written work. Acceptance of the research proposal will be documented on Form C by the signatures of each Faculty Committee member.

The following outline may serve as a guide for developing the proposal. The actual content and format will vary depending on the nature of the research planned and the objectives of each student's committee.

- A. I. Title Page Title should be descriptive, clear and concise using key words that indicate the nature of the research.
Identifying Information should include the student's name and other pertinent information.
- II. Problem Identification and Explanation
 - A. Provide some background.
 - B. State the research problem.
 - C. State the significance of the problem.
- III. Objective(s)
 - A. Specify what the research intends to find out, discover, and/or accomplish.
 - B. The Objectives should be related to the identified research problem.
- IV. Preliminary Literature Review
- V. Conceptual Framework
 - A. Analyze the problem conceptually.
 - B. State hypotheses.
- VI. Methods and Procedures
 - A. Specify methods and procedures to be used.
 - B. Identify data needs and expected sources.
- VII. Time Schedule for Completing Various Phases of the Study
- VIII. Related Needs, Such as Facilities and Supplies, Travel Plans, and Tentative Budget

Professional Internship Guidelines

Department of Agricultural & Resource Economics The University of Tennessee

The Professional Agribusiness Internship is a required component of the Dual Agricultural & Resource Economics MS/MBA Program. The internship provides an opportunity for students to supplement their educational experiences with off-campus employment. The internship program is designed to match students' interests with employers' needs so that both students and their employers benefit from participation in the program.

Internship Program Requirements and Policies

The following requirements are designed to enhance the quality of the internship program:

1. An internship will consist of a 10-12 week work experience in an agribusiness firm or agency. The host internship organization should be related to the student's career interests.
2. Academic credit for the internship program (AREC 595: 3 credit hours) will be supervised by the Major Professor with input from the student's Faculty Committee. The grade for AREC 595 will be based on the Major Professor's assessment of: (i) the student's completed internship report; (ii) oral presentation, and (iii) the Cooperator's evaluation of the student's performance as provided in the *Cooperator's Final Evaluation Form D-3*.
3. No credit will be granted for work in the student's family business.
4. The student is responsible for arranging transportation, room and board, health and accident insurance, and workmen's compensation and liability insurance. (UT's CO-OP Program Office, at (865) 974-5435, may be able to meet insurance needs.)
5. A special project must be completed during the internship. The project should address a specific problem or issue faced by the host organization or industry. The special project should be of benefit to the host cooperator. The problem analysis and report are expected to reflect the academic level of an MS student.
6. The Internship Report Final Draft requires approval of the student's Major Professor and by all members of the Faculty Committee before [final comprehensive examination deadline](#). The Completed Internship Report becomes a permanent part of the student's Departmental file and the Department's Reading Room collection. A copy of the Completed Internship Report will be mailed by the student to the student's internship supervisor.

7. The Internship Report Final Draft serves as the basis for the student's oral presentation to the student's Faculty Committee and other interested faculty and students. The oral presentation is evaluated as part of the student's final AREC 595 grade.
8. The review schedule for initial and final drafts should be determined by the student, Major Professor, and Faculty Committee. Students planning to graduate during the semester they are interning must deliver their completed Internship Report to the Major Professor and Faculty Committee members at least ten working days before the [final comprehensive examination deadline](#). [Form G](#) must be submitted to the Graduate Director. The Report of Final Examination (Pass/Fail Form) must be submitted to the Graduate School.

Student's Internship Responsibilities

To complete the professional internship program, the student must:

1. Meet with the student's Major Professor and discuss how the internship will fit within the academic schedule.
2. Complete the *Application for Professional Internship Program* [Form D-1](#) and have it approved by the Major Professor.
3. Take responsibility for obtaining an internship. The search for the internship may be aided by the student's Faculty Committee.
4. Meet with the Cooperator (employer) to develop an internship agreement. Terms of the agreement should include starting and ending dates, work schedule, days off, wages, insurance provisions, responsibilities of the intern, and any other important information.
5. Complete at least nine (9) credit hours in graduate-level courses prior to participation in the internship program.
6. After obtaining approval from his or her Major Professor, register for three credit hours of AREC 595.
7. Report directly to the Cooperator (Internship Supervisor) for instructions. Interns are expected to follow appropriate instructions outlined by their supervisors and to meet all scheduled commitments made in connection with their internship.
8. Establish periodic (weekly, if possible) conferences with the Cooperator.
9. Complete and submit to the student's Major Professor *Internship Monthly Performance Reports* [Form D-2](#) on time.

