GRADUATE STUDENT HANDBOOK

DEPARTMENT

OF

FISH, WILDLIFE & CONSERVATION ECOLOGY

AT

NEW MEXICO STATE UNIVERSITY

FALL 2015 TO SPRING 2016

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GRADUATE STUDY IN FISH, WILDLIFE & CONSERVATION ECOLOGY

NEW MEXICO STATE UNIVERSITY

INTRODUCTION

The Department offers graduate work leading to the Master of Science degree with a major in Fish, Wildlife & Conservation Ecology. Graduate work in the department is designed to prepare students for work in research, teaching, extension and management of our natural resources. Graduates from the program often seek employment with various state and federal government agencies, the private sector, or continue with a doctorate degree.

Opportunities for both laboratory and field research abound in our modern facilities, on over 90,000 acres of University owned land in the Chihuahuan Desert outside Las Cruces, and in the millions of acres of state and federally owned lands encompassing alpine meadows, extensive grasslands, and diverse desert landscapes across New Mexico. The New Mexico Cooperative Fish and Wildlife Research Unit, associated with the Department since 1988, are members of the Graduate College and offer training and support for graduate students.

With a diversified faculty working in a broad range of terrestrial and aquatic systems, students have excellent opportunities for graduate study in a wide variety of sub-disciplines in fishery and wildlife sciences. Research programs in the Department include conservation biology, ecology and management, especially that related to large and small mammals, mesocarnivores, avian ecology, bat ecology, biogeography, ecological modeling, fisheries management, aquatic toxicology and fish physiology, wetlands management, and spatial modeling. An individualized program of study is developed for each student with course work and research designed to complement the background, interests, needs and abilities of each student.

Graduate assistantships are available through both teaching and funded research projects. Check out our website to learn more about our faculty and programs (http://aces.nmsu.edu/academics/fws/index.html) or email us at: domorgan@ad.nmsu.edu

GRADUATE FACULTY

Wiebke J. Boeing, Professor (Ph.D. 2002, Louisiana State University). Aquatic ecology

Kenneth G. Boykin, College Associate Professor (Ph.D. 2006, New Mexico State University). Spatial ecology and conservation

James W. Cain III, Associate Professor and Assistant Unit Leader-Wildlife, New Mexico Cooperative Fish and Wildlife Research Unit (Ph.D. 2006, University of Arizona). Large mammal ecology, conservation and management

Colleen A. Caldwell, Professor and Unit Leader-Fisheries, New Mexico Cooperative Fish and Wildlife Research Unit (Ph.D. 1988, University of Tennessee). Fish physiology, native fish conservation, and eco-toxicology

Scott A. Carleton, Assistant Professor and Assistant Unit Leader-Wildlife, New Mexico Cooperative Fish and Wildlife Research Unit (Ph.D. 2009, University of Wyoming). Physiological ecology and avian ecology

David E. Cowley, Professor (Ph.D. 1987, University of Wisconsin – Madison). Aquatic conservation ecology, conservation genetics

Martha J. Desmond, Professor (Ph.D. 1997, University of Nebraska). Avian Ecology, Conservation biology and genetics

Jennifer K. Frey, College Associate Professor (Ph.D. 1994, University of New Mexico). Ecology and conservation of mammals

Gary W. Roemer, Professor (Ph.D. 1999, University of California, Los Angeles). Wildlife ecology and management, conservation genetics, population ecology of mammalian carnivores and birds of prey

Rossana M. Sallenave, College Associate Professor (Ph.D 1994, University of Guelph) Aquatic Ecology and environmental toxicology

Kathryn E. Stoner, Department Head and Professor (Ph.D. 1993, University of Kansas, Lawrence). Ecology and conservation of primates and bats, effects of habitat fragmentation on animal populations

Raul Valdez, Professor Emeritus (Ph.D. 1970, Texas A&M University). Ungulate ecology, behavior, and taxonomy

POLICIES AND PROCEDURES ON GRADUATE ADMISSIONS

THE GRADUATE SCHOOL PROCESS

Appendix A provides an ordered list of each step that a graduate student should follow from initial application to graduate school through graduation.

