A. Degree Requirements for MS Plan I and Plan II:

1. Admissions Requirements:

Applicants for admission must meet the University of California minimum undergraduate GPA requirement for admission. In addition, candidates must complete the following entrance requirements:

- 2 courses in introductory biology, BIS 1A, B or C, or equivalent if taken elsewhere
- 2 courses in introductory chemistry, CHE 2A and B or equivalent if taken elsewhere
- 2 courses in introductory physics, PHY 1A and B or equivalent; or 1 course in an upper division physical science, ATM 110, ESP 110; HYD 122 or 124; SSC 100, 107, 208 or 209 or equivalent if taken elsewhere
- 1 course in introductory calculus, MAT 16A or equivalent if taken elsewhere
- 1 course in introductory statistics, STA 13 or equivalent if taken elsewhere
- 1 course in introductory ecology, ESP 100 or EVE 101 or equivalent if taken elsewhere

Entrance deficiencies may be completed at a Community College, except for the Introduction to Ecology course, which is normally only offered at a four year university. Applicants who are offered admission with missing entrance requirements will be notified prior to matriculation. Once enrolled in the program, students will be required to complete missing entrance requirements in the first year of residence in the program. First year students will meet with their Guidance Committee to determine how the missing entrance requirements will be completed. Entrance deficiencies in upper division courses must be taken for a letter grade; lower division courses may be taken for an S/U grade.

Other requirements for admission include:

- Graduate Record Examination
- English proficiency examination for international applicants who have not studied at an English speaking University: TOEFL or other University approved examination. International applicants must meet the Office of Graduate Studies minimum TOEFL score requirement.
- Three letters of recommendation
- Resume or Curriculum Vitae
- Confirmed Major Professor: a GGE faculty member in good standing must confirm that they accept the student into their laboratory, and will provide financial support, access to essential resources to complete their degree, as well as mentorship until the student completes their program of study.
- Applicants must choose an Area of Emphasis when submitting an application for admission.
2. **Masters Plan I (Thesis) or Plan II (Comprehensive Examination)**

**Plan I** requires that the student complete at least 30 units of course work. Course work may include a combination of upper division undergraduate and graduate level courses, but must include at least 12 units from graduate courses in the major field. Courses taken prior to admission to the program may be used to satisfy course work requirements, but may not be counted in the 30 unit requirement. All course work must be approved by the GGE Guidance Committee and the GGE Graduate Adviser. The student may Advance to Candidacy when at least half of the course work requirements have been completed. The student should be able to complete the necessary coursework requirements for Advancement to Candidacy by the end of the first year in residence and advance to candidacy at that time. However, MS students must advance to candidacy no later than their fourth quarter. The thesis committee will consist of a Chair – the students’ major professor – and two other GGE faculty members (whenever possible, one member of the committee shall be chosen from a department other than that of the major subject).

For the thesis to be acceptable for the degree all members must sign the title page certifying that the student has completed the thesis to the committees’ satisfaction. In cases where the committee members cannot reach a unanimous decision but a majority is favorable, the majority and minority will report their separate opinions on the merit of the thesis to the Graduate Adviser. The Graduate Adviser will make a recommendation to be forwarded to the Dean of Graduate Studies for a final decision. If the thesis is regarded by the committee as of less than acceptable quality the student will be given an appropriate period of time by the committee in which to improve the work. If, after that period of time, (usually a quarter or more), the thesis is still unacceptable to a majority of the committee, they may recommend that the student be disqualified from further graduate study.

**Plan II** requires that the student complete 36 units of course work. Course work may include a combination of upper division undergraduate and graduate level courses, but it must include at least 18 units from graduate courses in the major field and not more than 9 units of research (299 or equivalent) may be used to satisfy the 18-unit requirement. Courses taken prior to admission to the program may be used to satisfy course work requirements, but may not be counted in the 36 unit requirement. All course work must be approved by the GGE Guidance Committee and the GGE Graduate Adviser. The student may Advance to Candidacy when at least half of the course work requirements have been completed. The student should be able to complete the necessary coursework requirements for Advancement to Candidacy by the end of the first year in residence and advance to candidacy at that time. However, MS students must advance to candidacy no later than their fourth quarter. The examination committee will be approved by the GGE Graduate Adviser. Two examination topics are set for all Plan II students: Principles of Ecology and Research Methodology. The third topic is to be determined by the student with approval of the Guidance Committee. Once the student has completed all required course work, the student will complete the MS examination.
3. **Course Requirements – MS Plans I and II:**

**Core Course Requirements:** All students are required to complete these courses, substitutions are not allowed except for equivalent courses taken elsewhere that are approved by the Guidance Committee.

- Principles of Ecology, ECL 200 A and B: 5 units each
- Evolution, EVE 100 (or equivalent if taken elsewhere): 4 units
- Ecology 290, ECL 290 student participatory seminar; one is required for an MS Plan I and II: variable units
- Field Course Requirement: One of the following courses: ESP 123, ESP 124, ECL 225 (4, 10 and 4 units, respectively) or equivalent if taken elsewhere.
- Ecology and Evolution Seminar Series, ECL 296, taken each quarter of the first year in residence: 1 unit each

**Area of Emphasis Core Course Requirements:** Students complete the core course requirement according to the Area of Emphasis that they have chosen at the time of admission.