10. Discuss with the Cooperator the special project to be completed during the internship and submit a single page project proposal to the Major Professor no later than the due date of the first monthly internship performance report.
11. Notify the Cooperator when unable to report for work. In case of prolonged illness, accident or emergency, students should notify both the Cooperator and the Major Professor. The Department's phone number is 865-974-7231.
12. Discuss with the Major Professor any problems that cannot be resolved between the Cooperator and the student.
13. Complete the Internship Report by:
 - a. Presenting a report on the special project to the host firm prior to leaving the host site of the internship.
 - b. Delivering the Internship Report Initial Draft to the Major Professor by the end of the second week of the semester following the internship experience; (The Internship Report Initial Draft must address the four areas outlined in "[Guidelines for Professional Agribusiness Internship Report](#)". An internship report is considered to be an Internship Report Final Draft after it has been approved by the Major Professor and distributed to the remaining members of the Faculty Committee for their review.)
 - c. Deliver the Internship Report Final Draft to the student's committee by the end of the fourth week of the semester.
 - d. Incorporate committee members' comments in the Internship Report Final Draft and have the draft signed by all members of the Faculty Committee.
 - e. Deliver the two copies of the Completed Internship Report to the Major Professor by the end of the sixth week of the semester in which the student graduates.

Deadline Exceptions

Deadline exceptions exist for students planning to graduate during the semester they are interning. These students must deliver the Completed Internship Report to the Major Professor ten working days before the [final comprehensive examination deadline](#). The review schedule for the initial and final drafts should be determined by the student, Major Professor, and Faculty Committee members. (**Note**—Students may not receive a Departmental assistantship if they fail to complete their Internship Reports by the deadlines.)

Cooperator's Responsibilities

1. Encourage the student to serve as a productive, contributing employee during the internship.
2. Furnish appropriate counseling and guidance to the student during the internship.
3. Work with the intern in defining the special project and arrange a time for the intern to make a presentation on the special project prior to leaving the host internship site.
4. Complete and return the *Cooperator's Final Evaluation* [Form D-3](#) to:
[Agricultural & Resource Economics Department](#)
c/o [name of student's Major Professor]
2621 Morgan Circle, 302 Morgan Hall
University of Tennessee
Knoxville, TN 37996-4518
5. Contact the student's Major Professor if internship-related problems arise that cannot be resolved with or by the student. The Department's phone number is 865-974-7231.

Major Professor's Responsibilities

1. Work with the student in defining and locating an acceptable internship program experience.
2. Serve as the student's primary contact during the internship program.
3. Maintain liaison with the internship's Cooperator and other industry contacts, and maintain the Agribusiness Internship File Checklist Sheet [Form D-4](#).
4. Assist the student in preparing the Internship Report and Oral Presentation. Encourage the student to prepare Internship Report drafts during the internship.
5. Prepare the Department's letter of appreciation to each student's internship supervisor.

Form D-1: Application for Professional Internship—Dual Agricultural & Resource Economics MS/MBA Program

**Department of Agricultural & Resource Economics
The University of Tennessee**

Name _____ Date _____

School Address _____

_____ Phone _____

Home Address _____

_____ Phone _____

Credit Hours Completed Prior to Internship _____ Current Overall GPA _____

Student's Signature _____ SSN# _____

Cooperator's Name _____ Title _____

Agency or Firm _____

Address _____

Office Telephone Number _____

Expected Start Date _____ Ending Date _____

Major Professor's Name and Signature (Signature indicates approval of the application)

Name	Signature	Date
_____	_____	_____

Return completed form **prior to internship.**

Form D-2: Internship Monthly Performance Report

Submit a Report Every Four Weeks

(Please Type or Print. Use additional page as necessary.)

Name: _____

Report Period from: _____ **to:** _____

Name of Company or Agency: _____

Name of Supervisor: _____

Duties: _____

New Experiences: _____

Progress on Project: _____

Concerns or Problems: _____

Fax, E-mail, or Mail this form to: Department of Agricultural & Resource Economics
302 Morgan Hall
2621 Morgan Circle
University of Tennessee
Knoxville, TN 37996-4518
Fax: 865-974-7484

Signature of Major Professor: _____

Place this form in student's file upon signing.

