To: TRAVIS LYBBERT, Agricultural and Resource Economics Chair

From: KYAW THA PAW U, Graduate Council Chair

Re: Agricultural and Resource Economics Degree Requirements

Enclosed is a copy of the Agricultural and Resource Economics graduate degree requirements as approved by Graduate Council on March 4, 2016. These degree requirements are now the official requirements for the Agricultural and Resource Economics Program and will be posted on the Office of Graduate Studies program webpage:

https://gradstudies.ucdavis.edu/programs/gare

Thank you for your efforts on behalf of graduate education.

Sincerely,

Kyaw Tha Paw U, Chair
Graduate Council

c: Nicole Baumgarth, Graduate Council Vice Chair
   Regan Scott-Chin, Graduate Studies Analyst
   Christy Hansen Sandoval, Program Coordinator
MASTER'S DEGREE REQUIREMENTS

1. Admission Requirements
Consideration for program admission requires a bachelor’s degree, three letters of recommendation, official transcripts, GRE scores, TOEFL or IELTS score (if applicable), and Office of Graduate Studies online application with fee. Applications must be submitted by the published deadlines to receive consideration.

An undergraduate degree in economics or agricultural economics is typical for ARE graduate students, but is not required. A minimum cumulative GPA of 3.0 (on a 4.00 scale) is required for admission. While admission does not formally require exceeding minimum GRE scores, priority will be given to applicants with GRE quantitative scores above the 70th percentile and verbal GRE scores above the 60th percentile (30th percentile for non-native speakers of English). Graduate Studies requires the Test of English as a Foreign Language (TOEFL) if the student’s native language is not English or his/her instruction has not been in English. The minimum score required for admission to graduate study at UC Davis is 550 for the paper test, and a score of 80 is required for the Internet-based test.

Meeting some or all of these criteria does not guarantee admission, but merely eligibility. The decision to recommend admission to the Dean of Graduate Studies will be made by the Program Admissions Committee on the basis of available space and the competitiveness of applicants compared to the eligible pool.

1.1. Prerequisites
Students, including those who did not major in economics or agricultural economics, are expected to have completed the equivalent of the following UC Davis courses:

- Calculus-based Intermediate Microeconomics: ARE 100A & 100B (8 units)
- Statistics: STA 103A or STA 103B (4 units)
- Econometrics: ARE 106 (4 units)
- One year of Calculus: MAT 16A, 16B, 16C or 21A, 21B, 21C (12 units)
- Additional upper-division courses in economics or agricultural economics are strongly encouraged.

1.2. Deficiencies
Deficiencies in the above coursework requirements must be corrected prior to enrollment in the Master’s program.

2. Programs of Study
The ARE Graduate Program offers both M.S. Plan I (Thesis) and M.S. Plan II (Comprehensive Exam) options to complete the master’s degree.
2.1. Plan I
The ARE Plan I is more restrictive than Graduate Studies rules, requiring a minimum of 32 graduate units in Agricultural and Resource Economics. As described below, 24 of these are graduate units corresponding to required core courses and at least 8 units correspond to required graduate field courses. Neither 299 or 396 units can be counted towards the required unit total. This plan requires a thesis.

2.2. Plan II
The ARE Plan II also requires a minimum of 36 units of upper-division and graduate courses. 32 of these units correspond to required courses, with 24 units corresponding to required graduate core courses and at least 8 units to required field courses. The remaining 4 units may come from other graduate courses or upper division undergraduate courses that meet the general program objectives of the student. Allowable upper division courses do not include core undergraduate courses in Economics and Managerial Economics such as ARE 100A-B, 106, 155 and their prerequisites. Neither 299 or 396 units can be counted towards the required unit total. Students must also pass a comprehensive written examination. No thesis is required.

3. Course Requirements

Minimum Requirements MS Plan I - (32), MS Plan II – (36)

<table>
<thead>
<tr>
<th>Core Courses</th>
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<tbody>
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<td></td>
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<td></td>
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<td></td>
<td>3. Economic Analysis of Resource &amp; Environmental Policy</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>Plan I – (0)</td>
</tr>
<tr>
<td></td>
<td>Plan II - Graduate or upper division UG course (4)</td>
</tr>
</tbody>
</table>

3.1. Core Courses (6 courses, 24 units)
Students must complete all of the following core courses under both Plan I and Plan II:

- Microeconomic Theory (12 units)
  - ARE 204A Microeconomic Analysis I (4 units)
  - ARE 204B Microeconomic Analysis II (4 units)
  - ARE 252 Optimization with Economic Applications (4 units)

- Econometrics (8 units)
  - ARE 256A Applied Econometrics I (4 units)
  - ARE 256B Applied Econometrics II (4 units)

- Research Methods (4 units)
  - ARE 258 Demand and Market Analysis (4 units)

3.2. Field Courses (2 courses, minimum of 8 units)
Students must complete two of the following three field courses under both Plan I and Plan II:

- ARE 214 Development Economics (4 units)
- ARE 223 Economics in Agriculture (4 units)
- ARE 275 Economic Analysis of Resource and Environmental Policies (4 units)

3.3. Elective Courses (Plan I: 0 courses, 0 units; Plan II: 1 course, 4 units)
Under Plan I, students are not required to complete any elective courses.

Under Plan II, students must complete elective coursework totaling at least 4 units. Students may choose from other graduate courses or upper division undergraduate courses that meet the general program objectives of the student. Allowable upper division courses do not include core undergraduate courses in Economics and Managerial Economics such as ARE 100A-B, 106, 155 and their prerequisites.

3.4. Summary
Consistent with the policies of the Office of Graduate Studies, students must receive a grade of C or better in any course to receive credit towards the degree. Students must register for a minimum of 12 units per quarter. Courses that fulfill any of the program course requirements may not be taken S/U unless the course is normally graded S/U. Once course requirements are completed, students can take additional classes as needed, although the 12 units per quarter are generally fulfilled with a research class (299). Per UC regulations, students cannot enroll in more than 12 units of graduate level courses (200) or more than 16 units of combined undergraduate and graduate level (100, 200, 300) courses per quarter.

Under Plan I: Students complete 24 units of graduate core courses, at least 8 units of graduate field courses, and a thesis.

Under Plan II: Students complete 24 units of graduate core courses; at least 8 units of graduate field courses; and additional elective courses. Students who complete 8 units of field courses must complete at least 4 units of elective courses.

4. Special Requirements
None.

5. Committees

5.1. Graduate Administrative Committee
The Graduate Administrative Committee (GAC) consists of the five graduate advisors in the program. The ARE Department Chair appoints one of these advisors as GAC Chair.

The GAC is charged with the following responsibilities:

a. To review and make recommendations to Graduate Studies regarding applications for admission and fellowships, and various graduate student petitions;
b. To serve as graduate advisors as described below;
c. To evaluate and make recommendations to the Program faculty regarding policy, curriculum, and administration of the Program;
d. To appoint ad hoc committees, as needed.
In addition to the above duties, the GAC Chair provides academic leadership for the program, making recommendations to the Department Chair regarding departmentally funded student employment and fellowships, overseeing student employment and fellowships funded by other sources including block grant and other funds allocated specifically to the graduate program, appointing preliminary and qualifying exam committees, and coordinating administrative matters with the Office of Graduate Studies.