APPLICATION PROCEDURES

Applicants should contact a faculty member in the Department that they would like to work with as an advisor, and that faculty member needs to agree to serve as the student's advisor and fund their research. A resumé or curriculum vitae, letter of intent describing personal background, experience, intentions and interests for graduate study, official GRE scores and 3 reference letters are required by the Department. At least one of the three references should be an academic reference from the student's previous university. All the materials must be submitted online to Graduate Programs (http://gradschool.nmsu.edu); select the link for Applying and Admissions.

Successful applicants will be selected from among those who meet the criteria of grade-point average, GRE scores (as outlined below), and professional background and who appear to have professional promise as indicated by personal history and written references. It is sometimes necessary to deny admission to qualified applicants because of limits on Departmental resources.

ADMISSION REQUIREMENTS

Applications are accepted at any time. Students applying for admission to the graduate program in Fish, Wildlife & Conservation Ecology at NMSU are expected to meet the following requirements:

1) Bachelor's degree in a Wildlife, Fisheries, or Biological Sciences program, or equivalent from an accredited institution. Students with identified coursework deficiencies may be required to take additional courses to achieve an appropriate level of preparation prior to graduation from our program.

2) Coursework to include at least the following or equivalents:

   - Basic Biology, including Zoology, Botany, Ecology, Vertebrate Biology, and Genetics
   - Wildlife science, and Wildlife and or Fisheries Management,
   - Physical science, including two semesters of Chemistry and one semester of Physics
   - Mathematics through one term of Calculus

3) Foreign students need to apply through the Center for International Programs and must submit a completed "International Application for Admission" online and pay the application fee at: http://isss.nmsu.edu/. With the exception of international students from some English speaking countries, international graduate student applicants are required to meet the minimum scores on the TOEFL or IELTS exams as established by the university.

4) Transcripts of all undergraduate work.

5) Students are required to take the Graduate Record Exam (GRE) and report the grades for the three general areas (verbal, analytical, and quantitative). Students who are most competitive for admission to the Department are those with a GRE score >70th percentile on the verbal and quantitative parts of the GRE.

6) Students must have a GPA of 3.0 or better to be accepted into the graduate program. If the GPA is less than 3.0, the Graduate School will look at the last 60 credit hours to determine the GPA. If the GPA is less than 3.0, but greater than 2.5, the applicant can be accepted as "provisional," but must achieve a 3.0 GPA in at least 8 credit hours of their first semester.

7) Applications will not be processed until all materials have been received by the graduate school and forwarded to the Department.

FINANCIAL ASSISTANCE

The program has a limited number of teaching and research assistantships to support graduate students. Every effort is made to grant financial support to those students who seek it; however, because assistantships are limited in number, not all requests for financial assistance can be met.

Graduate assistantship salaries vary by level (I, II, and III), which is determined by previous education and level of completion of the degree program. For complete information on assistantship salaries see: http://gradschool.nmsu.edu/

Also, a waiver of the out-of-state tuition rate is provided to non-resident graduate students on assistantships. Graduate assistants are strongly encouraged to establish residency within their first year.

Information on available scholarships within the FWCE Department can be found at: http://web.nmsu.edu/~carleton/Scott_Carleton/Scholarships_and_Grants.html

Information on student loans and other types of financial assistance is available from the Financial Aid Office: http://fa.nmsu.edu/index.php

and

The Graduate School: http://gradschool.nmsu.edu/

Additionally, there are a number of scholarships available to graduate students. Information on the requirements and deadlines of these awards can be found here: http://gradschool.nmsu.edu/gradschool/announcements.html

APPLICANT EVALUATION

The Department Graduate Admissions Committee will evaluate each applicant's suitability for admission to the graduate program. Applications from students, who have been determined suitable for admission, are made available to the faculty for consideration. Individual faculty members can choose to sponsor the admission of any student from among the pool of suitable applicants. **Only those applicants that have contacted a faculty member who has agreed to be their mentor will be admitted to the program**. Generally, graduate students will not be admitted without an identified source of funding. Applicants should contact a faculty member in the Department that they would like to work with as an advisor, and that faculty member needs to agree to serve as the student's advisor and to fund their research. However, working professionals who elect to take the non-thesis option may be admitted without support from the Department.