Form D-3: Cooperator’s Final Evaluation, Professional Agribusiness Internship

**Dual Agricultural & Resource Economics MS/MBA Program
The University of Tennessee**

Student’s Name: _____ Date: _____

A. Rating of Student Characteristics

Using the following rating scale, please evaluate your internship student. If the student made noticeable improvement in any of the characteristics during his/her program, also please make note of the fact.

Rating Scale:

1 = Excellent

2 = Very Good

3 = Fair

4 = Unsatisfactory

5 = Not applicable

Characteristics	Rating	Check if noticeable improvement since the beginning of the program
Ability to learn	_____	_____
Interest in learning	_____	_____
Speed of completing responsibilities	_____	_____
Ability to perform without supervision	_____	_____
Willingness to receive guidance	_____	_____
Relationships with other employees	_____	_____
Dependability and reliability	_____	_____
Thoroughness in completing tasks	_____	_____
Thoroughness of special project	_____	_____
Recommendations generated by special project	_____	_____
Judgment	_____	_____
Personal appearance	_____	_____
Enthusiasm	_____	_____
Courtesy	_____	_____
Overall performance	_____	_____

Guidelines for Professional Agribusiness Internship Report

As part of the Internship Report, management and/or economic principles covered in the program of study must be used, i.e., discuss the relevance of course work with respect to the internship experience.

1. Describe the business or agency and the industry in which it operates by providing relevant background.
2. Describe the internship experience.
3. Identify a significant issue or problem addressed in the special project on the internship and discuss its importance.
4. Identify relevant approaches that could be used to resolve this issue or problem and suggest possible solutions.

Reports are expected to be professional quality publications. All papers should be in a 12 point font, double spaced, with 1 inch margins on all sides of the page. Page numbering should be at the bottom center of each page (except the first page). A maximum of two pages should be devoted to the first two points, and a maximum of 16 pages for the remaining points. References should follow the citation style of the [*American Journal of Agricultural Economics*](#). Headers on every page except the first should include the student's name and the internship organization.

Title Page of Internship Report: (Title of Completed Internship Report)

Completed by (Student's Name)

In partial fulfillment of the requirements of the Professional Internship (AREC 595),
Dual Agricultural & Resource Economics MS/MBA,
Department of Agricultural & Resource Economics
The University of Tennessee

Approved By:

Major Professor:

Date: _____

Faculty Committee Members:

Date: _____

Date: _____

Date: _____

Form D-4: Agribusiness Internship File Checklist Sheet

(To be completed and signed by student's Major Professor)

Student Name: _____ Major Professor: _____

Internship Firm of Agency Name: _____

Check List

Date Received or Completed

Internship Application _____

Monthly Reports:

Month 1 _____

Special Project Proposal _____

Month 2 _____

Month 3 _____

Month 4 _____

Cooperator's Final Evaluation _____

Oral Presentation _____

Completed Internship Report _____

.....
(Student's name), has successfully completed all elements of the Internship Program to receive 3 hours of credit in AREC 595 during the _____ term of year _____.

Major Professor's Signature:

_____ Date: _____

FORM E: Graduate Assistant's Monthly Time and Plans Report

At the end of every month, students are required to fill out and submit a monthly time and plans report. The purpose of this form is to ensure that all students are devoting the appropriate amount of time to their research or teaching program:

Student's Name: _____ Position: _____
 Supervisor: _____ Month/Year: _____

Week Ending Date	Total Hours Worked	Surplus or (Deficit)* this month	Cumulative Surplus or (Deficit)*				

*Put deficit in parentheses

When will deficit hours be made up (if applicable)? List accomplishments for prior month:

Plan of work for upcoming month (goals, objectives, etc.):

Student Signature: _____ Date: _____

Supervisor Signature: _____ Date: _____

Please return or email PDF signed Form E to the Graduate Director or Assistant.