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<td>ECL 203</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Master's Coursework**

Plan I and II: In addition to the entrance requirements, core courses and Area of Emphasis course work, students desiring a master’s degree by thesis must complete a designated area of strength. This area of strength must be supported by two courses. Courses to support an area of strength may be either graduate level or upper division undergraduate level courses with at least one course at the graduate level. An area of strength is defined as any sub-discipline within ecology and is subject to approval by the guidance committee and the program chair. The designated area of strength may be the same as the Area of Emphasis. Courses taken at other institutions may qualify to demonstrate strength, as deemed appropriate by the guidance committee.
4. **Special Requirements:**

Should a student elect to change their Area of Emphasis (AOE) within the program they must seek approval of this change. The change of AOE must be approved by: the major professor, the current AOE Chair, the proposed AOE Chair and the GGE Chair.

5. **Committees:**

   **a. Admissions Committee:**

   The GGE Admissions Committee is composed of a Chair (the GGE Vice-Chair is automatically the Chair of the GGE Admissions Committee), three additional GGE faculty members, and a student representative from the Ecology Graduate Student Association. The GGE Admissions Committee will advise the GGE Executive Committee about setting the deadline for applications for admission as well as any other policy recommendations pertinent to admissions.

   Applications will be reviewed in the following manner: 1) a preliminary review will be conducted by the GGE support staff in order to screen out and decline applicants that do not meet the Division of Graduate Studies minimum academic requirements. 2) A randomly chosen group of 2 or more faculty members and 1 or more students will provide ad hoc application reviews. The ranked scores from the ad hoc admissions reviews are summarized and forwarded to the Area of Emphasis Admissions Committee. 3) The Area of Emphasis admissions committee will then make recommendations for admission to the GGE Chair of Admissions based on ad hoc reviews and faculty interest in individual students. The GGE Chair of Admissions forwards a recommendation for or against admission to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent by both Graduate Studies and the Graduate Group. The admissions process is restricted to the single Graduate Studies application deadline that occurs at the beginning of the calendar year.

   **b. Guidance Committee:**

   The Guidance Committee for MS Plan I and II students will be composed of the Major Professor and the Area of Emphasis Adviser (see section 6 for an explanation of these positions). The GC will work with the student to develop course work requirements, thesis development (Plan I) and MS examination (Plan II). Students are required to complete the guidance committee report by the end of their first quarter of residence in the program. A minimum of 12 units must be taken each quarter, which may be made up of required courses and 299s.

   **c. MS Plan I: Thesis Committee:**

   The thesis committee will consist of the major professor and two other faculty members. Two thesis committee members of the committee must be selected from the graduate group faculty. A single outside member may be
added to the thesis committee with permission of the Graduate Chair, or be represented as an extra committee member. The thesis committee will guide the student in the design and completion of the proposed research project appropriate for the Masters’ level.

The thesis committee will be approved by the GGE Graduate Adviser and the Dean of Graduate Studies when the student files for advancement to candidacy. The thesis committee will conform to the Graduate Council guidelines. External Committee members are allowed with the approval of the GGE Graduate Adviser and the Dean of Graduate Studies. Students must complete the approval process set by the Graduate Council for external committee members. Thesis committee nominations are submitted to the Office of Graduate Studies for formal appointment in accordance with Graduate Council policy (DDB 80, Graduate Council, B.1.). The thesis committee determines if the thesis is acceptable and if it is not, what conditions must be satisfied to make it acceptable.

d. MS Plan II Oral Examination Committee:

MS Plan II students must first Advance to Candidacy before they are allowed to take the examination for degree. An MS Plan II student may advance to candidacy when approximately one half of the coursework has been completed, and at least one quarter before completion of all degree requirements. The student must have an overall minimum GPA of 3.0 at examination time. MS candidates complete the Advancement to Candidacy petition and take it to the GGE office. The petition need not be signed by the Major Professor, and designation of the MS exam committee is not required by the Office of Graduate Studies. Examiners are nominated by the student, with guidance from the Guidance Committee. Final approval of examination topics rests with the chair of the Graduate Group in Ecology. Students must provide the slate of nominees to the GGE office no later than 60 days from the proposed date of the exam. The MS examination Committee will conform to Graduate Council guidelines. No more than one non GGE faculty member may serve on the examination Committee. External Committee members are allowed with the approval of the GGE Graduate Adviser and the Dean of Graduate Studies. Students must complete the approval process set by the Graduate Council for external committee members.

The examination committee will then determine if the candidate has adequate knowledge of the subject area to qualify for an MS degree through an oral examination. The examination is two hours in length and closed to visitors, except by permission of the chair of the examining committee.

The faculty serving on the examination are expected to determine the quality of the performance of the candidate on all parts of the examination and not solely for the section covered by the examiner. Graduate Council has stipulated that, on the first attempt, the performance of any candidate irrespective of degree objective can be evaluated as: 1) a pass; 2) a not pass; or, 3) a fail.
The performance required for a 'pass' for the MS is the unanimous consent of the entire committee (3 faculty). “Not pass” is specified when the committee in charge does not feel that the candidate's performance meets the standard for the field. For MS degrees, a “not pass” judgment requires the approval of the Graduate Adviser for a retake. Evaluation as a “fail” means that the student will be disqualified from further graduate study in the program. The student has the right to appeal the decision. Students taking the examination a second time have only the pass and fail options.

6. **Advising and Mentoring:**

The primary responsibility for advising and mentoring graduate students will take place via the Major Professor and their respective laboratory group. Faculty mentors should follow and adhere to: the Graduate Council Mentorship Guidelines, the Ecology Graduate Group Mentorship Guidelines (Appendix), and the Principles of Community.

Students may also seek advice outside of their laboratory group from their AOE Chair or Adviser, the GGE Graduate Adviser, and the GGE Student Affairs Officer (SAO) as well as staff in the Office of Graduate Studies. The GGE Graduate Adviser and SAO, or any other GGE affiliate, may refer students with unusual or difficult needs to specialized campus resources when necessary or appropriate.