5.2. Admissions Committee
The Admissions Committee consists of the five faculty members of the Graduate Administrative Committee (GAC). Once the completed application, all supporting material, and the application fee have been received, the application will be submitted to the Admissions Committee. Based on a review of the entire application, a recommendation is made to accept or decline an applicant’s request for admission. That recommendation is forwarded to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent to the applicant by Graduate Studies. Applications are accepted through April 15 for the class entering the following Fall. Priority is given to applications received by January 15.

5.3. Course Guidance and Advising Committee
The five faculty members of the GAC serve as graduate advisors. Graduate advisors are responsible for ensuring that their advisees complete appropriate preparative course work; interpreting requirements; providing advice and guidance to their advisees about required coursework, elective courses, and graduate research options and requirements; identifying members for the thesis committee (in the case of Plan I students); and overseeing students’ progress. Prior to the end of the first week of each Fall quarter, students are required to meet with their assigned advisor and complete a Study Plan. The Study Plan lays out the courses and other academic activities for the remainder of the year. Students are also required to meet with their advisors in the Spring quarter to complete a Progress Report. In the case of Plan I students, the balance of responsibility for overseeing students’ progress shifts from the Graduate Advisor to the Thesis Advisor after the student advances to candidacy.

5.4. Master’s Comprehensive Examination Committee
The Chair of the Graduate Program appoints an examination committee that is responsible for preparing, administering and grading the examination. This committee, composed of three Graduate Program faculty members, forwards its recommendation to the Graduate Program, which makes the final decision on each student.

5.5. Thesis Committee
A student pursuing a master’s degree under Plan I, in consultation with his/her graduate adviser, nominates 3 faculty to serve on the Thesis Committee. These nominations are submitted to the Office of Graduate Studies for formal appointment in accordance with Graduate Council policy. The major professor serves as Chair of the Thesis Committee. At least two of the members of the thesis committee must be members of the Graduate Program in Agricultural and Resource Economics. Cooperative Extension Specialists with primary appointments in the Department of Agricultural and Resource Economics who hold an appropriate instructional title, such as Lecturer without Salary, may serve as co-chair or member of the thesis committee. Senate faculty who are not members of the Graduate Program in Agricultural and Resource Economics may serve as a member of the thesis
committee subject to approval from the Graduate Administrative Committee and may serve as the sole thesis chair subject to approval from the Graduate Administrative Committee and the Department Chair of ARE for nomination to the Dean of Graduate Studies.

6. Advising Structure and Mentoring
Students completing the master’s degree under Plan I have both a Graduate Advisor and a Major Professor. The Graduate Advisor, who is appointed by Graduate Studies, is a resource for information on academic requirements, policies and procedures, and registration information. The Major Professor is the faculty member who supervises the student’s research and thesis and serves as the Chair of the Thesis Committee. The student identifies the Major Professor in consultation with his/her Graduate Advisor. The Graduate Program Staff assist students with identifying a major professor, identifying appointments, and general university policies.

Students completing the master’s degree under Plan II have a Graduate Advisor as described above (section 5.3).

The Mentoring Guidelines are available online at: https://gradstudies.ucdavis.edu/sites/default/files/upload/files/grad-council/mentoring.pdf

7. Advancement to Candidacy
Plan I and Plan II students must file an official application for Candidacy for the Degree of Master of Science in Agricultural and Resource Economics, which is available online at: https://gradstudies.ucdavis.edu/current-students/forms-information in the quarter in which they complete all required core and field courses. This is typically the Spring quarter. Plan II students must complete all core, field and elective courses before taking the comprehensive exam. A completed Candidacy for the degree of Master form includes a list of courses the student has taken to complete degree requirements. The student’s Graduate Adviser and committee Chair must sign the candidacy form before it can be submitted to Graduate Studies. If the candidacy is approved, the Office of Graduate Studies will send a copy to the graduate program coordinator and the student; the Thesis Committee Chair will also receive a copy, if applicable. If the Office of Graduate Studies determines that a student is not eligible for advancement, the department and the student will be told the reasons for the application’s deferral. Some reasons for deferring an application include: grade point average below 3.0, outstanding “I” grades in required courses, or insufficient units.

8. Comprehensive Examination and Thesis Capstone Requirements

8.1. Thesis Requirements (Plan I)
**Thesis committee meetings:** The candidate and major professor should meet at least once per quarter with the other members of the thesis committee to discuss progress and any changes in research objectives.

**Thesis:** Research for the Master's thesis is to be carried out under the supervision of a faculty member of the program and must represent an original contribution to knowledge in the field. The thesis research must be conducted while the student is enrolled in the program. The thesis is submitted to the thesis committee at least one month before the student plans to make requested revisions. All committee members must approve the thesis and sign the title page before the thesis is submitted to Graduate
Studies for final approval. Should the committee determine that the thesis is unacceptable, even with substantial revisions; the program may recommend the student for disqualification from the program to the Dean of Graduate Studies.

The thesis must be filed in a quarter in which the student is registered or on filing fee. Instructions on preparation of the thesis and a schedule of dates for filing the thesis in final form are available from Graduate Studies; the dates are also printed in the UC Davis General Catalog and in the Class Schedule and Registration Guide issued each quarter. A student must have a GPA of 3.0 for the M.S. degree to be awarded.

8.2. Master’s Comprehensive Examination (Plan II)

The Exam: The master’s comprehensive exam is a written exam that covers the material from the core courses. Students have four hours to complete the exam. The questions on this exam are written by the three faculty members on the Master’s Comprehensive Exam Committee.

Timing: The master’s comprehensive examination is given several weeks after completion of the Spring quarter, typically in the last week of June or first week of July. Students may take the comprehensive examination once they have advanced to candidacy.

Outcome and Retake: The exam committee’s unanimous vote is required to pass a student on the exam. If a student does not pass the exam on the first try, he/she may retake the exam. The retake is offered at the end of the summer. The format of the second exam is the same as that of the first exam. The examination may not be repeated more than once. A student who does not pass on the second attempt will be recommended for disqualification from further graduate work in the program to the Dean of Graduate Studies. Once the exam has been passed, the Master’s Report Form is signed by the Program Graduate Adviser and then forwarded to the Office of Graduate Studies. The deadlines for completing this requirement are listed each quarter in the campus General Catalog (available online at the website of the Office of the Registrar or from the Bookstore). A candidate must be a registered student or in Filing Fee status at the time the program submits the form, with the exception of the summer period between the end of the Spring Quarter and the beginning of Fall Quarter. The program must file the report with Graduate Studies within one week of the end of the quarter in which the student’s degree will be conferred.

9. Normative Time to Degree
The Normative Time to Degree for the ARE Master’s program is three quarters under Plan II and between four and six quarters under Plan I.

10. Typical Time Line and Sequence of Events
Course requirements are typically completed by the end of the first year of study for students under both Plan I and Plan II. Plan II students then take the Master’s Comprehensive Exam at the end of June. Plan I students typically carry out and complete their thesis by the end of their second year.