Form F: Non-thesis Agricultural Economics Concentration Research Project Approval

(This form must be attached to the front of the student’s completed Agricultural & Resource Economics 593 written Research Project Report and placed in the student’s file)

Student Name: _____

Project Title: _____

Project Abstract (100 words or less):

Faculty Committee *

Name	Signature	Date
_____ Major Professor	_____	_____
_____ Committee Member	_____	_____
_____ Committee Member	_____	_____
_____ Committee Member	_____	_____

* Faculty Committee Members’ signatures indicate acceptance of the written Research Project Report after which the student’s research supervisor will assign 3 hours of Agricultural & Resource Economics 593 credit. This report must be completed and approved by the Faculty Committee before the [final comprehensive examination deadline](#).

Guidelines for the Non-thesis Agricultural Economics Concentration Research Project

As part of the Non-thesis Agricultural Economics Concentration, a student must complete a written Research Project Report integrating relevant coursework material with an approved research project. A student may elect to complete the required 3 credit hours of AREC 593 under the supervision of a member of the student's committee or another faculty member in the Department of Agricultural & Resource Economics. However, all AREC 593 Research Project Reports must be approved by the student's Faculty Committee. Form F, Non-thesis Agricultural Economics Concentration Research Project Approval, must be completed and signed by the supervising faculty member and the student's Faculty Committee upon satisfactory completion of the written Research Project Report. The grade (S or NC) will be assigned by the supervising faculty member. No more than 3 credit hours of AREC 593 may be counted toward the degree program. Upon completion and approval of the project by the student's Faculty Committee, a copy of the written Research Project Report must be placed in the student's file with Form F as the cover page.

A suggested [general outline](#) for the written Research Project Report is:

- Cover Page (Form F)
- Study Background and Justification
- Prior Studies (Literature Review)
- Study Objectives
- Data and Methods
- Results
- Conclusions
- Implications
- References Cited
- Tables
- Figures

The style guidelines for [American Journal of Agricultural Economics \(AJAE\)](#) must be followed. All pages must be numbered. The references and table/figures must be formatted according the *AJAE* specifications. The written Research Project Report must not exceed 30 pages, including tables, figures, and references. It must be completed and approved before the [final comprehensive examination deadline](#).

Form G: Dual MS/MBA Internship Report Approval

This form must be submitted to the Graduate Director, and the Report of Final Examination (Pass/Fail Form) must be submitted to the Graduate School before the [final comprehensive examination deadline](#).

Student Name: _____

Report Title: _____

Report Abstract (100 words or less):

Faculty Committee *

Name	Signature	Date
Major Professor	_____	_____
Committee Member	_____	_____
Committee Member	_____	_____
Committee Member	_____	_____

* Faculty Committee Members' signatures indicate acceptance of the written Internship Report. This form must be completed and approved by the Faculty Committee before the [final comprehensive examination deadline](#).

Graduate Course Offerings

AREC 412 - Agricultural Finance and Risk Management (3 credit hours)

Microeconomic and financial concepts applied to decision problems faced by farms and agribusinesses; financial statement analysis; firm capital structure; time value of money, capital budgeting and investment analysis, risk management and diversification; computer applications.

(RE) Prerequisite(s): 212 and Accounting 200.

Recommended Background: Introductory economics and microcomputer competence.

Comment(s): Graduate standing may satisfy prerequisites.

AREC 420 - International Agricultural Trade and Marketing (3 Credit Hours)

Introduction to real and monetary aspects of international trade effect on agricultural commodity flows; partial equilibrium analysis of international trade in agricultural products; institutional aspects of international marketing of agricultural products.

(RE) Prerequisite(s): Economics 311.

Comment(s): Graduate standing may satisfy prerequisites.

AREC 442 - Advanced Agribusiness Management (3 Credit Hours)

Advanced concepts in developing business and marketing plans and in applied management principles, such as inventory control and pricing techniques. Discussion of management issues including going international, employee supervision, management succession and guerilla marketing. Teamwork emphasized in managing an agribusiness firm through game simulation. Written and oral presentation required.

(RE) Prerequisite(s): 212 and Accounting 200.

Recommended Background: Intermediate microeconomics.

Comment(s): Graduate standing may satisfy prerequisites.

AREC 444 - Agricultural Production and Technology Management (3 Credit Hours)

Advanced Topics in agricultural production management and applied use of advanced tools to make farm management decisions. Topics include business structure, managing income tax, machinery management, human resources, and the adoption and use of new and emerging technologies. Applied tools include mathematical programming, regression analysis, and spreadsheet decision tools.

(RE) Prerequisite(s): 324, 342.