**GGE Roles and Responsibilities are as follows:**

- **GGE Chair:** monitors student progress, student support, programmatic advising and mentoring. The Chair is nominated by GGE faculty, elected by the faculty, nominated by the Dean of Graduate Studies and approved by the Chancellor. The Chair is also a Master Graduate Adviser for all GGE students,
- **GGE Area of Emphasis Chair:** AOE programmatic oversight and the admissions process for the AOE. The AOE Chair is selected by the primary faculty in the AOE, and nominated to the GGE Executive Committee for approval. The AOE Chair serves the AOE faculty and students.
- **GGE Area of Emphasis Adviser:** provides students with guidance on how to complete GGE and AOE requirements. The AOE Adviser is selected by the primary faculty in the AOE, and nominated to the GGE Executive Committee for approval according to Graduate Council policy. The AOE Adviser serves the AOE faculty and students.
- **Major Professor:** primary responsibility for research advising and mentorship in order for students to complete degree requirements. Primary responsibility for student funding – both for personal and research support. The MP is the primary mentor for specific graduate students
- **Student Affairs Officer:** primary responsibility for student advising for admissions, fellowships/student support, guidance procedures, committee composition and student progress as it relates to completion of graduate degrees (time to degree). The SAO serves the faculty and students in the GGE.
7. **Advancement to Candidacy:**

MS students are eligible and expected to file for advancement to candidacy no later than their fourth quarter of residence. Note that the Graduate Council requires that MS students complete at least half the coursework on their program of study before Advancement to Candidacy.

8. **Time Line and Sequence of Events:**

- **Year One:** Fall quarter – submit an approved Guidance Committee report
- **Year Two:** Fall quarter – submit the petition to Advance to Candidacy. Spring quarter – complete all required coursework for Plan I and II. Plan II – organize and take the MS final oral examination.
- **Year Three:** Plan I – complete research project, analyze data and write the thesis. Submit the thesis to the Office of Graduate Studies by the end of the academic year or prior to the start of the fall quarter.

Entrance deficiencies may delay this timeline, but it is not expected to delay student progress by more than 2 quarters.

9. **Sources of Funding:**

Funding sources available to GGE students, for which the GGE has control, includes work study and block grant fellowship support. The GGE does not control any GSR or TA funding. Students should consult with individual faculty regarding research funding available to fund GSR appointments. Students should consult the GGE website for a listing of departments and deadlines for TA appointments.

10. **PELP and Filing Fee Status:**

Students must maintain appropriate student status at all times and to be eligible to complete the degree. Students will be required to follow PELP and Filing Fee Status guidelines and procedures set by the Graduate Council.

11. **Thesis Guidelines:**

There are no additional thesis requirements other than those imposed by the Graduate Council.

12. **Comprehensive Examination Requirements**

See Section 5.d. above.
A. Degree Requirements for the PhD:

1. Admissions Requirements:

Applicants for admission must meet the University of California minimum undergraduate GPA requirement for admission. In addition, candidates must complete the following entrance requirements:

- 2 courses in introductory biology, BIS 1A, B or C, or equivalent if taken elsewhere
- 2 courses in introductory chemistry, CHE 2A and B or equivalent if taken elsewhere
- 2 courses in introductory physics, PHY 1A and B or equivalent; or 1 course in an upper division physical science, ATM 110, ESP 110; HYD 122 or 124; SSC 100, 107, 112, 208 or 209 or equivalent if taken elsewhere
- 1 course in introductory calculus, MAT 16A or equivalent if taken elsewhere
- 1 course in introductory statistics, STA 13 or equivalent if taken elsewhere
- 1 course in introductory ecology, ESP 100 or EVE 101 or equivalent if taken elsewhere

Entrance deficiencies may be completed at a Community College, except for the Introduction to Ecology course, which is normally only offered at a four year university. Applicants who are offered admission with missing entrance requirements will be notified prior to matriculation. Once enrolled in the program, students will be required to complete missing entrance requirements in the first year of residence in the program. First year students will meet with their Guidance Committee to determine how the missing entrance requirements will be completed. Entrance deficiencies in upper division courses must be taken for a letter grade; lower division courses may be taken for an S/U grade.

Other requirements for admission include:
- Graduate Record Examination
- English proficiency examination for international applicants who have not studied at an English speaking University: TOEFL or other University approved examination. International applicants must meet the Graduate Council’s minimum TOEFL score requirement.
- Three letters of recommendation
- Resume or Curriculum Vitae
- Confirmed Major Professor: a GGE faculty member in good standing must confirm that they accept the student into their laboratory, and will provide financial support, access to essential resources to complete their degree, as well as mentorship until the student completes their program of study.
- Applicants must choose an Area of Emphasis when submitting an application for admission.
2. **Dissertation Plan B**

Students working toward the PhD must be registered and in residence for a minimum of six regular quarters. Two consecutive regular Summer Sessions in which a student registers for at least 2 units may count as the equivalent of one regular quarter. Experience indicates that it takes considerably longer than this to complete a PhD degree program. The expected time to degree for the PhD in Ecology is five years (see 8. Normative Time and Time to Degree).

There is no unit requirement for the PhD. However, students are required to complete certain core courses and additional courses in the Area of Emphasis. Courses taken prior to admission to the program may be used to satisfy course work requirements. There are three components to gaining a doctorate degree in Ecology from UC Davis: course work, the oral qualifying examination and the dissertation. Upon completion of course work, a five-person qualifying examination committee is convened to administer the qualifying examination. After successful completion of the qualifying examination, the criteria for which are set by the GGE and the Graduate Council, the student must file for Advancement to Candidacy for the PhD. The remaining component is the dissertation.

