

ANIMAL BEHAVIOR GRADUATE GROUP (ABGG)

DEGREE REQUIREMENTS

REVISIONS: JUNE 6, 2007; FEBRUARY 20, 2008

APPROVED BY GRADUATE COUNCIL: JUNE 9, 2009

Ph.D. Requirements

1. Admissions Requirements

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

- A Bachelor's or Master's degree in a discipline relevant to the biology of behavior.
- The equivalent of at least one course from each of the following subject areas:
 - Ecology (e.g. Ecology and Evolution 101, Environmental Science and Policy 100)
 - Genetics (e.g. Biological Sciences 101)
 - Statistics (e.g. Psychology 103, Statistics 102)
 - Evolution (e.g. Evolution and Ecology 100)
 - Animal behavior (e.g. Neurobiology, Physiology and Behavior 102)
 - Physiology (e.g. Neurobiology, Physiology and Behavior 101).

If the subject area courses have not been completed prior to admission, then they must be completed by the end of the first year in the program either by (1) taking courses as approved by the Graduate Advisor, or (2) by being a Teaching Assistant in the courses listed above or their equivalents, and by attending the course lectures.

Other requirements for admission include:

- Graduate Record Examination (General Test)
- 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 (or equivalent for other University-approved examination).
- Three letters of recommendation
- Statement of Purpose
- A Confirmed Major Professor: Prior to admission, an ABGG faculty member in good standing must confirm that he/she is willing to act as the student's faculty mentor.

2. Dissertation Plan

The ABGG follows Dissertation Plan C, which calls for a three member (minimum) dissertation committee, a final oral examination, and no exit seminar.

http://www.mrak.ucdavis.edu/senate/ddregulations_0405_revisions.pdf

3. Course Requirements

Once enrolled, all students must take certain core courses and at least two elective courses. The aim of the core curriculum is to introduce students to the breadth of approaches to animal behavior, and to encourage the interdisciplinary thinking that distinguishes our program. These courses are required of all students in the program:

Core Courses: 20 units

Scientific Approaches to Animal Behavior (ANB 201)	3 units
Fundamentals of Animal Behavior (ANB/PSC 218A and 218B)	10 units
Advanced statistical analysis (e.g. PSC 204A; PSC 204B, C or D; STA 205, 106, 108, 138; PLS 205, 206)	4 units
Seminar in Animal Behavior (ANB 290)	3 units

Elective Courses: 6 units

Students must also take two elective courses (of at least 3 units each) in their area of interest, chosen in consultation with and approved by their Course Guidance Committee. The graduate advisors can provide lists of recommended courses focusing on the behavior and conservation of wild animals, animal management and welfare, ethology and evolutionary bases of animal behavior, and physiological bases of animal behavior.

Recommended Courses and Experience: the following courses are not required, but are strongly recommended:

- A course in teaching science (e.g. BIS 310, PSC 390A, B)
- At least one additional course in statistics or modeling (e.g. PBG 231, PSC 120)

Students are also strongly urged to obtain at least 30 contact hours of teaching in courses directly related to the subject of animal behavior. This may include assisting with laboratory or field study courses as well as giving lectures to undergraduates.

Summary:

There are 26 units required. At least 16 of the 26 units completed for the degree must be taken in graded courses offered at the 200 course level. (Courses in the 300 and 400 series may be accepted if they have been approved for graduate credit.) Graduate students must register for a minimum 12 units per quarter to maintain full-time status.

4. Special Requirements

None

5. Committees

a. Admissions Committee

The Admissions Committee is composed of three to four ABGG faculty members (volunteers appointed by the Chair of the ABGG) and one graduate student (elected by the ABGG graduate students). Shortly after the deadline for applications, files are reviewed and ranked by the Admissions Committee. Based on academic

accomplishment and potential, this committee determines which of the applicants can be recommended for admission to the Dean of Graduate Studies. Simultaneously, faculty members examine the files to identify students whom they are willing to sponsor. No student can be admitted to the group unless at least one faculty member in good standing indicates that they are willing to act as that student's major professor.

b. Course Guidance Committee/Graduate Advising Committee

Students should establish their Course Guidance Committee shortly after entering the program. This committee is composed of a faculty advisor and a student advisor, who are assigned to the student by the ABGG Graduate Advising Committee, and the student's major professor. A third faculty member may also be added to the committee, at the discretion of the student and the major professor. The Course Guidance Committee is responsible for helping students develop their study plan, and must approve any coursework taken to fulfill the admissions requirements as well as the electives taken to fulfill the course degree requirements.

c. Qualifying Examination Committee

Five faculty members serve on the Qualifying Examination committee. The student selects faculty who are interested in the same type of research, who are knowledgeable in specific areas of interest, and with whom they have had interactions. Students should contact prospective committee members early (e.g. at least 4 months prior to the target examination date), and determine which faculty member will serve as chair. The student's major professor cannot serve on the Qualifying Examination committee. See the UC Davis Graduate Council Policy for Doctoral Qualifying Examinations (link shown above) for more details concerning allowable QE committee membership. At least one member of the QE committee must come from outside the membership of the Group.