It is the responsibility of the faculty sponsor to:

1. Remove the student's folder from the pool of acceptable applicants,

2. Notify the Department Head that an applicant is being sponsored by filling out the Graduate Student Sponsor form,

3. Ensure that the Admission Referral form is filed with the Graduate School.

ROLE OF SPONSORS FOR STUDENTS ENTERING THE GRADUATE PROGRAM IN FISH, WILDLIFE & CONSERVATION ECOLOGY

Faculty members who sponsor the admission of students into the Graduate Program in Fish, Wildlife & Conservation Ecology assume the following responsibilities:

1) Sponsors must be willing to serve as graduate advisors for all students they sponsor. At the same time sponsors must accept the possibility that students may choose another advisor once they are admitted and have an opportunity to become familiar with the graduate program and its faculty. The student must be aware that if the sponsor's expectations are not met, that the sponsor also has the right to excuse him or herself as the student's advisor. Requests for changing advisors will be handled on a case by case basis and must go through the Departmental Head and Graduate Student Committee. Changing advisors is not encouraged, but it is permitted, depending on the individual circumstances as reviewed by the Departmental Head and Graduate Student Committee. Any changes in graduate advisors are generally expected to occur early in the first year of graduate study. If graduate students change advisors, the original advisor is not obligated to continue to financially support the student or their research project; this responsibility transfers to the new advisor.

2) Sponsors are responsible for identifying a source for graduate student funding prior to the admission of new students into the program.

3) Sponsors are responsible for the initial orientation of their new students.

4) Sponsors are responsible for monitoring the progress of graduate students under their supervision to ensure that timely progress is being made towards completion of the M.S. program.

RESPONSIBILITIES AND EXPECTATIONS FOR ENTERING THE GRADUATE PROGRAM IN FISH, WILDLIFE & CONSERVATION ECOLOGY

All graduate students admitted to the M.S. program in the Department will:

1) Observe and maintain the highest academic, ethical, and professional standards of conduct. Any student found guilty of academic misconduct shall be subject to disciplinary action, including dismissal from the program and university. Academic misconduct includes but is not limited to cheating or knowingly assisting another student in committing an act of cheating or other forms of academic dishonesty; plagiarism, which includes but is not necessarily limited to submitting materials as one's own work when such work has been prepared by another person or copied from another person. You must cite all sources of information. Copying of material, whether parts of sentences, whole sentences, paragraphs or entire articles all constitute plagiarism and will result in further disciplinary action. (see http://deanofstudents.nmsu.edu/student-handbook/1-student-code-of-conduct/3-academic-misconduct.html).

2) Follow all university, college, and departmental policies and procedures on the proper use of facilities, vehicles, and research equipment.

3) Conduct themselves in a manner that reflects positively on the University, College, and Department including but not limited to when on campus, driving a university vehicle or in the field at research sites.

4) Be responsible for making sure that all graduate school forms are completed by the required deadlines.

5) Be sure to have a conversation with your major professor during your first semester regarding data ownership. In almost all cases, data ownership ultimately resides with the granting agency and major professor.

DEGREE REQUIREMENTS

1) General

University requirements stipulate a minimum of 30 semester hours for a Master's degree. Of those credits, at least 15 must be in courses numbered 500 or above and at least 15 must be for work in the major field – these courses are generally wildlife and fisheries courses, but appropriate courses from other programs such as biology, molecular biology, statistics and range management, to name a few, may be appropriate. Those programs involving a thesis or research project include 4 to 6 credits of research (FWCE 598 or 599). Students electing to take a minor are required to take at least 9 credits in the minor field.