A dissertation is based on significant original research in the area of expertise and must result in a document of publishable quality that conforms to GGE and Graduate Council guidelines. The PhD is awarded upon successful completion of the dissertation, as judged by the three member dissertation committee, after it is filed with the Office of Graduate Studies. The three member dissertation committee may include one member from outside the graduate group faculty, with concurrence of the GGE Chair and approval by the Dean of Graduate Studies. Additional outside members are permitted, but must participate as extra members of the committee. Presentation of an exit seminar is required prior to submitting the dissertation to Graduate Studies.

For the dissertation to be acceptable all members must sign the title page certifying that the student has completed their dissertation to the committees’ satisfaction. In a case where the committee members cannot reach a unanimous decision but a majority is favorable, the majority and minority will report their separate opinions of the merit of the thesis to the Graduate Adviser. The Graduate Adviser will make a recommendation to be forwarded to the Dean of Graduate Studies for a final decision. If the dissertation is regarded by the committee as of less than acceptable quality, the student will be given an appropriate period of time by the committee in which to improve the work. If, after that period of time (usually a quarter or more), the thesis is still unacceptable to a majority of the committee, they may recommend that the student be disqualified from further graduate study.

3. **Course Requirements – PhD:**

Core Course Requirements: All students are required to complete these courses, substitutions are not allowed except for equivalent courses taken elsewhere that are approved by the Guidance Committee.

- Principles of Ecology, ECL 200 A and B: 5 units each
- Evolution, EVE 100 (or equivalent if taken elsewhere): 4 units
• Ecology 290, ECL 290 student participatory seminar; 3 seminars are required: variable units
• Field Course Requirement: One of the following courses: ESP 123, ESP 124, ECL 225 (4, 10 and 4 units, respectively) or equivalent if taken elsewhere.
• Ecology and Evolution Seminar Series, ECL 296, taken each quarter of the first year in residence: 1 unit each

**Area of Emphasis Core Course Requirements:** students complete the core course requirement according to the Area of Emphasis that they have chosen at the time of admission.

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**Qualifying Examination Topic Preparation:**

• Two topics are set for all Ecology students: Principles of Ecology and Research Methodology/Quantitative Skills. ECL 200A and B are the primary course work preparation for the Principles of Ecology; students must choose 2 courses to support the Research Methodology/Quantitative Skills examination topic.
• PhD students choose three optional examination topics. Students must choose 2 courses to support each examination topic. Examination topics are chosen in consultation with the Guidance Committee. Representative and suggested topics are presented below. These are examples and not meant to be exhaustive.

**Group A: Basic Ecology**

Behavioral ecology  Allelochemics  Evaluation of  environmental policy
Community ecology  Biometeorology  Implementation of  environmental policy
Ecosystem ecology  Ecosystem analysis  Population ecology
Physiological ecology  Transport phenomena  Human population ecology

**Group B: Applied Ecology**

Agroecology  Pollution ecology  Epidemiology
Aquaculture and fisheries  Environmental policy in specific areas: e.g., conservation or energy  Conservation ecology
Aquatic ecology  Ecotoxicology  Resource management
Group C: Subjects in which major universities might have departmental or group PhD programs, such as but not limited to:

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<td>Economics</td>
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<td>Botany</td>
<td>Mathematics</td>
<td>Anthropology</td>
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<td>Soil Science</td>
<td>Biochemistry</td>
<td>Sociology</td>
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<tr>
<td>Entomology</td>
<td>Atmospheric science</td>
<td>Political Science</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>Physical oceanography</td>
<td>Invertebrate zoolog</td>
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4. **Special Requirements:**

Should a student elect to change his/her Area of Emphasis within the program they must seek approval of the change. The change of AOE must be approved by the students’ major professor, the current AOE Chair, the proposed AOE Chair and the GGE Chair. The student will be required to complete the new AOE core course if applicable.

PhD students are required to present an exit seminar to the GGE faculty and students prior to submitting the dissertation to the Office of Graduate Studies.

5. **Committees:**

a. **Admissions Committee:**

The GGE Admissions Committee is composed of a Chair (the GGE Vice-Chair is automatically the Chair of this committee), three additional GGE faculty members, and a student representative from the Ecology Graduate Student Association. The GGE Admissions Committee will advise the GGE Executive Committee about setting the deadline for applications for admission as well as any other policy recommendations pertinent to admissions.

Applications will be reviewed in the following manner. 1) a preliminary review will be conducted by the GGE support staff in order to screen out and decline applicants that do not meet the Division of Graduate Studies minimum academic requirements. 2) A randomly chosen group of 2 or more faculty members and 1 or more students will provide ad hoc application reviews. The ranked scores from the ad hoc admissions reviews are summarized and forwarded to the Area of Emphasis Admissions Committee. 3) The Area of Emphasis admissions committee will then make recommendations for admission to the GGE Chair of Admissions based on ad hoc reviews and faculty interest in individual students. The GGE Chair of Admissions forwards a recommendation for or against admission to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent by both Graduate Studies and the Graduate Group. The admissions process is restricted to the single Graduate Studies application deadline that occurs at the beginning of the calendar year.
b. **Guidance Committee:**

The Guidance Committee (GC) for the PhD student will be composed of the Major Professor, the Area of Emphasis Adviser and a third GGE faculty member. Non GGE members may not serve on the Guidance Committee. The GC will work with the student to develop course work requirements, examination topics and nomination of the qualifying examination committee. Full time students must register for a minimum of 12 units per quarter.