The following would be a typical program for a Plan II M.S. student:

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>June/July</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>
The following would be a typical program for a Plan I M.S. student:

### YEAR ONE

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARE 204A</td>
<td>ARE 204B</td>
<td>ARE 258</td>
<td>MS</td>
</tr>
<tr>
<td>ARE 256A</td>
<td>ARE 256B</td>
<td>ARE 275</td>
<td>Comprehensive Exam</td>
</tr>
<tr>
<td>ARE 223</td>
<td>ARE 252</td>
<td>ARE 214</td>
<td></td>
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</tbody>
</table>

### YEAR TWO

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>Research</td>
<td>Research</td>
</tr>
</tbody>
</table>

11. **Sources of Funding**

Students may receive financial support in the form of employment as Reader, Teaching Assistant or Graduate Student Researcher. However, *a priori* there is no guarantee for such support unless stated explicitly in the offer letter sent to the students.

12. **PELP, In Absentia and Filing Fee status**

Information about PELP (Planned Educational Leave), In Absentia (reduced fees when researching out of state), and Filing Fee status can be found in the Graduate Student Guide: [https://gradstudies.ucdavis.edu/current-students/forms-information](https://gradstudies.ucdavis.edu/current-students/forms-information) [https://gradstudies.ucdavis.edu/sites/default/files/upload/files/publications/gradstudentguide.pdf](https://gradstudies.ucdavis.edu/sites/default/files/upload/files/publications/gradstudentguide.pdf)
JOINT M.S./M.B.A. PROGRAM DEGREE REQUIREMENTS

This joint program enables students to obtain both an M.B.A. in the Graduate School of Management and an M.S. in Agricultural and Resource Economics (ARE) in three years. Students complete the full requirements of the M.B.A. and of the Plan II M.S. degree in ARE. A maximum of 12 units may be counted towards both degrees. Since the Plan II M.S. degree in ARE requires 36 units and the M.B.A. requires 72 units, the total number of units required by the joint degree ranges from 96 to 108.

ARE Master’s Degree Requirements for Joint Degree Program

1. Admission Requirements
Consideration for program admission requires a bachelor’s degree, three letters of recommendation, official transcripts, GRE scores, TOEFL or IELTS score (if applicable) and Office of Graduate Studies online application with fee. Applications received by January 15 will be given priority consideration. Applications will not be considered after April 15.

An undergraduate degree in economics or agricultural economics is recommended for ARE graduate students, but is not required. A minimum cumulative GPA of 3.0 (on a 4.00 scale) is required for admission. While admission does not formally require exceeding minimum GRE scores, priority will be given to applicants with GRE quantitative scores above the 70th percentile and verbal GRE scores above the 60th percentile (30th percentile for non-native speakers of English). Graduate Studies requires the Test of English as a Foreign Language (TOEFL) if the student’s native language is not English or his/her instruction has not been in English. The minimum score required for admission to graduate study at UC Davis is 550 for the paper test, and a score of 80 is required for the Internet-based test.

Meeting some or all of these criteria does not guarantee admission, but merely eligibility. The decision to recommend admission to the Dean of Graduate Studies will be made by the Program Admissions Committee on the basis of available space and the competitiveness of applicants compared to the eligible pool.

1.1. Prerequisites
Students, including those who did not major in economics or agricultural economics, are expected to have completed the equivalent of the following UC Davis courses:

- Calculus-based Intermediate Microeconomics: ARE 100A & 100B (8 units)
- Statistics: STA 103A or STA 103B (4 units)
- Econometrics: ARE 106 (4 units)
- One year of Calculus: MAT 16A, 16B, 16C or 21A, 21B, 21C (12 units)
- Additional upper-division courses in economics or agricultural economics are strongly encouraged.

1.2. Deficiencies
Deficiencies in the above coursework requirements must be corrected prior to enrollment in the Master’s program.
2. Programs of Study
Under the joint M.S./M.B.A. degree, the student must complete the Plan II (Comprehensive Exam) options.

**Plan II.** At UC Davis, Plan II requires 36 units of graduate and upper division courses, of which at least 18 units must be graduate courses in the major field. Not more than 9 units of research (299 or equivalent) may be used to satisfy the 18-unit requirement. A comprehensive final examination in the major subject is required of each candidate. No thesis is required.

Plan II are also requires a minimum of 36 units of upper-division and graduate courses. 32 of these units correspond to required courses, with 24 units corresponding to required core courses and at least 8 units to required field courses. The remaining 4 units may come from other graduate courses or upper division undergraduate courses that meet the general program objectives of the student. Allowable upper division courses do not include core undergraduate courses in Economics and Managerial Economics such as ARE 100A-B, 106, 155 and their prerequisites. Students must also pass a comprehensive written examination. No thesis is required.

3. Course Requirements

**MS Plan II – Minimum Requirements (36)**

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<td>2.</td>
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<td>3.</td>
<td>Economic Analysis of Resource &amp; Environmental Policy</td>
</tr>
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</table>

| Elective Courses | Graduate or upper division UG course (4) |

3.1. Core Courses (6 courses, 24 units)
Students must complete all of the following core courses under Plan II:

- Microeconomic Theory (12 units)
  - ARE 204A Microeconomic Analysis I (4 units)
  - ARE 204B Microeconomic Analysis II (4 units)
  - ARE 252 Optimization with Economic Applications (4 units)

- Econometrics (8 units)
  - ARE 256A Applied Econometrics I (4 units)
  - ARE 256B Applied Econometrics II (4 units)

- Research Methods (4 units)
  - ARE 258 Demand and Market Analysis (4 units)
3.2. **Field Courses (2 courses, minimum of 8 units)**
Students must complete two of the following three field courses under Plan II:

- ARE 214 Development Economics (4 units)
- ARE 223 Economics in Agriculture (4 units)
- ARE 275 Economic Analysis of Resource and Environmental Policies (4 units)

3.3. **Elective Courses (1 course, 4 units)**
Under Plan II, students must complete elective coursework totaling at least 4 units. Students must complete elective coursework totaling at least 4 units. Students may choose from other graduate courses or upper division undergraduate courses that meet the general program objectives of the student. Allowable upper division courses do not include core undergraduate courses in Economics and Managerial Economics such as ARE 100A-B, 106, 155 and their prerequisites.

3.4. **Summary**
Consistent with the policies of the Office Graduate Studies, students must receive a grade of C or better in any course to receive credit towards the degree. Students must register for a minimum of 12 units per Quarter. Courses that fulfill any of the program course requirements may not be taken S/U unless the course is normally graded S/U. Once course requirements are completed, students can take additional classes as needed, although the 12 units per quarter are generally fulfilled with a research class (299). Per UC regulations students cannot enroll in more than 12 units of graduate level courses (200) or more than 16 units of combined undergraduate and graduate level (100, 200, 300) courses per quarter. Under Plan II: Students complete 24 units of core courses; at least 8 units of field courses; and additional elective courses. Students who complete 8 units of field courses must complete at least 4 units of elective courses.