Comment(s): Graduate standing may satisfy prerequisites.

AREC 460 - Rural Economic Development (3 Credit Hours)

Use of economic principles in understanding rural economic development at community and regional levels, emphasizing the linkages between rural and urban communities, business location decisions, and how geography shapes markets. Integrating historical and current information, students will explore efficiency and equity as driving forces behind public and private sector policy to encourage, manage and forecast domestic and international development.

(RE) Prerequisite(s): ECON 311.

Comment(s): Graduate standing may satisfy prerequisites.

AREC 470 - Policy Analysis for Environmental and Natural Resource Management (3 Credit Hours)

Application of a policy analysis framework to conflicts and issues associated with natural resource use and related environmental quality impacts. Design of institutional changes to improve economic efficiency and equity, with emphasis on the potential applicability of market-type and incentive-based policy mechanisms.

(RE) Prerequisite(s): Economics 201.

Comment(s): Graduate standing may satisfy prerequisites.

AREC 500 - Thesis (1-15 Credit Hours)

Grading Restriction: P/NP only.

Repeatability: May be repeated.

Credit Level Restriction: Graduate credit only.

Registration Restriction(s): Master of Science - agricultural economics major. Minimum student level – graduate.

AREC 502 - Registration for Use of Facilities (1-15 Credit Hours)

Required for the student not otherwise registered during any semester when student uses university facilities and/or faculty time before degree is completed.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated.

Credit Restriction: May not be used toward degree requirements.

Credit Level Restriction: Graduate credit only.

Registration Restriction(s): Minimum student level – graduate.

AREC 505 - Microeconomic Analysis (3 Credit Hours)

Theory of utility maximization and demand, production, cost, firm behavior, and supply; price in product and factor markets; efficiency and welfare.

Recommended Background: Calculus and intermediate microeconomics courses.

AREC 512 - Advanced Agribusiness Finance (3 Credit Hours)

Financial and investment analysis tools and concepts and their application to business decisions. Topics include financial analysis and planning principles, working capital, capital budgeting, debt structure and financing, the Capital Asset Pricing Model, scenario analysis, Monte Carlo simulation, and discounted cash flow valuation.

Recommended Background: Senior-level finance course.

AREC 520 - Research Methodology in Agricultural Economics (1 Credit Hours)

An overview of the logic and process of economic inquiry. Topics covered include the relationship between theory and applied research, problem formulation, definition of

research problems, development of research problem statements with goals and objectives, and presentation and interpretation of results.

AREC 524 - Econometric Methods in Agricultural Economics (3 Credit Hours)

Application of statistical methods to agricultural economic models; estimation of supply, demand and production functions; microeconomic forecasting models; interpretation of results.

Recommended Background: Calculus and statistics courses.

AREC 525 - Agribusiness Operations Research Methods (3 Credit Hours)

Applications of operations research methods and concepts for agribusiness. Theoretical background and applied considerations of each technique with emphasis on applications. Computer and other applications of each technique for relevant agribusiness problems.

Recommended Background: Calculus and intermediate microeconomics courses.

AREC 530 - Agricultural Policy Analysis (3 Credit Hours)

Evaluation of public policy as related to agricultural industry and rural areas.

AREC 542 - Decisions, Uncertainty, and Resource Allocation (3 Credit Hours)

An applied treatment of decision theory concepts pertaining to the allocation of limited resources, including; probability theory; risk; simulation; Markov chains; resource-agent dynamics; game theory; and strategic interaction.

(RE) Prerequisite(s): 505, 524 or consent of instructor.

AREC 550 - Microeconomic Applications to Agricultural and Resource Markets (3 Credit Hours)

Microeconomic concepts, tools, and decision making approaches for agricultural and natural resource markets; competitive market analysis, strategies by sellers, including price and non-price competition, vertical coordination, market segmentation, and advertising; examination of demand and buyer behavior, including market participation, contingent valuation, and willingness to pay; role of information and innovations in markets.

(RE) Prerequisite(s): 505 and 524 or consent of instructor.

AREC 570 - Advanced Natural Resource Economics (3 Credit Hours)

Analysis of natural resource allocation issues; applied welfare economics, external effects and evaluation of public policy.

Recommended Background: Calculus and intermediate microeconomics.

AREC 593 - Special Topics in Agricultural Economics (1-3 Credit Hours)

Topics to be assigned.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 9 hours.