2) Advisory Committee and Program of Study

The graduate student advisory committee will normally be established prior to the student's second semester in graduate school. The committee minimally consists of three members, including one from outside the Department who serves as the representative for the Dean of the Graduate School. Students minoring in a different discipline are typically required to have an additional committee member from the minor department. The committee is to serve as a collective source of advice and mentoring for the student. In other words, the thesis committee is an advisory committee, not strictly an examining committee. The committee's responsibility is to review the student's research proposal and proposed course of study, provide guidance in the design and execution of the research project, and critique the thesis, and participate in the thesis defense. The committee typically meets with the student within the first or second semester to review and approve the research proposal. Shortly after the proposal meeting with the advisory committee, the student is required to present their proposal in a public forum within the Department. The student is required to meet with their advisory committee at least once per academic year after the proposal meeting. However the major professor or the student can request additional meetings.

The program of study (Application for Admission to Candidacy Form) should be filed before completion of the first year (see Graduate Catalog). Thus, this form will usually be filed at the end of the student's second semester, in consultation with the advisor and the advisory committee. For students completing the thesis option, the thesis research proposal should be submitted with the program of study.

Course Requirements

The following courses are required for all students:

- A ST 505, Statistical Inference, 4 credits or equivalent
- In addition to A ST 505, Statistical Inference, students must take at least one additional course from the Quantitative Methods category (eligible courses listed below). Students are required to have a minimum of 6 total credits from quantitative courses.
- One semester of Graduate Seminar (FWCE 515- may be repeated for credit once)
- One course each from the Ecological Concepts, Organismal Biology, and Ecological Techniques categories (eligible courses listed below)
- 4 to 9 credits from the Independent Study category (eligible courses listed below)
- In addition, a student may petition to have up to 3 credits of special topics courses (FWCE 548) apply to one of the three areas. Courses other than those listed may be acceptable, given permission by the student's supervisory committee.
- The lists below show typical courses of study that meet minimum Departmental and Graduate School course requirements for the Master's degree, as determined by the faculty and Department Head. For more details on requirements from the Graduate School, see the section in the Graduate Catalog entitled "The Master's Degree."

Quantitative Methods: Eligible courses

- A ST 503, SAS Basics 2 cr
- A ST 506, Statistical Inference II 3 cr
- A ST 507, Advanced Regression 3 cr
- A ST 515, Statistical Analysis with R 3 cr
- A ST 523, Biological Sampling 3 cr
- A ST 550, Special Topics 3 cr
- FWCE 457, Ecological Biometry 3 cr
- FWCE 509, Population Ecology 3 cr
- GEOG 585, Advanced Spatial Analysis 3 cr
- (Other courses, particularly in Applied Statistics, may be eligible with consent of the advisory committee)

Ecological Concepts: Eligible courses

- BIOL 467, Evolution 3 cr
- BIOL 484, Animal Communications 3 cr
- BIOL 489, Genetic Aspects of Population Biology 3 cr
- BIOL 567, Individuals and Populations 3 cr
- BIOL 568, Communities and Ecosystems 3 cr

- BIOL 569, Evolutionary Ecology 3 cr
- BIOL 570, Ecological Biogeography 3 cr
- BIOL 587, Behavioral Ecology 3 cr
- FWCE 459, Aquatic Ecology 4 cr
- FWCE 540, Wildlife-habitat Relationships 3 cr
- GEOG 557, Biogeography 3 cr

Organismal Biology: Eligible courses

- BIOL 547, Advanced Ornithology 4 cr
- FWCE 530, Large Mammal Ecology, Management, and Conservation 3 cr
- FWCE 532, Environmental Biology of Fishes 4 cr
- FWCE 536, Advanced Avian Ecology 3 cr
- FWCE 538, Vertebrate Physiological Ecology 3 cr
- FWCE 539, Game Bird Ecology and Management 3 cr
- FWCE 567, Herpetology 4 cr
- FWCE 582, Ichthyology 4 cr

Ecological Techniques: Eligible courses

- FWCE 464, Management of Aquatic and Terrestrial Systems 4 cr
- FWCE 533, Fisheries Management 3 cr
- FWCE 534, Aquatic Contaminants and Toxicology 4 cr
- FWCE 537, Wildlife Damage Management 3 cr
- FWCE 571, GIS for Natural Resources 3 cr
- FWCE 580, Advanced Management of Aquatic Systems 3 cr
- GEOG 521, GIS Applications 3 cr
- RGSC 452, Rangeland Analysis 4 cr
- RGSC 518, Watershed Methods and Management 3 cr