4. **Special Requirements**

**Specific Graduate School of Management-M.B.A. Requirements**

4.1. **Core Courses (11 courses, 33 units)**
The M.B.A. core requires 33 units of coursework (11 courses, each 3 units). In the first year of the M.B.A. program, students take the first nine courses listed below. During the second year, students complete a required two-course sequence in project development (MGT 240A and 240B). The full list of core courses is as follows:

- MGT 200A: Financial Accounting (3)
- MGT 201A: Individual and Group Dynamics (3)
- MGT 201B: Organizational Strategy and Structure (3)
- MGT 202A: Markets and the Firm (3)
- MGT 203A: Data Analysis for Managers (3)
- MGT 204: Marketing Management (3)
- MGT 205: Financial Theory and Policy (3)
- MGT 252: Managing for Operational Excellence (3)
MGT 268: Articulation and Critical Thinking (3)
MGT 240A: Project Management I (3)
MGT 240B: Project Management II (3)

4.2. Elective Courses (27 units)
Students must complete a total of 27 elective units. The number of courses required to complete these units will depend on the number of ARE units counted towards both degrees. If no ARE units are counted towards the MBA degree, then students must complete 9 elective GSM courses at 3 units each. If the maximum of 12 units from ARE are counted towards the MBA degree, then students must complete 5 elective GSM courses at 3 units each. A full listing of the GSM elective courses as well as additional information regarding the requirements of the M.B.A. degree may be found on the GSM website: http://gsm.ucdavis.edu/daytime-mba.

5. Committees

5.1. Graduate Administrative Committee
The Graduate Administrative Committee (GAC) consists of the five graduate advisors in the program. The ARE Department Chair appoints one of these advisors as GAC Chair.

The GAC is charged with the following responsibilities:
   a. To review and make recommendations to Graduate Studies regarding applications for admission and fellowships, and various graduate student petitions;
   b. To serve as graduate advisors as described below;
   c. To evaluate and make recommendations to the Program faculty regarding policy, curriculum, and administration of the Program;
   d. To appoint ad hoc committees, as needed.

In addition to the above duties, the GAC Chair provides academic leadership for the program, making recommendations to the Department Chair regarding departmentally funded student employment and fellowships, overseeing student employment and fellowships funded by other sources including block grant and other funds allocated specifically to the graduate program, appointing preliminary and qualifying exam committees, and coordinating administrative matters with the Office of Graduate Studies.

5.2. Admissions Committee
The Admissions Committee consists of the five faculty members of the Graduate Administrative Committee (GAC). Once the completed application, all supporting material, and the application fee have been received, the application will be submitted to the Admissions Committee. Based on a review of the entire application, a recommendation is made to accept or decline an applicant’s request for admission. That recommendation is forwarded to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent to the applicant by Graduate Studies. Applications are accepted through April 15 for the class entering the following Fall. Priority is given to those applications received by January 15.
5.3. Course Guidance and Advising Committee
The five faculty members of the GAC serve as graduate advisors. Graduate advisors are responsible for ensuring that their advisees complete appropriate preparative coursework; interpreting requirements; providing advice and guidance to their advisees about required coursework, elective courses, and graduate research options and requirements and overseeing students’ progress. Prior to the end of the first week of each Fall quarter, students are required to meet with their assigned advisor and complete a Study Plan. The Study Plan lays out the courses and other academic activities for the remainder of the year. Students are also required to meet with their advisors in the Spring quarter to complete a Progress Report.

5.4. Master’s Comprehensive Examination Committee
The Chair of the Graduate Program appoints an examination committee that is responsible for preparing, administering and grading the examination. This committee, composed of three Graduate Program faculty members, forwards its recommendation to the Graduate Program, which makes the final decision on each student.

6. Advising Structure and Mentoring
Students completing the Master’s degree under Plan II have a Graduate Advisor as described above.

The Mentoring Guidelines are available online at: https://gradstudies.ucdavis.edu/sites/default/files/upload/files/grad-council/mentoring.pdf

7. Advancement to Candidacy
Plan II students must file an official application for Candidacy for the Degree of Master of Science in Agricultural and Resource Economics, which is available online at: https://gradstudies.ucdavis.edu/forms in the quarter in which they complete all required core and field courses. This is typically in the Spring quarter. Plan II students must complete all core, field and elective courses before taking the comprehensive exam. A completed Candidacy form includes a list of courses the student has taken to complete degree requirements. The student’s Graduate Adviser must sign the candidacy form before it can be submitted to Graduate Studies. If the candidacy is approved, the Office of Graduate Studies will send a copy to: the graduate program coordinator and the student. If the Office of Graduate Studies determines that a student is not eligible for advancement, the department and the student will be told the reasons for the application’s deferral. Some reasons for deferring an application include: grade point average below 3.0, outstanding “I” grades in required courses, or insufficient units.

8. Comprehensive Examination and Thesis Capstone Requirements

8.1. Master’s Comprehensive Examination (Plan II)
The Exam: The comprehensive exam is a written exam that covers the material from the core courses. Students have four hours to complete the exam. The exam questions are
written by the three faculty members on the Master’s Comprehensive Exam Committee.

**Timing:** The comprehensive examination is given several weeks after completion of the Spring quarter, typically in the last week of June or first week of July. Students may take the comprehensive examination once they have advanced to candidacy.

**Outcome and Retake:** The Master’s Comprehensive Exam Committee’s unanimous vote is required to pass a student on the exam. If a student does not pass the exam on the first try, he/she may retake the exam. The retake is offered at the end of the summer. The format of the second exam is the same as that of the first exam. The examination may not be repeated more than once. A student who does not pass on the second attempt will be recommended for disqualification from further graduate work in the program to the Dean of Graduate Studies. Once the exam has been passed, the Master’s Report Form is signed by the Program Graduate Adviser and then forwarded to the Office of Graduate Studies. The deadlines for completing this requirement are listed each quarter in the campus General Catalog (available online at the website of the Office of the Registrar or from the Bookstore). A candidate must be a registered student or in Filing Fee status at the time the program submits the form, with the exception of the summer period between the end of the Spring Quarter and the beginning of Fall Quarter. The program must file the report with Graduate Studies within one week of the end of the quarter in which the student’s degree will be conferred.

9. **Normative Time to Degree**
The Normative Time to Degree for the ARE Master’s program is three quarters under Plan II. The Normative Time to Degree for the Graduate School of Management M.B.A program is 6 quarters.

9.1. **Timing of Coursework**
The total time required to complete the joint program is three years. Students typically complete the two programs sequentially with the order being chosen by the student in consultation with their academic advisors. Thus, a student either completes all ARE requirements in year one and the M.B.A. requirements in years two and three or reverses the order and completes the M.B.A. requirements in years one and two and the ARE requirements in year three.

The table below presents a typical program for a student completing the ARE requirements in year one and the M.B.A. requirements in years two and three. In this example, the student takes 7 electives in the GSM, for a total of 21 units, and thus would need to count at least 6 ARE units towards both degrees. This could be accomplished, for example, by counting ARE 223 (4 units) and ARE 275 (4 units) towards both degrees.