Students are required to complete the guidance committee report by the end of their first quarter of residence in the program.

c. **Oral Qualifying Examination Committee:**

In consultation with the Guidance Committee a five person qualifying examination committee will be selected for nomination, and approved by the GGE Graduate Adviser and the Dean of Graduate Studies. Students must provide the slate of nominees to the GGE office no later than 60 days from the proposed date of the QE. The OQE Committee will conform to Graduate Council guidelines. No more than one non GGE faculty member may serve on the QE Committee. External Committee members are allowed with the approval of the GGE Graduate Adviser and the Dean of Graduate Studies.

d. **Dissertation Committees:**

Dissertation Committees will be composed of three members. The dissertation committee will be approved by the GGE Graduate Adviser and the Dean of Graduate Studies. The Major Professor will serve as Chair. The composition of the dissertation committee will conform to Graduate Council guidelines. No more than one non GGE faculty member may serve on the Dissertation Committee. External Committee members are allowed with the approval of the GGE Graduate Adviser and the Dean of Graduate Studies.

6. **Advising and Mentoring:**

The primary responsibility for advising and mentoring graduate students will take place via the Major Professor and their respective laboratory group. Faculty mentors should follow and adhere to the Graduate Council Mentorship Guidelines, the Ecology Graduate Group Mentorship Guidelines (**Appendix**), and the Principles of Community.

Students may also seek advice outside of their laboratory group from their AOE Chair or Adviser, the GGE Graduate Adviser or Program Chair, and the GGE Student Affairs Officer as well as staff in the Office of Graduate Studies. The GGE Graduate Adviser and SAO, or any other GGE affiliate, may refer students with unusual or difficult needs to specialized campus resources when necessary or appropriate.
GGE Roles and Responsibilities are as follows:

- **GGE Chair:** monitors student progress, student support, programmatic advising and mentoring. The Chair is nominated by GGE faculty, elected by the faculty, nominated by the Dean of Graduate Studies and approved by the Chancellor. The Chair is also a Master Graduate Adviser for all GGE students.

- **GGE Area of Emphasis Chair:** AOE programmatic oversight and the admissions process for the AOE. The AOE Chair is selected by the primary faculty in the AOE, and nominated to the GGE Executive Committee for approval. The AOE Chair serves the AOE faculty and students.

- **GGE Area of Emphasis Adviser:** provides students with guidance on how to complete GGE and AOE requirements. The AOE Adviser is selected by the primary faculty in the AOE, and nominated to the GGE Executive Committee for approval according to Graduate Council policy. The AOE Adviser serves the AOE faculty and students.

- **Major Professor:** primary responsibility for research advising and mentorship in order for students to complete degree requirements. Primary responsibility for student funding – both for personal and research support. The MP is the primary mentor for specific graduate students

- **Student Affairs Officer:** primary responsibility for student advising for admissions, fellowships/student support, guidance procedures, committee composition and student progress as it relates to completion of graduate degrees (time to degree). The SAO serves the faculty and students.

7. **Advancement to Candidacy:**

Students must successfully complete the Preliminary Examination and the required Qualifying Examination processes in order to advance to candidacy. Preliminary Examination consists of a written exam on general principles of ecology. The written exam consists of the written final exams of ECL 200A and 200B. These exams are graded and reviewed by a committee of five faculty members appointed by the Executive Committee. A letter grade of A+ on a question constitutes a high pass; A or A- a Pass; B+ or B a Low Pass; a B- grade or lower constitutes a No Pass for a question. The scores on individual questions are then averaged for an overall grade. Students will Pass the exam if their overall average is a Low Pass or higher and that they have a No Pass on no more than two exam questions. A grade of No Pass requires the student to retake the Preliminary Examination exam. Students will be allowed two subsequent tries at passing the exam. Failure to successfully complete the exam on the third try will initiate a progress review of the student to consider dismissal from the program. Upon receipt of a passing grade on the written Preliminary Examination (low pass or higher) and successful completion of all coursework, students form an oral Qualifying Examination committee. PhD students begin the process by meeting with the Guidance Committee to complete the Pre-Qualifying Examination Evaluation. Students must be in their final quarter of coursework in order to schedule and take the qualifying exam. Should the examination committee members change, a “Reconstitution” request must be approved by the GGE Adviser and submitted for approval to the Office of Graduate Studies prior to the examination. The proposed examination committee members need to be submitted to the GGE office no later than 60 days prior to the anticipated date of examination.
It is the student's responsibility to find an examination date and time suitable for everyone, reserve a room, and send a notice of the exam's location, date, and time to all participants. The Exam Chair must be a member of the GGE and a member of the Academic Senate. The Quantitative Methods examiner must also be a GGE faculty member. Only one member of the examination can be a non GGE faculty member. Student's major professors cannot serve on the oral exam committee. Nominees who are not members of the Graduate Group in Ecology will be subject to approval, on a case-by-case basis, by the Chair and the office of Graduate Studies.

The Qualifying Exam is three hours in length. The examination is closed to visitors, except by permission of the chair of the examining committee. The faculty serving on the examination are expected to determine the quality of the performance of the candidate on all parts of the examination and not solely for the section covered by the examiner. Graduate Council has stipulated that, on the first attempt, the performance of any candidate irrespective of degree objective can be evaluated as: 1) a pass; 2) a not pass; or, 3) a fail. Successful completion of this oral Qualifying Exam (pass) allows a candidate to advance to candidacy as per Graduate Council guidelines. Opinion may be divided, which requires the filing of both majority and minority reports (5 examiners).