Independent Study: Eligible courses

- FWCE 548, Special Topics up to 3 cr
- FWCE 598, Thesis Research 4-6 cr
- FWCE 599, Thesis 4-6 cr

- (Other courses may be eligible to fulfill course requirements with consent of the advisory committee)

3) Thesis option

The thesis is intended to provide evidence of scholarship and original research, and should be of such a level of quality as to be publishable in a peer-reviewed scientific journal.

4) Non-Thesis Program

Selected students are admitted into this program based on discussions among student, advisor, and Department Head at the time the student enters the graduate program or by the end of the first semester. Students electing the non-thesis option must do so in consultation with her or his advisor, and must notify in writing the Department Head and Chair of the Graduate Admissions and Progress Committee. Most students who pursue a non-thesis degree are returning professionals.

Minimum of 34 total credits if FWCE 558 is 4 credits; 36 total if FWCE 558 is 6 credits.

- A ST 505, Statistical Inference, 4 credits
- FWCE 515, Seminar, 2 credits
- FWCE 558, Non-thesis Project, 4-6 credits
- FWCE 548 and/or 598, 0-6 credits
- Other formal courses numbered 450 and above except FWCE 548, 558, 595, 598, 599, as well as some courses offered in other departments. Qualifying courses will be determined at the discretion of the student's advisory committee.

TOTAL CREDITS 34-36 credits minimum

- Non-thesis students are required to have a non-thesis defense examination.

5) Areas of competence

Every student is expected to develop competence in the following areas:

- Critical thinking
- Basic statistical concepts and methods
- The hypothetico-deductive (or "scientific") method
- Ecological principles (in relation to the student's own research topic)
- Principles and practices of fisheries and wildlife management, conservation and ecology

SUMMARY OF GRADUATE STUDENT PROGRAM AND REVIEW

By the end of the first semester, the graduate student and advisor should complete the Degree Plan Form (Appendix B). This form is a tentative summary of the student's coursework and serves as a guide to ensure departmental and advisory committee requirements are met. Prior to or during the second semester, the graduate student advisory committee should be established and convene to discuss the student's proposed course of study, and to review the student's research proposal.

Each spring, the Departmental Graduate Program Committee distributes the Graduate Student Review form (Appendix C). These forms are to be filled out by the student and signed by his or her advisor. The forms are returned to the Graduate Program Committee for review. The intent of the form is to ensure the student is meeting the required milestones toward completion of their research program.

GRADUATE LEVEL COURSES CURRENTLY OFFERED BY THE DEPARTMENT OF FISH, WILDLIFE & CONSERVATION ECOLOGY

FWCE 457. Ecological Biometry 3 cr
Use of ecological data to test scientific hypotheses. Stochastic and statistical models for environmental data, data visualization, likelihood-based and information-based model selection. Emphasis on open-source software tools. Prerequisite(s): MATH 142G or 191G, A ST 311, FWCE 301.

FWCE 459. Aquatic Ecology
Plant and animal communities in aquatic ecosystems with emphasis on chemical and physical properties, productivity, species interactions, population dynamics, and concepts for diagnosing problems and restoring aquatic ecosystems. Prerequisites: FWCE 301 OR BIOL 301, CHEM 112, MATH 142G.

FWCE 464. Management of Aquatic and Terrestrial Systems 4 cr
Theory and case study of managing social-ecological systems for resilience. Prerequisites: FWCE 301 or BIOL 301, FWCE 330 or concurrent registration, FWCE 459 recommended, senior-standing or graduate student.

FWCE 470. The Natural History Museum in Modern Society 3 cr
Introduction to the role of natural history museums in modern society, including basic research, public education, service, and applied research in biodiversity conservation. Emphasis on experiential learning. Includes paper discussions, activities, required full-day Friday field trips, and a term project. Prerequisites: BIOL 111G and BIOL 111GL.