The student should send the list of the proposed QE members, along with the topic area(s) each will address, to the Graduate Advising Committee for review and approval. The Graduate Advising Committee then forwards the approved QE member names to the Dean of Graduate Studies, who formally appoints the committee.

d. Dissertation Committee

After passing the Qualifying Examination students must suggest members to serve on their Dissertation Committee. This committee consists of at least three individuals, one of whom is the student's major professor. Membership nominations must be submitted to Graduate Studies for formal approval (see UC Davis Graduate Council Policy for Service on Advanced Degree Committees for more details concerning allowable dissertation committee membership).

The dissertation committee consists of at least three members who guide the candidate in his or her dissertation research. The committee arranges for meetings with the candidate as deemed necessary to complete the dissertation. The committee conducts a final oral examination, which focuses primarily on questions arising out of the relationship of the dissertation to the general field of study of the dissertation.

e. Masters Comprehensive Examination Committee

The Animal Behavior Graduate Group does not grant admission to an M.S. program. However, under special circumstances, ABGG students may be awarded a Master's degree under plan II, for which a comprehensive exam is required. The Masters Comprehensive Examination Committee is composed of three ABGG faculty members who are appointed by the Chair of the Graduate Group. A written evaluation of the student's performance on this examination will be provided by the Masters Comprehensive Examination Committee to the student, and his/her major professor.

6. Advising Structure and Mentoring

The ABGG has three **graduate advisors**, who serve staggered three-year terms. The advisors are nominated by the ABGG Chair and appointed by the Dean of Graduate Studies. The individual in the third year of his or her term serves as the **Master Advisor**. There are also three **student advisors**, appointed by the Master Advisor. Together these individuals comprise the **Graduate Advising Committee**.

Upon entering the program, each new graduate student is assigned one of the three faculty advisors and one of the three student advisors. The role of the **Graduate Advising Committee** is to serve as members of each student's **Course Guidance Committee**, and also to review admissions requirements, advising policy, and curricular requirements, and to assist the Chair and the Executive Committee in implementing the graduate program in the ABGG.

The role of the **major professor** is to provide his or her students with guidance with respect to degree requirements, dissertation research, and professional development. The faculty members participating in the ABGG have agreed to adhere to the campus guidelines for mentoring of graduate students. Graduate students in the program are encouraged to review these guidelines, which may be found at <http://gradstudies.ucdavis.edu/gradcouncil/mentoring.pdf>. Graduate students who are experiencing any difficulties communicating or interacting with their major professor are encouraged to seek advice of the Chair or Graduate Advisors as soon as these problems first arise.

7. Advancement to Candidacy

The student is eligible for advancement to Candidacy after successful completion of all Animal Behavior graduate program degree requirements, and after passing the Qualifying Examination. Students must have maintained a minimum GPA of 3.0 in all course work undertaken (except those courses graded S or U), and must have passed both quarters of Fundamentals of Animal Behavior (ANB/PSC 218A/B) with a grade of B or higher before a committee is appointed to administer that examination. 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. See "Section 8" below and the Graduate Council Policy on Doctoral Qualifying

Examinations for further details:

[http://graduatestudies.ucdavis.edu/gradcouncil/Doctoral%20 Qualifying Examinations.](http://graduatestudies.ucdavis.edu/gradcouncil/Doctoral%20Qualifying%20Examinations)

8. Dissertation Requirements

The Qualifying Exam

The Written Research Proposal (the written component of the Qualifying Exam) should ordinarily follow the style of a 15 page (single-spaced) NSF (or comparable) research proposal. It should outline in detail a proposed dissertation project. After a one-page summary, the proposal should ordinarily include the following components: 1) a summary of the objectives and significance of the proposed research; 2) a conceptually coherent, well organized review of important relevant literature; 3) a summary of key aspects of the proposed study system (e.g., the basic ecology of focal species); 4) a description of preliminary research, if any; 5) a detailed description of proposed research including, as appropriate, experimental designs, methods and statistical analyses; and 6) a brief statement on the broader scientific significance and relevance of the objectives, and on future directions. Students should also include an extensive Literature Cited section in addition to the 15 pages of the main body of the proposal.