“Not pass” is specified when the committee in charge does not feel that the candidate's performance meets the standard for the field. Either the entire exam or sections may be reported as “not passed”. Retaking the examination may be subject to conditions specified by the committee, including course work, paper preparation, or additional research. The deadline by which these requirements must be completed is established at the time of the exam.

Evaluation as a “fail” means that the student will be disqualified from further graduate study in the program. The student has the right to appeal the decision. Students taking the examination a second time have only the pass and fail options.

8. **Normative Time and Time to Degree**

Normative time for the PhD in Ecology is officially 5 years, the actual average time to degree is 6 years. However, note that the Graduate Council has set a maximum of four years after completion of the qualifying examination to complete all degree requirements, failing which a student will go on probation for one year. At the end of the probationary period if all the degree requirements are not satisfied, the student will be dismissed.

9. **Time Line and Sequence of Events:**

- Year One: Fall quarter – submit an approved Guidance Committee report
- Year Two: Spring quarter – must have completed required course work for the degree and have taken the Preliminary Exams (if this option is chosen)
- Year Three: Fall quarter – file petition to take the oral qualifying examination. Winter quarter – file petition to Advance to Candidacy for the PhD. Within one year of passing the qualifying examination the student must meet with their dissertation committee to obtain approval of the dissertation proposal
- Year Five: Students should be approaching the completion of the dissertation.
Entrance deficiencies may delay this timeline, but it is not expected to delay student progress by more than 2 quarters.

10. **Sources of Funding:**

Funding sources available to GGE students, for which the GGE has control, includes work study and block grant fellowship support. The GGE does not control any GSR or TA funding. Students should consult with individual faculty regarding research funding available to fund GSR appointments. Students should consult the GGE website for a listing of departments and deadlines for TA appointments.

11. **PELP and Filing Fee Status:**

Students must maintain appropriate student status at all times and to be eligible to complete the degree. Students will be required to follow PELP and Filing Fee Status guidelines and procedures set by the Graduate Council.

12. **Dissertation Guidelines:**

PhD students have the option of using three manuscripts that are worthy of publication in a major research journal instead of a traditional dissertation. The dissertation committee is authorized to approve the appropriate content of the manuscripts.
Appendix

-----NOTE: The attached appendix is a guideline meant to inform the Graduate Council regarding graduate group policy and intent to inform students of policies. As this was not comprehensively updated for this degree guideline approval process, there may be small historical discrepancies in policy. The Appendix represents general information regarding group practices and procedures. In all cases of potential perceived conflict, the Degree Guidelines document is the definitive set of rule.

A CHECKLIST OF FACULTY AND STUDENT RESPONSIBILITIES
ECOLOGY GRADUATE STUDENT ASSOCIATION
GRADUATE GROUP IN ECOLOGY

SUMMARY

These guidelines were prepared by the Mentorship Committee of the EGSA as part of the overall student review of the Ecology Graduate Group conducted during the 1997-98 academic year. Specific recommendations found in the document were drawn from committee members’ own experience, informal discussions with other graduate students, and from interviews with six GGE faculty members selected for their reputation as good mentors. Two additional faculty members helped with comments on the final draft. The guidelines were formally adopted by the Executive Committee of the GGE in Spring 1998.

Although we avoided making a critique of mentoring in the original document, a few comments here might serve as background for our recommendations. While we discovered that there are a fair number of truly excellent mentors in the group and only a couple of unacceptable mentors, the comment that we heard most often is that of being forgotten by faculty members who are more interested in their own research. In some respects this problem is more prevalent at UC Davis than at other universities since faculty members have so many other interesting faculty members with whom they can interact as opposed to their graduate students. Thus, our overall recommendation is for faculty members to remember that graduate students are not solely a burden, or a source of labor, but that graduate students have value as their closest colleagues in terms of research interests. Of course, most faculty members value their students but are perhaps overwhelmed by the many demands made on their time. However, even benign neglect leads to low achievement. Thus, one purpose of these guidelines is to remind faculty members of what is expected of them as a good mentor. Similarly, we wish to remind graduate students of what their obligations are and what they should expect from their Major Professor/FM. Graduate students should be encouraged to use this document as a forum for initiating communication with their Major Professor, or as validation of their decision to change Major Professor.

Many of our specific recommendations revolve around improving communication between faculty and student. Among other things, faculty need to let students know what funding they can provide, initiate discussions about authorship of papers, and keep students informed about their schedules in advance. Similarly, students need to let faculty know in advance what their needs are, that they will be needing a letter of recommendation in the next month, etc. Beginning students may not understand what their responsibilities are and can benefit from a frank discussion of what is expected of them.
Other recommendations for faculty members are more abstract and involve mentoring rather than simply advising. The highest achieving students are those whose Major Professors guide their students through the transition from undergraduate to independent researcher. This happens by providing advice appropriate to the students’ stage of research and degree of independence, and also varies from student to student. It also involves faculty members truly engaging with their students’ research. Finally, good mentoring means actively looking out for a students’ interest by guiding their choice of research topics, helping them gain initial research experience, helping them to network, referring papers to them, suggesting they apply for grants. While students have the responsibility to meet goals set by faculty members, faculty should also note that the best responses are achieved through guidance, suggestions, teaching and encouragement.

A CHECKLIST OF FACULTY AND STUDENT RESPONSIBILITIES

Faculty members and students are individuals and, therefore, no set of rules, suggestions, or expectations is universal. In an attempt to further an overall "culture of mentoring", we have drawn together themes that came up repeatedly in discussions with faculty members and graduate students. These are organized into two sections; graduate student expectation of faculty members, and faculty expectations of graduate students. Hopefully, these will encourage better, more productive communication and enhance faculty-graduate student relations.