FWCE 472. Wildlife Museum Internship 1-6 cr
Substantial directed work experience in various functions of the wildlife natural history museum developed by the student in consultation with the faculty curator. Internships may involve aspects of collection development and management, public education programs, or other related museum activities. Internship must be approved by the faculty curator. Prerequisites: BIOL 111G and BIOL 111GL and consent of instructor.

FWCE 509. Population Ecology 3 cr
Quantitative analysis of vital statistics and mechanisms promoting stability in wild populations. Theory and application of life tables and population models.

FWCE 515. Graduate Seminar 1 cr
Current topics. May be repeated once for credit.

FWCE 530. Large Mammal Ecology, Management and Conservation 3 cr
This course will cover aspects of large mammal ecology, management and conservation including aspects of foraging ecology, resource and habitat selection, competition and resource partitioning, predation and population dynamics.

FWCE 532. Environmental Biology of Fishes 4 cr
What makes a fish a fish? Mechanisms of circulation, gas exchange, osmotic and ionic regulation, swimming, migration, reproduction, and chemoreception. Students are responsible for all requirements for FWCE 432 plus additional work.

FWCE 533. Fisheries Management 3 cr
Principles and applications of fisheries management to include sampling methodology, population dynamics, estimation of abundance, growth, recruitment and mortality. Prerequisites: ASTAT 311. Senior-standing or graduate student.

FWCE 534. Aquatic Contaminants and Toxicology 4 cr
Basic principles and methodologies of aquatic toxicity testing. Routes of exposure and modes of action. Environmental legislation and ecological risk assessment. Students are responsible for all requirements for FWCE 434 plus additional work.

FWCE 535. Special Topics 1-4 cr
Specific subjects to be announced in the *Schedule of Classes*. Maximum of 4 credits per semester. No more than 9 credits toward a degree.

FWCE 536. Advanced Avian Ecology 3 cr
Focuses on current topics and literature in avian ecology including systematics, mating systems, behavior, physiology, movement patterns and conservation. Includes required overnight field trips.

FWCE 537. Wildlife Damage Management 3 cr
Introduction to basic need and appropriate methods for resolving human-wildlife conflicts and management of animal damage. Socioeconomic, ecological, and political factors. Field trips required. Students are responsible for all requirements for FWCE 437 plus additional work.

FWCE 538. Vertebrate Physiological Ecology 3 cr
Physiological ecology is a mechanistic study of the adaptations through which organisms successfully interact with their environment. The niche concept will be used as a foundation to explore the physiological mechanisms organisms use to inhabit, reproduce, and persist in their respective environments.

FWCE 539 Game Bird Ecology and Management 3 cr
In this class we will look at the history of game bird management and conservation, how management and conservation of game birds was and still is the foundation for wildlife conservation in North America, define the challenges both past and present to managing and conserving game bird populations, and explore the conceptual and quantitative models used to manage migratory and non-migratory game birds in North America.

FWCE 540. Wildlife-habitat Relationships 3 cr
Aspects of animal behavior related to how animals select habitat, theoretical models of habitat selection, the influence of inter- and intra-specific interactions on habitat selection, and habitat quality.

FWCE 545. Advanced Fish and Wildlife Habitat Management 4 cr.
Principles and methods for managing aquatic and terrestrial habitats for use by fish and wildlife. Quantitative methods and computer programs for evaluating habitats. Field trips and use of computer programs by students are required. Prerequisite: FWCE 522 or consent of instructor.

FWCE 547 Wildlife Law, Policy, and Administration 3 cr
This class will examine the types and forms of law that collectively serve to referee, organize, and establish the norms of human interaction with the natural world, with emphasis on specific State and Federal statutes. Wildlife Law is examined from several foci, including why it exists, what it is intended to accomplish, where it comes from, what forms it takes, and how it changes.

FWCE 548. Graduate Problems 1-3 cr
Individual studies in fishery or wildlife science. Maximum of 3 credits per semester. No more than 6 credits of this course and FWCE 598, combined, toward a degree. Not available to non-thesis students.