<table>
<thead>
<tr>
<th>YEAR ONE (Complete Plan II MS in ARE)</th>
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<tbody>
<tr>
<td>Fall Quarter</td>
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<tr>
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</tr>
<tr>
<td>Quarter</td>
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### YEAR TWO (first year of MBA)

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<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Summer</th>
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<tbody>
<tr>
<td>MGT 200A</td>
<td>MGT 201B</td>
<td>MGT 201A</td>
<td>Internship</td>
</tr>
<tr>
<td>MGT 202A</td>
<td>MGT 204</td>
<td>MGT 252</td>
<td></td>
</tr>
<tr>
<td>MGT 203A</td>
<td>MGT 205</td>
<td>MGT Elective</td>
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<tr>
<td>MGT 268A</td>
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### YEAR THREE (second year of MBA)

<table>
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<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Summer</th>
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<tbody>
<tr>
<td>MGT 240A</td>
<td>MGT 240B</td>
<td>MGT 201A</td>
<td>Internship</td>
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<tr>
<td>MGT Elective</td>
<td>MGT Elective</td>
<td>MGT Elective</td>
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<td>MGT Elective</td>
<td>MGT Elective</td>
<td>MGT Elective</td>
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11. **Sources of Funding**
While completing their master’s degree in ARE, students may receive financial support in the form of employment as a Reader, Teaching Assistant or Graduate Student Researcher. However, *a priori* there is no guarantee for such support unless stated explicitly in the offer letter sent to the students.

12. **PELP, In Absentia and Filing Fee status**
Information about PELP (Planned Educational Leave), In Absentia (reduced fees when researching out of state), and Filing Fee status can be found in the Graduate Student Guide: [https://gradstudies.ucdavis.edu/forms](https://gradstudies.ucdavis.edu/forms) [https://gradstudies.ucdavis.edu/sites/default/files/uploads/publications/gradstudentguide.pdf](https://gradstudies.ucdavis.edu/sites/default/files/uploads/publications/gradstudentguide.pdf)
Ph.D. DEGREE REQUIREMENTS

1. Admission Requirements

Consideration for program admission requires a bachelor’s degree, three letters of recommendation, official transcripts, GRE scores, TOEFL or IELTS score (if applicable), and Office of Graduate Studies online application with fee. Applications received by January 15 will be given priority consideration. Applications will not be considered after April 15.

Given the quantitative nature of the first-year course sequences, either an undergraduate degree stressing quantitative analysis -- such as economics, agricultural economics, mathematics or statistics -- or an M.S. degree in similar fields is recommended for ARE Ph.D. students, but is not required. While rigorous, the Ph.D. program is also flexible. Students with more advanced quantitative training can follow the “full core” option described below and complete the required coursework in two years, while those with less quantitative training can follow the “split core” option described below and complete the required coursework in three years.

A minimum GPA of 3.3 (on a 4.00 scale) is required for admission. While admission does not formally require exceeding minimum GRE scores, priority will be given to applicants with GRE quantitative scores above the 80th percentile and verbal GRE scores above the 60th percentile (30th percentile for non-native speakers of English). Graduate Studies requires the Test of English as a Foreign Language (TOEFL) if the student’s native language is not English or the student’s instruction has not been in English. The minimum score required for admission to graduate study at UC Davis is 550 for the paper test, and a score of 80 is required for the Internet-based test.

Meeting some or all of these criteria does not guarantee admission. The decision to recommend admission to the Dean of Graduate Studies will be made by the Program Admissions Committee on the basis of available space and the competitiveness of applicants compared to the eligible pool.

1.1. Prerequisites

Students including those who did not major in economics or agricultural economics are expected to have completed the equivalent of the following UC Davis courses:

- Calculus-based Intermediate Microeconomics: ARE 100A & 100B (8 units)
- Statistics: STA 103A or STA 103B (4 units)
- Econometrics: ARE 106 (4 units)
- One year of Calculus: MAT 21A, 21B, 21C (12 units)
- One course in linear algebra: MAT 22A (4 units)
- Additional upper-division courses in economics or agricultural economics as well as math and statistics are strongly encouraged.

1.2. Deficiencies

Because of the quantitative nature of the Ph.D. courses, any deficiencies in the above
coursework requirements must be corrected prior to enrollment into the Ph.D. program.

2. Dissertation Plan
The Agricultural and Resource Economics Graduate Program uses the Graduate Studies “Plan B” for the dissertation committee and exit requirements. This specifies a three member (minimum) dissertation committee and an optional final oral examination (at the discretion of the dissertation committee for each individual student). No exit seminar is required. Additional details regarding “Plan B” are given at: https://gradstudies.ucdavis.edu/sites/default/files/upload/files/grad-council/c.4.davis-division-reg-520c-2008.pdf

3. Course Requirements

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<thead>
<tr>
<th>Core Courses</th>
<th>Microeconomic Theory (15)</th>
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<tr>
<td></td>
<td>Econometrics (12)</td>
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<td></td>
<td>Applied Microeconomics (9)</td>
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<tr>
<th>Major Field Courses</th>
<th>Students must complete two of the following major field sequences</th>
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<tr>
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<td>1. Development Economics (12)</td>
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<td>2. Natural Resource &amp; Environmental Economics (16)</td>
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<td></td>
<td>3. Agricultural Economics (12)</td>
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<tr>
<td></td>
<td>4. Econometrics (12)</td>
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<tr>
<th>Elective Courses</th>
<th>PhD Courses (8-12)</th>
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3.1. Core Courses (9 courses, 36 units)
All students are required to take the following courses:

- **Microeconomic Theory**
  - ARE/ECN 200A Microeconomic Theory (5 units; Fall Quarter)
  - ARE/ECN 200B Microeconomic Theory (5 units; Winter Quarter)
  - ARE/ECN 200C Microeconomic Theory (5 units; Spring Quarter)
- **Econometrics**
  - ARE/ECN 239 Econometric Foundations (4 units; Fall Quarter)
  - ARE/ECN 240A Econometric Methods (4 units; Winter Quarter)
  - ARE/ECN 240B Econometric Methods (4 units; Spring Quarter)
- **Applied Microeconomics**
  - ARE 202A Intro to Applied Research Methods (3 units; Fall Quarter)
  - ARE 202B Applied Micro I: Consumer and Producer Behavior (3 units; Winter Quarter)
  - ARE 202C Research Design for Applied Microeconomics (3 units; Spring Quarter)

3.2. Major Field Courses (6-7 courses, 24-28 units)
All students are required to complete specialized coursework in two Major Fields. Each Major Field consists of a three or four course sequence.
One of the student’s Major Fields must be chosen from the following three ARE Major Fields:

- **Development Economics**
  - ARE 215A Microdevelopment Theory and Methods (4 units)
  - ARE 215B Open Macroeconomics of Development (4 units)
  - ARE 215C Microdevelopment Theory and Methods II (4 units)

- **Natural Resource and Environmental Economics**
  - ARE 254 Dynamic Optimization Techniques with Economic Applications (4 units)
  - ARE 276A Environmental Economics: Externalities (4 units)
  - ARE 276B Environmental Economics: Non-Market Valuation (4 units)
  - ARE 277 Natural Resource Economics (4 units)

- **Agricultural Economics**
  - ARE 231 Supply and Demand for Agricultural Products (4 units)
  - ARE 232 Agricultural Commodity Markets (4 units)
  - ARE 233 Agricultural Policy (4 units)

The second can be one of the above three, any three-course field in the Department of Economics, or the Econometrics major field which is jointly taught with the Department of Economics. To complete the Econometrics Major field, students must complete three of the following four courses:

- **Econometrics**
  - ARE/ECN 240C Time Series Econometrics (4 units)
  - ARE/ECN 240D Cross Section Econometrics (4 units)
  - ARE/ECN 240E Topics in Time Series Econometrics (4 units)
  - ARE/ECN 240F Topics in Cross Section Econometrics (4 units)

Descriptions of the major fields available in the Department of Economics can be found in the Economics Graduate Handbook, which is available on-line at: http://www.econ.ucdavis.edu/graduate-program/current-students/graduate-handbook

### 3.3. Elective Courses (2-3 courses; 8-12 units)

Students with two three-course field sequences must complete an additional three Ph.D.-level courses in Agricultural and Resource Economics or Economics. Students who complete the four-course Natural Resources and Environment field sequence must complete an additional two Ph.D.-level courses in Agricultural and Resource Economics or Economics. In addition to the major field courses listed above, additional elective courses offered within the Department of Agricultural and Resource Economics include:

- ARE 215D: The Environment and Economic Development
- ARE 223: Economics of Agriculture
- ARE 255: Applied Dynamic Structural Econometric Modeling
- ARE 298: Advanced Topics in Agricultural, Resource and Development Economics

Students may take one of their elective courses outside of Agricultural and Resource Economics and Economics if the course clearly contributes to the student’s academic
development. Students must acquire permission from their Graduate Advisor to count a non-ARE/ECN course towards their degree requirement.

3.4. Summary
36 units of core coursework, 24-28 units of major field coursework, and 8-12 units of elective coursework are required for a total of 72 units. Full-time students must enroll for 12 units per quarter including research, academic and seminar units. Courses that fulfill any of the program course requirements may not be taken S/U unless the course is normally graded S/U. Once course requirements are completed, students can take additional classes as needed, although the 12 units per quarter are generally fulfilled with a research class (299). Per UC regulations students cannot enroll in more than 12 units of graduate level courses (200) or more than 16 units of combined undergraduate and graduate level (100, 200, 300) courses per quarter.

4. Special Requirements
Students are strongly encouraged to regularly attend departmental research seminars, particularly once required coursework has been completed. Seminar, workshop and brown-bag attendance is critical to obtaining thesis ideas, maintaining contact with faculty members, and seeing how research presentations are made. Seminar and workshop series are offered throughout the year in Agricultural Economics, Environmental and Resource Economics, and Development Economics.

After passing the Qualifying Exam (described in section 6), students are encouraged, and may be required by their dissertation committees, to give a seminar presentation on their dissertation progress.

5. Committees

5.1. Graduate Administrative Committee
The Graduate Administrative Committee (GAC) consists of the five graduate advisors in the program. The ARE Department Chair appoints one of these advisors as GAC Chair.

The GAC is charged with the following responsibilities:
- To review and make recommendations to Graduate Studies regarding applications for admission and fellowships, and various graduate student petitions;
- To serve as graduate advisors as described below;
- To evaluate and make recommendations to the Program faculty regarding policy, curriculum, and administration of the Program;
- To appoint ad hoc committees, as needed.

In addition to the above duties, the GAC Chair provides academic leadership for the program, making recommendations to the Department Chair regarding departmentally funded student employment and fellowships, overseeing student employment and fellowships funded by other sources including block grant and other funds allocated
specifically to the graduate program, appointing preliminary and qualifying exam committees, and coordinating administrative matters with the Office of Graduate Studies.

5.2. Admissions Committee
The Admissions Committee consists of the five faculty members of the Graduate Administrative Committee (GAC). Once the completed application, all supporting material, and the application fee have been received, the application will be submitted to the Admissions Committee. Based on a review of the entire application, a recommendation is made to accept or decline an applicant’s request for admission. That recommendation is forwarded to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent to the applicant by Graduate Studies. Applications are accepted through April 15 for the class entering the following Fall. Priority is given to applications received by January 15.

5.3. Course Guidance and Advising Committee
The five faculty members of the GAC serve as graduate advisors. Graduate advisors are responsible for ensuring that their advisees complete appropriate preparatory coursework; interpreting requirements; providing advice and guidance to their advisees about required coursework, elective courses, and graduate research options and requirements; identifying members for the dissertation committee; and overseeing students’ progress. Prior to the end of the first week of each Fall quarter, students are required to meet with their assigned advisor and complete a Study Plan. The Study Plan lays out the courses and other academic activities for the remainder of the year. Students are also required to meet with their advisors in the Spring quarter to complete a Progress Report. Advising on research and dissertation begins with the two initial dissertation members who (as described above in section 6) are selected by the student during the second or third year. The balance of responsibility for overseeing students’ progress shifts from the Graduate Advisor to the Dissertation Advisor after the student advances to candidacy.

5.4. Preliminary Examination Committee
The Chair of the Graduate Program appoints an examination committee of three members that is responsible for preparing, administering and grading the Econometrics preliminary exam and appoints one examination committee member for the Microeconomics preliminary exam who is responsible for reviewing the exam which is administered through the Economics Department.

5.5. Oral Qualifying Examination Committee
The qualifying examination committee consists of four members of the ARE graduate program and one member from outside the program. Both Prospectus Advisors, (initial dissertation committee members), must participate on the oral exam committee. All members of the qualifying examination committee must hold Ph.D. degrees and must be professors at a UC campus unless an External Committee Membership Application is completed and approved by the Dean of Graduate Studies.

5.6. Dissertation Committee
The dissertation is the means by which the candidate demonstrates research proficiency.
Upon advancement to candidacy, the student will assemble a dissertation committee consisting of three faculty members, chaired by the student’s major professor, to direct the research. At least two of the members of the dissertation committee must be members of the Graduate Program in Agricultural and Resource Economics. Cooperative Extension Specialists with primary appointments in the Department of Agricultural and Resource Economics who hold an appropriate instructional title, such as Lecturer without Salary, may serve as co-chair or member of the dissertation committee. Senate faculty who are not members of the Graduate Program in Agricultural and Resource Economics may serve as a member on the dissertation committee subject to approval from the Graduate Administrative Committee and may serve as the sole dissertation chair subject to approval from the Graduate Administrative Committee and the Department Chair of ARE for nomination to the Dean of Graduate Studies.

6. Advising Structure and Mentoring
Students are assigned a Graduate Advisor upon entry into the program. In addition, first year students can consult with the graduate program chair for questions concerning their first year courses and exams.

After completing coursework, the student identifies his/her initial two-member dissertation committee (Prospectus Advisors) to serve on the student’s Oral Qualifying Exam Committee. These advisors assist the student in formulating the dissertation proposal and prospectus, which is the basis for the Oral Qualifying Exam. Students should select the initial two-member dissertation committee advisors no later than the July 31 following completion of their field course sequences (i.e., one year after passing their preliminary exams). Students should consult with faculty teaching the second year field courses most closely related to their expected field of research for assistance with selecting the dissertation advisors. Students who still find it difficult to select these advisors should consult with the graduate program chair for assistance. The Dissertation Committee is formalized upon completion of the Oral Qualifying Exam and may be re-organized at any point if the direction of the student’s research changes.