GRADUATE STUDENT EXPECTATIONS OF FACULTY MEMBERS (FMs)

We include three general principles of mentoring here:

Students are here for an education. Thus, their development into good ecologists is dependent on their receiving guidance, assistance with acquiring funding for research and access to the FM's expertise and network of contacts.

The FM should know the critical mass of students that s/he can support given the other obligations on FM's time. Advising graduate students does not always have the tangible deadlines of many of the other obligations of the FM, but graduate students need to be considered as an obligation and given a certain priority.

In addition, it should be recognized that students have individual needs and thus, FM's should tailor their approaches to each student.

Prior to Acceptance:

Prospective students should meet not only with all potential FM's but also with their students. Prospective students should carefully consider what kind of support package is offered and those without a master's degree should plan on applying for the NSF Pre-doctoral Fellowship during their first quarter at Davis.

Beginning Graduate Students:

Upon arrival at UCD, FM and student should discuss mutual expectations. Specific topics to be covered could include percentage of time spent on courses vs. research, courses to take, teaching responsibilities, time-to-degree, development of research project, current research the FM is supervising or engaged in, and availability of funding, equipment, and assistance. This is also a good opportunity for the FM to explain his or her general philosophy of mentoring. New students should also be
introduced to all current advisee’s of a FM and told what they are doing. Students also
find it helpful to be informed about relevant seminars and events that are sponsored by
other graduate groups or departments.

FM should schedule meetings with the laboratory and/or individual students
regularly. Students may need to meet with increased frequency as they switch from
coursework to research and are developing ideas. The FM should be aware of and
respond to this. In addition, the FM should also be aware that beginning students need
to be socialized into the culture of the university and can greatly benefit from regular
interactions with faculty and older students. Interruptions should not be allowed during
meetings with students.

FM should actively participate in funding a student. Ideally, a FM can fund all of
their students. If not, they should direct them toward appropriate funding sources and
assist them in preparing grant/fellowship/scholarship applications. They should also
discuss work-study options and assist students with teaching assistantships available to
the FM. Even if a student is funded, earning a competitive scholarship or fellowship is
prestigious and hence, FM should encourage competitive students to apply for such
funding. At all times, the FM should be aware of the status of all of their students in
terms of funding (what kind of funding are they receiving and for what duration?).

FM should be aware of students’ analytical skills and should encourage students
to strengthen skills in data analysis and project design, including assisting students in
selecting applicable statistics and methods courses. FM should recognize that statistics
courses may not be completely adequate for the data analysis planned and should assist
in preparing the student for ‘real-world’ analysis.

Where possible, FM should arrange for 1st- or 2nd-year students without a
defined research project to assist higher level students, or to work on a small-scale
project of their own. This provides an opportunity to answer a simple question while
exposing them to current techniques and questions in their field. Small projects are also
great confidence builders for students who have not been previously engaged in
research. Such arrangements would need to take into consideration the course load of
the student.

Moving From Coursework to Dissertation Research:

Many students would like to choose their research project but would like to do
so with the guidance of their Major Professor. A major responsibility of the FM is to
insure that the project is theoretically sound and physically feasible given the time and
money constraints under which it will occur and the ultimate degree goal of the student.
The FM should be continually evaluating the project with the student and should be
willing to assist the student in changing its direction if the current path seems fruitless.
He or she should also remember that the costs of pursuing an ambitious but risky
project may be higher for the student than for him/herself. The FM should also be
aware that it may be (subconsciously) tempting to keep a good student here at Davis for
a longer period of time than is beneficial for the student, and thus the FM should be
careful about diverting such students with extra projects.

The FM should discuss with the student the project time frame, equipment and
supply requirements, assistance (funding and people power) available, publica-
tions/manuscripts to result from it, and possible collaborations, along with
suggesting previous articles to read or people to contact for more information.
Authorship should be discussed explicitly at the beginning of any collaborative project.
As the project proceeds, FM should be available for advice on data analysis,
interpretation of research results, and manuscript preparation. The FM should also help
students build a network of research contacts, suggesting experts in the field that the 
student can contact and introducing the student to other participants at meetings.

FM should participate in choosing students' committee members and, as the 
chair of the guidance and dissertation/thesis committees, should be aware of whether 
meetings are occurring at an appropriate frequency (on at least an annual basis prior to 
the annual progress report process). If not, they should inform the student of this lapse.

FM should inform students in a timely fashion on matters of meetings, research 
opportunities, funding, and long-term absences (e.g. sabbaticals). On the issues of 
funding and long-term absences, a timely manner is a matter of some months so that 
students can attempt to find funding if necessary, and can arrange their research and 
academic schedules to conform to their advisor's absence. FM should also inform 
students of their lack of availability due to travel, looming deadlines, etc.

Preparing for the Job Market:

FM should know what the student plans to do after graduation and should 
encourage participation in activities that will increase the student's marketability. The 
FM can help to develop presentation skills by having students present their research at 
lab meetings or AOE seminars on at least an annual basis after students have begun 
collecting data. In addition, FMs can greatly assist students by helping them obtain 
funds to present their research at professional meetings, and by assisting them with 
preparation of their poster or platform presentation. If possible, FM should give 
students the opportunity to referee journal articles.

FM should require that the student has some experience writing applications for 
funding given the future likelihood that the student will need to apply for support in 
their next position. The FM should review students' funding applications, manuscripts, 
etc. and should write letters in support of their students. FM should suggest other 
reviewers for manuscripts, etc. if appropriate.