FWCE 550. Special Topics 1-4 cr
Specific subjects to be announced in the *Schedule of Classes*. Maximum of 4 credits per semester and a total of 9 credits overall.

FWCE 558. Non-thesis Project var. cr
Individual study of a nonscientific nature. No more than 6 credits toward a degree. Available only to non-thesis students.

FWCE 567. Herpetology 4 cr
Origin, evolution, behavior and ecology of reptiles and amphibians.

FWCE 571. GIS for Natural Resource Scientists 3 cr
Practical GIS class for students with little or no GIS experience. Class focuses on (i) learning to use industry-standard software and (ii) applications in natural resource management.

FWCE 578. Advanced Limnology 3 cr
Concepts in aquatic production ecology and analytical methods for lake and flowing waters. Prerequisite: consent of instructor.

FWCE 580. Advanced Management of Aquatic Systems 3 cr
Human impacts on aquatic systems and remediation techniques.

FWCE 582. Ichthyology 4 cr
Classification, morphology, identification, life history, and ecology of fishes.

FWCE 595. Internship 1-6 cr
Supervised professional on-the-job learning experience. Limited to Master of Agriculture candidates. No more than 6 credits toward the degree.

FWCE 598. Special Research Programs 1-3 cr
Individual investigations, either analytical or experimental. Maximum of 3 credits per semester. No more than 6 credits of this course and FWCE 548, combined, toward a degree. Not available to students in the non-thesis program.

FWCE 599. Master's Thesis var. cr
Thesis.

REQUIREMENTS FOR A GRADUATE MINOR IN FISH, WILDLIFE &CONSERVATION ECOLOGY

Required course (3 credits):

FWCE 509. Population Ecology 3 cr

Required elective (at least 3 credits from one of the following):

FWCE 459. Aquatic Ecology 4 cr

FWCE 547. Wildlife Law, Policy and Administration 3 cr

Elective (3 credits from any of the remaining graduate courses in Wildlife Science).

TELEPHONE NUMBERS AND ADDRESSES

Department of Fish, Wildlife &
Conservation Ecology
New Mexico State University
PO Box 30003, MSC 4901
Las Cruces NM 88003-8003
Phone: (575) 646-1544

Graduate Student Organization
Department of Fish, Wildlife &
Conservation Ecology
New Mexico State University
PO Box 30003, MSC 4901
Las Cruces NM 88003-8003

Graduate School
Education Services, Suite G
New Mexico State University
PO Box 30001, MSC 3-G
Las Cruces NM 88003-0001
Phone: (575) 646-2736

International and Border Programs
New Mexico State University
PO Box 30001, MSC 3567
Las Cruces NM 88003-0001
Phone: (575) 646-7041

Financial Aid and Scholarship Services
Education Services, Suite F
New Mexico State University
PO Box 30001, MSC 5100
Phone: (575) 646-4105
(877) 278-8586 (Toll-Free)
(575) 646-4597 (Scholarships)
(575) 646-2040 (Loans)

Housing and Residence Life
Corbett Center Student Union, Suite 230
New Mexico State University
PO Box 30001, MSC 3BB
Las Cruces NM 88003-0001
Phone: (575) 646-3202

Registrar's Office
New Mexico State University
PO Box 30001, MSC 3AR
Las Cruces NM 88003-0001
Phone: (575) 646-3411 or

APPENDIX A - THE GRADUATE SCHOOL PROCESS

STEPS FOR APPLICATION AND COMPLETION OF THE MASTER OF SCIENCE DEGREE IN THE DEPARTMENT OF FISH, WILDLIFE & CONSERVATION ECOLOGY

1. Contact your potential main advisor and verify that s/he is able to take you as a graduate student.

2. The student submits to the Graduate School (1) the online application (http://gradschool.nmsu.edu); or for international students (http://isss.nmsu.edu/), (2) official transcripts, (3) three letters of recommendation, (4) the application fee, (5) a letter of intent, and (6) GRE scores showing verbal, quantitative, and analytical writing results.

3. The Graduate School will send to the Department the student's application folder, which includes transcripts, completed application and all other required application materials.