The Oral Component of the Qualifying Examination is approximately 2-3 hours in length that focuses on the student's proposed research, mastery of the student's area of specialization, statistical analysis, and research methods. Passing the QE exam makes the student eligible for advancement to Ph.D. Candidacy.

According to university policy, graduate students cannot hold an academic title (e.g., Teaching Assistant, Research Assistant) for more than 9 quarters before passing their Qualifying examination. To make satisfactory academic progress and to meet this requirement, students are strongly encouraged to take this exam at the end of the second year (6th quarter) or by the beginning of their third year (7th quarter).

All ABGG students are required to have statistics and research methods covered in their exam. In addition the student must select three to four additional subject areas within their area of specialization. Examples of past subject areas chosen by students include: evolution, ecology, physiological ecology, reproductive physiology, conservation biology, ornithology, primatology, mammalogy, fish biology, social behavior, behavioral endocrinology, neuroethology, behavioral ecology, development, animal welfare. The student should send the list of the proposed QE members, along with the topic area(s) each will address, to the Graduate Advising Committee for review and approval. The Graduate Advising Committee then forwards the approved QE member names to the Dean of Graduate Studies, who formally appoints the committee.

Students should meet with each of their committee members several times prior to the examination to discuss the research proposal and appropriate readings and potential question areas. Students are expected to provide each committee member with a written copy of the research proposal at least three weeks in advance of the examination. If students so choose, they may give a 15-minute informal presentation of their proposal at the beginning of their exam.

The Dissertation

The dissertation committee conducts a final oral examination, which focuses primarily on questions arising out of the relationship of the dissertation to the general field of study of the dissertation.

When the Dissertation Committee determines that the dissertation is acceptable for examination, students must complete the final oral examination which will ordinarily include a public presentation of the dissertation, followed by an oral defense of the dissertation to the Dissertation Committee. Admission to the oral defense is restricted to the members of the Dissertation Committee, all of whom must be present during the examination, either in person or via a video or audio link.

9. The normative time to degree is 5 years.

10. Typical Time Line

- Year 1: Remedy admissions deficiencies, if any. Take ANB 201, ANB 218A, and ANB 218B.
- Year 2: Complete remaining core and elective requirements. Send names of proposed Qualifying Examination committee members to Master Advisor for approval by Advising Committee. Take Qualifying Examination by the end of the 2nd year (6th quarter).
- Year 3: Take Qualifying Examination during the beginning of the 3rd year (7th quarter), if not completed during the second year. Submit proposed Dissertation Committee to Graduate Studies for approval.
- Year 5: Complete dissertation, and defend dissertation.

11. PELP and Filing Fee status

Information about PELP and Filing Fee status can be found in the Graduate Student Guide found at <http://www.gradstudies.ucdavis.edu/publications/>

12. Student Support

Students are often offered 1 or 2 quarters of block grant support from the Animal Behavior Graduate Group in their first year in the graduate program, but usually receive only limited support from the Graduate Group in subsequent years. Additional funding for student stipends typically comes from a mix of multi-year extramural fellowships, some university fellowships, graduate student research (GSR) support from grants (often through their research mentor), and teaching assistantships. Students also commonly apply for grants to support their own research.

M.S. Requirements

1. Admission

There is no direct admission into an M.S. program in Animal Behavior. Ph.D. students seeking an M.S. should petition the Master's Comprehensive Exam Committee and provide justification for being awarded the Master's degree.

2. Master's Plan

ABGG offers a M.S. under Plan II, which requires a comprehensive exam (no thesis required).

3. Course Requirements

Core Courses: 20 units

Scientific Approaches to Animal Behavior (ANB 201)	3 units
Fundamentals of Animal Behavior (ANB/PSC 218A and 218B)	10 units
Advanced statistical analysis (e.g. PSC 204A; PSC 204B, C or D; STA 205, 106, 108, 138; AGR 204, 206)	4 units
Seminar in Animal Behavior (ANB 290)	3 units

Elective Courses: 16 units

Students must also take at least 6 units in their area of interest, chosen in consultation with and approved by their Course Guidance Committee. The graduate advisors can provide lists of recommended courses focusing on the behavior and conservation of wild animals, animal management and welfare, ethology and evolutionary bases of animal behavior, and physiological bases of animal behavior. The other 10 units may be made up of research units (299s) and other recommended courses.

Recommended Courses and Experience: the following courses are not required, but are strongly recommended:

- A course in teaching science (e.g. BIS 310, PSC 390A, B)
- At least one additional course in statistics or modeling (e.g. PBG 231, PSC 120)

Summary:

There are 36 units required, 20 of which are accomplished by taking the core courses. The other 16 units are electives, 6 of which must be in the area of interest and the other 10 may be made up of research units (299s) and other recommended courses. Graduate students must register for a minimum 12 units per quarter to maintain full-time status.