Faculty Expectations of Graduate Students

Some general principles include:

Students should remember that they are responsible for their education, and should 
make every effort to be informed about relevant university policies, research and 
funding opportunities, etc. Students should also realize that it is to their own 
advantage to follow the graduate group rules (e.g. scheduling committee 
meetings, filing progress reports, etc.) since these are written with the students’ 
best interests in mind. In addition, following the rules can be a way for students’ 
to gain faculty attention.

Students should respect the other obligations that their major professor has. Students 
should try to avoid ASAP requests, and utilize methods of communication that 
are most effective for keeping faculty members updated on needs and deadlines 
on a regular basis while being somewhat unintrusive (e.g. via e-mail).

Students should communicate their needs to FM’s. The earlier on in the program that a 
student can communicate to the FM what additional help they need, the better 
the prospects for a productive faculty-student relationship.

Beginning Graduate Students:

Students should have expectations for their degree program and should discuss 
these with the faculty member soon after starting, and during the course of the
program. Topics could include percentage of time spent on courses vs. research, courses to take, teaching responsibilities, time-to-degree, ideas for research, availability of funding, equipment and assistance in general terms, career goals, and skills they expect to learn.

Students should remain informed on issues pertaining to their academic program and should act to make progress in that program. They should be aware of classes they need to take, deadlines for registration, form-filing and qualifying examinations, and what GGE and AOE requirements they are expected to have fulfilled at the end of each year in the program. Students should be responsible for requesting faculty to serve on their committees and for organizing committee meetings at appropriate intervals. They are also responsible for learning what is required of them on qualifying and/or thesis exams.

Students should initiate meetings with major professors when necessary. It is the responsibility of the student to keep the faculty member informed of matters that occur between regularly scheduled meetings and need to be discussed. Students should attend lab meetings in order to maintain relationships with the major professor and other students in the laboratory. Students should make a presentation of their research at laboratory meetings to practice for professional meetings, and to gain new insight into interpretation of their results. If serving as spectators, students should offer their opinions and advice to presenters. Both inside and outside the laboratory meeting, interacting with other students and discussing work could provide a more fruitful approach to research. In addition, students should participate in coursework, journal clubs, workshops and/or additional lab work that strengthen their knowledge of the methodology and common statistical analyses used in their field.

Students should come to an understanding with their major professor regarding funding. If funding is not guaranteed, they should attempt to share the funding responsibility with the faculty member. This mainly entails applying for appropriate funding when available and filing the forms that allow a student to be eligible for federal financial aid. Both the student and faculty member should be searching for funding opportunities in this situation and the student should apply for those funds suggested by the faculty member. The student should be willing to teach under most circumstances and should pursue positions in departments where they are qualified. Students should recognize that teaching in excess of two quarters per year may have a deleterious effect on progress to degree but that the student may be asked to do so under a funding deficit. Either the student or faculty member should keep track of work-study possibilities. If a faculty member suggests that a funded student apply for funding because it will enhance the student's reputation or will aid the faculty member with future funding deficits, the student should do so with the understanding that their previous funding is not forfeit if they are unsuccessful.

Students should realize the importance of remaining within their faculty member's area of expertise in order to maximize opportunities for both successful funding and research projects. Faculty members with funding opportunities in the forms of RA's, etc. are often limited by the granting agency in terms of how they can apply them. Therefore, students should recognize these limitations and understand that it may be best if they formulate a reasonable research project under the umbrella of an already funded or soon-to-be funded proposal. Another possibility is that the student, working within the faculty member's area of interest, formulates a grant application with the faculty member. The further a student strays from the major professor's area, the less likely they will receive much-needed help from the professor (beyond funding) and the more likely they will be unable to integrate into the structure of the laboratory.
Moving From Coursework to Dissertation Research:

Students should take the initiative when developing a research project. Individual students and major professors will make their own arrangements but students should realistically initiate work on the research project before finishing coursework. Students should develop ideas for research and complete preliminary literature searches to determine a viable project. The student should involve the major professor in determining which ideas should be developed further given the current state of the field, equipment and funding availability, and the expected time to degree. Students should be responsible for designing the project and determining methodology with the assistance of the major professor. At the same time, students should be mindful of their own best interests and be cautious about taking on projects that have a high chance of failure however glamorous. Similarly, they should be wary of taking on extra projects that delay their graduation, or, of being pushed into taking oral qualifying exams before they are ready.

As research progresses, students should keep current with developments in their field and they should regularly update and request feedback from major professors. They should also be aware that initial estimates of the time required for data analysis and write up of the dissertation are always far too short. For this reason, they should be receptive to the FM's comments in this regard, and should be willing to meet intermediate deadlines imposed by the FM.

More advanced students should be willing to act as a resource for newer students in their laboratory. By acting as a co-mentor to newer students, students will be participating in a teaching experience and exposing themselves to potentially new and different angles on research and theory in their field.

Preparing for the Job Market:

Students should collaborate with others (students or faculty) when appropriate. Working with others in one's field will most likely enhance the research being conducted and will set the groundwork for future contacts and networking. Students should also seek out the advice of outside experts in their field for the reasons listed above and should present their research at local and/or national meetings of professional societies.

It is critical that students make all possible efforts to complete the dissertation/thesis before departing UC Davis for another position. Along the same lines, students should attempt to prepare their dissertation for publication prior to starting a new position, or submit manuscripts as each piece of research is completed rather than waiting to finish the entire dissertation. Students should also consider the advantages of writing a “three paper dissertation” but note that faculty opinions about this option differ.

CONCLUSION

Graduate school is first and foremost about the education of students. Thus, graduate students should remember that, ultimately, they are responsible for their education. Faculty members should remember that their responsibility is to guide, advise, suggest and teach.
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