The Mentoring Guidelines are available online at: https://gradstudies.ucdavis.edu/sites/default/files/upload/files/gradcouncil/mentoring.pdf

7. Advancement to Candidacy
Students are eligible for advancement to candidacy after completing all course requirements as described above, passing preliminary examinations at the Ph.D. level, completing and submitting a dissertation prospectus and passing their Oral Qualifying Examination, as described below and according to Graduate Studies policy (see http://gradstudies.ucdavis.edu/gradcouncil/policiesall.html). The student must file the appropriate paperwork with the Office of Graduate Studies and pay the candidacy fee in order to be officially promoted to Ph.D. candidacy. This paperwork includes the Report on Qualifying Examination for Admission to Candidacy and the Ph.D. Candidacy –Plan B form that officially designates the student’s Dissertation Committee, which consists of at least three faculty members. Ideally, the three members on the Qualifying Exam Committee that supervised and approved the prospectus will continue to serve on the officially-designated Dissertation Committee with the
research essay chair to serve as the dissertation chair – but it is possible to alter the structure of the committee.

Students who pursue the “full core” option must advance to candidacy prior to May 31 of their prospectus year (third year). Students who pursue the “split core” option must advance to candidacy prior to May 31 of their prospectus year, (fourth year). The “full” and “split” core options are described in section 9 below.

8. Preliminary Examination, Qualifying Examination and Dissertation Requirements

8.1. Preliminary Examinations
All students must pass written preliminary examinations (“prelims”) in Microeconomic Theory (covering ECN 200A, 200B, 200C), and Econometrics (covering ARE/ECN 239, 240A, 240B). The core theory prelims should be taken at the earliest opportunity following completion of the course sequence. “Full core” students should take them at the beginning of the summer following their first year. “Split core” students should take the Econometrics prelim at the beginning of the summer following their first year and should take the Microeconomic Theory prelim at the beginning of the summer following their second year.

Prelims are “closed book” and are graded on a 0 – 5 numerical scale. A minimum score of 2.0 is required to pass the exam. All exams are graded by two or three faculty members. Students may read the examiners’ comments by contacting the graduate program coordinator.

Retaking core theory prelims: A student who does not pass a prelim exam may retake the exam at the end of the summer. Students may re-take each exam not more than once, that is, a maximum of two attempts are allowed for each exam.

A “full core” student who, before beginning the second year or a “core splitting” student who, before beginning the third year, fails to meet the requirements listed in this section will be recommended for disqualification to the Dean of Graduate Studies. This requirement may be waived on petition to the Chair of the Graduate Administrative Committee if the student can prove adequate grounds.

8.2 Major Field and Elective Coursework
By the summer of the year following completion of preliminary examinations, students should have completed all remaining required coursework. This includes the six courses comprising their two major fields and the three elective courses.

8.3 Dissertation Prospectus and Qualifying Examination
Three specific requirements are associated with the identification of a dissertation topic and Dissertation Committee. Only after satisfying these requirements does the student “advance to PhD candidacy.”

- The student selects a research topic, proposes an initial two-member Dissertation Committee and prepares a Dissertation Proposal (≤5 pages) prior to the start of Fall Quarter after completing coursework.
The student prepares a Dissertation Prospectus (≤30 pages) under the guidance of this committee. The prospectus must be approved by the committee to serve as the basis of the student’s oral qualifying exam no later than May 31 of the prospectus year. The student passes an oral qualifying examination based on the dissertation prospectus prior to May 31 of the prospectus year.

Each of the three requirements has a deadline. A failure to meet a deadline is a failure to make normal progress. If a student does not make normal progress, the student becomes ineligible for employment, and the department is no longer obligated to pay the student’s tuition and fees.

8.3.1 Dissertation Proposal

The dissertation proposal and prospectus are written under the supervision of an initial two-member Dissertation Committee. The student works closely with the chair of this committee in the formulation of the proposal and (especially) the prospectus. The other committee member may also provide guidance in this process. Both committee members are ultimately responsible for approving the prospectus as the basis of the oral exam. This initial two-member dissertation committee is only formalized by Graduate Studies as the student’s official Dissertation Committee once a third member is added and the student has passed the oral qualifying exam.

DEADLINES: (1) Students must submit a tentative title of their Dissertation Proposal along with their initial two-member Dissertation Committee to the graduate program coordinator by the end of their final quarter of coursework, typically Spring Quarter of their second year in the Ph.D. program (third year for core-splitters). (2) Students must submit a completed Dissertation Proposal approved by the chair of this committee to the graduate program coordinator prior to the start of the subsequent Fall Quarter.

8.3.2 Dissertation Prospectus

The Dissertation Prospectus describes in detail the student’s research plans for the dissertation. It should:

- Provide a compelling motivation for the topic and a clear statement of the scope and objectives of the research;
- Discuss in detail the precedent literature to which the study aims to contribute and the nature of this contribution;
- Describe the structure and expected content of the dissertation, including potential sources of funding, theoretical models, research methods and data, anticipated obstacles, and preliminary analysis and results, if available;
- Include a specific timeline for completing and filing the dissertation.

The prospectus must be no more than 30 pages (double-spaced, one inch-margins). Appendices, if any, references, figures, tables, and maps do not count as part of the page restrictions. Prospectuses must conform to these limits in order to serve as the basis for an oral exam.
The prospectus often disproportionately describes research that is furthest along – including relevant portions of a fully drafted paper with results in many cases – but it should nonetheless include details of the other expected components of the dissertation.

When submitting a prospectus approved by their initial two-member Dissertation Committee, students propose a third member of this Dissertation Committee to participate in the oral examination.

DEADLINE: The Dissertation Prospectus is completed after students have completed their coursework. Students should, however, strive to make progress on their prospectuses as they are taking their field courses. Some students may be in a position to complete their prospectus early in the Fall Quarter of their prospectus year (i.e., their third year (or fourth year for core-splitters)). All students should strive to complete their prospectus by Winter Quarter of their prospectus year. Students must complete and submit a prospectus with the approval of their two-member committee by May 31 of their prospectus year.

8.3.3 Oral Qualifying Examination
The comprehensive Oral Qualifying Examination is convened after satisfactory completion of all coursework and submission of an approved Dissertation Prospectus. The objectives of the oral examination are to determine the feasibility and research merits of the Dissertation Prospectus and to evaluate the student’s qualifications and preparedness to undertake the proposed research.

The oral examination committee is appointed by the Dean of Graduate Studies, acting on behalf of Graduate Council, upon the recommendation of the chair of the department’s Graduate Administrative Committee. Every oral examination committee has five members. The three members of the Dissertation Committee typically will serve on this oral exam committee, but none of these three can chair the oral examination committee. Of the other two members of the oral examination committee, at least one must be a faculty member from outside the Agricultural and Resource Economics graduate program.

All members of the examination committee must approve the dissertation prospectus as a sufficient basis for an oral qualifying examination prior to the examination itself. Approval in this case constitutes agreement to convene the scheduled examination; no formal signature is required. If the five examiners determine that the dissertation prospectus is an insufficient basis for an examination, then the examination will be postponed. A student may appeal this decision in writing to the GAC.