AREC 595 - Professional Internship (3 Credit Hours)

Supervised internship experience with appropriate agribusiness firm.

AREC 600 - Doctoral Research and Dissertation (3-15 Credit Hours)

Grading Restriction: P/NP only.

Repeatability: May be repeated.

Registration Restriction(s): Minimum student level – graduate.

AREC 640 - Agricultural Production and Supply Analysis (3 Credit Hours)

Advanced topics in agricultural production economics and supply analysis with emphasis on optimization modeling, duality, flexible production systems, efficiency and nonparametric analysis, risk, contracting, incentive systems, cooperative efforts, and the roles of information, insurance and credit.

(RE) Prerequisite(s): Economics 511 and 512.

Registration Restriction(s): Minimum student level – graduate.

AREC 650 - Agricultural Markets and Demand Analysis (3 Credit Hours)

Advanced theory and topics in market and price analysis; technical and pricing efficiency in agricultural markets; interregional and international competition; consumer demand.

(RE) Prerequisite(s): Economics 511 and 512.

Registration Restriction(s): Minimum student level - graduate.

AREC 670 - Advanced Topics in Natural Resource Economics (3 Credit Hours)

Applications of microeconomic theory to the use, allocation and control of scarce, exhaustible, and renewable natural resources, including soil, water, minerals, forests, and fish, in both static and dynamic contexts. Optimal control theory, dynamic programming, supply of, and demand for, natural resources, social versus private decisions, market and non-market considerations, regulation, uncertainty, property rights, equity considerations, and landscape pattern and change.

Recommended Background: Advanced microeconomics course.

Registration Restriction(s): Minimum student level – graduate.

SACS Assessment Criteria and Rubrics

Learner Outcome 1

Analytical Rubric for Assessing the Appropriateness of <u>Conceptual Frameworks</u> in Theses at the Time of the Thesis Defense (Circle a number)									
Below Expectations			Satisfactory				Exemplary		
1	2	3	4	5	6	7	8	9	10
Relevant economic theory is not used to address the research problem; hypotheses to address the specific objectives are missing.			Relevant economic theory is used to address the research problem; hypotheses are specified to address the specific objectives, but some or all hypotheses are not explicitly linked to economic theory.				Relevant economic theory is used to address the research problem; hypotheses are explicitly developed from economic theory to address the specific objectives.		

Learner Outcome 2

Analytical Rubric for Assessing the Appropriateness of <u>Methods and Procedures</u> in Theses at the Time of the Thesis Defense (Circle a number)									
Below Expectations			Satisfactory				Exemplary		
1	2	3	4	5	6	7	8	9	10
Relevant methods and procedures are not used to address the specific research objectives or the methods and procedures are incorrectly used or insufficiently justified and explained.			Relevant methods and procedures are used to address the specific research objectives and the application of the methods and procedures is adequately justified and explained.				The most current methods and procedures are used to address the specific research objectives and the application of the methods and procedures is clearly and carefully justified and explained.		

Learner Outcome 3

Analytical Rubric for Assessing <u>Oral Presentations</u> during Defense of Theses (Circle a number)										
Organization	Below Expectations			Satisfactory				Exemplary		
	1	2	3	4	5	6	7	8	9	10
	No apparent organization. Evidence is not used to support assertions.			The presentation has a focus and provides some evidence that supports conclusions.				The presentation is carefully organized and provides convincing evidence to support conclusions.		
Content	Below Expectations			Meets Expectations				Exceeds Expectations		
	1	2	3	4	5	6	7	8	9	10
	The content is inaccurate or overly general. Listeners are unlikely to learn anything or may be misled.			The content is generally accurate, but incomplete. Listeners may learn some isolated facts, but they are unlikely to gain new insights about the topic.				The content is accurate and complete. Listeners are likely to gain new insights about the topic.		
Style	Below Expectations			Meets Expectations				Exceeds Expectations		
	1	2	3	4	5	6	7	8	9	10
	The speaker appears anxious and uncomfortable, and reads notes, rather than speaks. Listeners are largely ignored.			The speaker is generally relaxed and comfortable, but too often relies on notes. Listeners are sometimes ignored or misunderstood.				The speaker is relaxed and comfortable, speaks without undue reliance on notes, and interacts effectively with listeners.		