4. Special Requirements - none

5. Committees

a. Course Guidance Committee/Graduate Advising Committee

Students should establish their Course Guidance Committee shortly after entering the program. This committee is composed of a faculty advisor and a student advisor, who are assigned to the student by the ABGG Graduate Advising Committee, and the student's major professor. A third faculty member may also be added to the committee, at the discretion of the student and the major professor. The Course Guidance Committee is responsible for helping students develop their study plan, and must approve any coursework taken to fulfill the admissions requirements as well as the electives taken to fulfill the course degree requirements.

b. Masters Comprehensive Examination Committee

The Masters Comprehensive Examination Committee is composed of three ABGG faculty members who are appointed by the Chair of the Graduate Group. A written evaluation of the student's performance on this examination will be provided by the Masters Comprehensive Examination Committee to the student, and his/her major professor.

6. Advising Structure and Mentoring

The ABGG has three **graduate advisors**, who serve staggered three-year terms. The advisors are nominated by the ABGG Chair and appointed by the Dean of Graduate Studies. The individual in the third year of his or her term serves as the **Master Advisor**. There are also three **student advisors**, appointed by the Master Advisor. Together these individuals comprise the **Graduate Advising Committee**.

Upon entering the program, each new graduate student is assigned one of the three faculty advisors and one of the three student advisors. The role of the **Graduate Advising Committee** is to serve as members of each student's **Course Guidance Committee**, and also to review admissions requirements, advising policy, and curricular requirements, and to assist the Chair and the Executive Committee in implementing the graduate program in the ABGG.

The role of the **major professor** is to provide his or her students with guidance with respect to degree requirements, and professional development. The faculty members participating in the ABGG have agreed to adhere to the campus guidelines for mentoring of graduate students. Graduate students in the program are encouraged to review these guidelines, which may be found at <http://gradstudies.ucdavis.edu/gradcouncil/mentoring.pdf>. Graduate students who are experiencing any difficulties communicating or interacting with their major professor are encouraged to seek advice of the Chair or Graduate Advisors as soon as these problems first arise.

7. Advancement to Candidacy

Every student must file an official application for Candidacy for the Degree of Master of Animal Behavior after completing one-half of their course requirements and at least one quarter before completing all degree requirements. The Candidacy for the Degree of Master form can be found online at: <http://www.gradstudies.ucdavis.edu/forms/>. A completed form includes a list of courses the student will take to complete degree requirements. If changes must be made to the student's course plan after s/he has advanced to candidacy, the Graduate Adviser must recommend these changes to Graduate Studies. Students must have their Graduate Adviser 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 appropriate graduate staff person, 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. Master's Comprehensive Examination

The goal of the Masters Comprehensive Examination is to ensure that students have a broad, general background in animal behavior and are able to synthesize information from different sources. Taken at the completion of all required coursework, the exam consists of a three-hour written exam, followed a few days later by a 30 to 45-minute oral exam designed to address weak areas in the written portion. The exam is based on material drawn from the three-quarter core course sequence in animal behavior (ANB 201 and ANB 218A/B), plus additional reading material provided by the Masters Comprehensive Examination Committee which is drawn from all coursework completed by the student to satisfy the program's course requirements. Students are expected to take the Comprehensive Exam by the 6th quarter (end of year two).

There are three possible outcomes: pass, not pass, or fail and the decision requires a unanimous vote by the committee to pass a student. For a student who does not pass, the Exam Committee may recommend that the student be reexamined one more time within six months but only if the Graduate Adviser concurs with the committee. The exam may not be repeated more than once. A student who does not pass on the second attempt is subject to disqualification from further graduate work in the program.

9. Typical Time Line

Year 1: Take ANB 201, ANB 218A, ANB 218B and electives.

Year 2: Complete remaining core and elective requirements. Advance to Candidacy. Take the Comprehensive exam by 6th quarter.

10. PELP and Filing Fee Status

Information about PELP and Filing Fee status can be found in the Graduate Student Guide found at <http://www.gradstudies.ucdavis.edu/publications/>

11. Student Support

Students are often offered 1 or 2 quarters of block grant support from the Animal Behavior Graduate Group in their first year in the graduate program, but usually receive only limited support from the Graduate Group in subsequent years. Additional funding for student stipends typically comes from a mix of multi-year extramural fellowships, some university fellowships, graduate student research (GSR) support from grants (often through their research mentor), and teaching assistantships. Students also commonly apply for grants to support their own research.