4. The Department may accept or reject an applicant. NOTE: A student may meet criteria for Graduate School admission and minimum qualifications for the Department, but not be accepted by the Department. Acceptance is contingent upon acceptance by the departmental graduate committee and by a faculty advisor.

5. Once the student arrives, personnel forms and a W-2 form must be filed (the departmental bookkeeper will need a picture ID and a copy of the student's social security number or birth certificate).

6. Graduate Advisor and Student's First Milestone: By the end of the first semester, the graduate student and advisor should complete the Departmental Degree Plan Form (Appendix B). This form is a tentative summary of the student's coursework and performs as a guide to ensure Departmental and Advisory Committee requirements are met.

7. Graduate Advisor and Student's Second Milestone: Near the end of the first semester, the student and advisor should meet to establish the advisory committee to discuss the student's proposed course of study and to review the student's research proposal. In addition, students who were admitted with course work deficiencies must develop a plan in conjunction with the advisor and the committee to make up the deficiencies. After the meeting, complete the Application for Admission to Candidacy and submit it to the Graduate School (http://gradschool.nmsu.edu/forms/forms.html).

8. Each spring, the Departmental Graduate Program Committee distributes the Graduate Student Review Form (Appendix C). These forms are to be filled out by the student, signed by the advisor, advisory committee members and returned to the Graduate Program Committee.

9. Graduate Advisor and Student's Third and Fourth Milestones: Research Defense and Graduation. Deadlines for Graduating in the Spring and Fall are published each year by the Graduate School and should be obtained by graduate students. These deadlines describe when the *Final Examination Form* and the *Graduate School Application for Degree Form* (http://gradschool.nmsu.edu/forms/forms.html) should be submitted to the Graduate School. Deadlines are also provided for when the examining committee must be convened for the defense as well as when copies of the thesis must be submitted to the graduate editor for final editing at: http://gradschool.nmsu.edu/deadlines/deadlines.html

10. Graduate Student's Fifth Milestone: In order to graduate and participate in the commencement ceremony, the thesis must be submitted to the Graduate Editor of the Graduate School for final editing by the required deadline, and three final copies of the thesis must be submitted to the Library by the deadline. Deadlines are posted by the Graduate School.

APPENDIX B - DEPARTMENTAL DEGREE PLAN

See next page

Degree Plan
Department of Fish, Wildlife & Conservation Ecology

STUDENT INFORMATION

NAME:

ADVISOR: ENTRANCE YR. & SEMESTER:

SSN (Confidential):

Units of graduate credit transferred (detail courses on the back of this form): ☐
Program of study:

	Course #	Title	Units
Year 1, Semester 1			
Year 1, Semester 2			
Year 2, Semester 1			
Year 2, Semester 2			

Describe approved plan for making up any course work deficiencies:
_____
_____

List Committee members:
_____
_____

Thesis title:
_____

APPENDIX C – DEPARTMENTAL GRADUATE STUDENT REVIEW FORM

See next page.

Departmental Graduate Student Review Form
Department of Fish, Wildlife & Conservation Ecology

NAME:	SEMESTER ADMITTED:
ADVISOR:	EXPECTED SEMESTER TO FINISH:

Coursework since last review:

Course	Semester	Grade

Deficiencies:

Deficiency	Action Taken

Committee:

Date Committee Formed: _____

Committee Members: _____

Date of most recent committee meeting: _____

Date Degree Plan approved by Committee _____

Date Application for Admission to Candidacy filed _____

Progress toward degree:

☐ Proposal written
☐ Plan approved to make up course work deficiencies (if applicable).
☐ Data collection plan
☐ Data collection completed
☐ Thesis initiated
☐ Proposal reviewed and approved by committee
☐ Data collection initiated
☐ Data analysis completed

Anticipated date of Thesis completion _____

Anticipated Financial Support (list projected source of support and anticipated needs for support):

Advisor's signature: _____

Student's signature: _____

Advisory Committee signatures_____ _____
_____ _____

Review Committee: ☐ **progress acceptable; no action required** ☐ **program adjustments required**

Recommended action

_____