DEADLINE: The oral qualifying examination may be scheduled no sooner than four weeks after the approved dissertation prospectus has been submitted to the Graduate Program Coordinator. These four weeks will provide examiners enough time to review the materials and the Dean of Graduate Studies with sufficient time to appoint the examination committee. All students should strive to pass their oral exam by Winter Quarter of their prospectus year. Students must pass their oral exam and advance to
candidacy prior to the end of Spring Quarter of that year.

8.3.4 Outcome of the Exam
The committee will reach a decision on the student’s performance immediately after the oral exam. The committee, having reached a unanimous decision, shall inform the student of its decision to:

- “Pass” (no conditions may be appended to this decision),
- “Not Pass” (the Chair’s report should specify whether the student is required to retake all or part of the examination, list any additional requirements, and state the exact timeline for completion of requirements to achieve a “Pass”), or
- “Fail”.

If a unanimous decision takes the form of “Not Pass” or “Fail”, the Chair of the oral qualifying exam committee must include in its report a specific statement, agreed to by all members of the committee, explaining its decision and must inform the student of its decision. Students that receive a “Fail” will be recommended for disqualification from the program to the Dean of Graduate Studies. Students that receive a “Not Pass” may attempt the qualifying exam one additional time; the QE report must list the specific conditions and expected timing for the second exam. After a second examination, a vote of “Not Pass” is unacceptable; only “Pass” or “Fail” is recognized. Only one retake of the qualifying examination is allowed. Should the student receive a “Fail” on the second attempt at the exam, the student will be recommended for disqualification from the program to the Dean of Graduate Studies.

8.4 Dissertation Requirements
The dissertation is the means by which the candidate demonstrates research proficiency. The Department of Agricultural and Resource Economics follows Dissertation plan B and does not require an exit seminar upon completion of the dissertation. However, a final oral exam may be required at the discretion of the dissertation committee.

After advancing to Candidacy, the student may be required to demonstrate evidence of progress on an annual basis. This evidence may take the form of an updated written research proposal, a research presentation in a Departmental workshop or seminar, an article submitted for publication, or a research presentation at a professional conference.

Consistent with Graduate Studies Policy on Service on Advanced Degrees, (IV Reading Committee Timelines), the dissertation must be submitted to the Dissertation Committee at least one month before the student plans to make requested revisions. All committee members must approve the dissertation and sign the title page before the dissertation is submitted to Graduate Studies for final approval (see http://gradstudies.ucdavis.edu/students/filing.html for other details regarding filing dissertations)

9 Normative Time to Degree
9.2 Full Core versus Split Core
While all students are subject to the same program requirements, students may select from two options for the timing of coursework completion. The option selected is a function of the student’s prior preparation in economics and quantitative methods. The student decides upon the option in consultation with his/her Graduate Advisor in the summer prior to the first year. The two options are as follows:

- **Full Core**: Under this option, students complete the three required Ph.D. core sequences in Microeconomics Theory, Econometrics and Applied Economic Theory in their first year. They take the two preliminary examinations, Microeconomics Theory and Econometrics in the summer after their first year.

  Students with a M.S. in economics, agricultural economics, or statistics are expected to select the Full Core option. Students without a master’s degree, but whose undergraduate degree was strong in both economic theory and quantitative methods (for example students with an economics B.A. and a minor in Math) are also expected to select this option.

- **Core Splitting**: Under this option, students complete the required Ph.D. core sequence in Econometrics in the first year and take the Econometrics preliminary examination in the summer after their first year. They postpone the core sequences in Microeconomic Theory and Applied Microeconomic Theory until their second year and will take the Microeconomics Theory preliminary examination in the summer of their second year. During their first year, these students typically take the master’s courses in Microeconomic Theory as well as additional coursework in Math or Statistics in order to prepare for the remaining two core sequences. Students with only an undergraduate degree or students who have been away from school for several years may select this option.

9.3 Advancement to Candidacy and Completing the Dissertation
The expected time to advancement to candidacy depends on whether the student chooses the Full Core or the Core Splitting option. The expectations are as follow:

- **Full Core** students are expected to advance to candidacy prior to May 31 of their third year. The typical time line for advancing to candidacy is as follows:
  - Year 1: Complete the three core course sequences and pass preliminary exams in two core course areas in the summer after Year 1.
  - Year 2: Complete two major field course sequences and elective field courses. By the Spring quarter of Year 2, the student should have identified their two initial dissertation committee members to serve as prospectus advisors and begun working under their supervision on the dissertation prospectus.
  - Year 3 Winter: All students should strive to pass their oral exam by Winter Quarter of their prospectus year
  - Year 3 Spring: Students must pass their oral exam and advance to
candidacy prior to the send of Spring Quarter of that year.
- Year 3: Begin developing dissertation research.
- Year 4: Continue with dissertation research.
- Year 5: Complete dissertation.

- **Core Splitting** students are expected to advance to candidacy prior to May 31 of their fourth year. The typical time line for advancing to candidacy is as follows:
  - Year 1: Complete Econometrics core sequence, M.S. level courses in microeconomic theory, and undergraduate courses in mathematics and statistics. Pass the Econometrics preliminary examination in the summer after the first year.
  - Year 2: Complete the Microeconomic and Applied Microeconomic Theory core sequences. As students enroll in a third course each quarter, they may also complete coursework towards a first major field or to satisfy the PhD elective course requirements. Pass the preliminary examinations in Microeconomic Theory in the summer after Year 2.
  - Year 3: Complete two major field course sequences and additional electives. By the Spring quarter of Year 3, the student should have identified their two initial dissertation committee members, Research Essay advisors, and begun working under their supervision on the dissertation prospectus.
  - Year 4: Students should strive to complete the prospectus and pass their oral exam by Winter quarter of that year.
  - Year 4: Spring: Students must pass their oral exam and advance to candidacy prior to the end of Spring quarter of that year.
  - Year 5: Continue with dissertation research.
  - Year 6: Complete dissertation.

### 10 Typical Time Line and Sequence of Events

#### 10.2 Full Core

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<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
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<td>ARE 200C</td>
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**Full Core: YEAR THREE**
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### 10.3 Split Core

#### Split Core: YEAR ONE

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Econometrics Prelim

#### Split Core: YEAR TWO

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Micro Prelim

#### Split Core: YEAR THREE

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Prospectus Title & Chair

#### Split Core: YEAR FOUR

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### 11 Sources of Funding

Students in the Agricultural and Resource Economics Ph.D. program may apply for funding as Teaching Assistants or Graduate Student Researcher. Students are also strongly encouraged to apply for fellowships and write grant proposals to secure independent funding.

### 12 PELP, In Absentia and Filing Fee status

Information about PELP (Planned Educational Leave), In Absentia (reduced fees when researching out of state), and Filing Fee status can be found in the Graduate Student Guide: [https://gradstudies.ucdavis.edu/forms](https://gradstudies.ucdavis.edu/forms)

### 13 Leaving the Program Prior to Completion of the Ph.D. Requirements

Should a student leave the program prior to completing the requirements for the PhD, they may still be eligible to receive the Master’s degree if they have fulfilled all the requirements (see Master’s Degree Requirement section). Students can use the Petition for Change of Graduate Major, Degree Objective, or for Double Graduate Major form available on the Graduate Studies website: [https://gradstudies.ucdavis.edu/forms](https://gradstudies.ucdavis.edu/forms)