FISH, WILDLIFE AND CONSERVATION ECOLOGY - MASTER OF SCIENCE IN FISH, WILDLIFE AND CONSERVATION ECOLOGY

The Department of Fish, Wildlife and Conservation Ecology (FWCE) offers graduate work leading to the Master of Science degree with a major in Fish, Wildlife and Conservation Ecology. Faculty members in the department also may advise Ph.D. candidates through the graduate program in the Department of Biology, Department of Animal and Range Sciences, Department of Plant and Environmental Sciences, as well as other Ph.D. granting departments. For additional information please see the graduate catalog entries for the respective departments.

Minimum qualifications for admission to the graduate program include the following:

- 3.0 grade-point average in the last two years of undergraduate work
- Students who are most competitive for admission are those with a combined average GRE score greater than 70th percentile on the verbal and quantitative parts of the GRE.
- Course work in zoology, botany and animal ecology and a basic appreciation of sustainable use of natural resources, with supporting courses in mathematics, chemistry, physics and written and oral communication.

Applicants should submit a written composition of approximately 350 words that indicates the applicant’s reasons for pursuing advanced study, explains personal and educational goals, and any additional experiences (e.g., military or career) or skills that might provide a foundation for graduate study. Applicants should submit three letters of recommendation (it is preferred that at least two letters come from university instructors) along with official GRE scores (the department code is 0115). Applicants should also 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. Application forms, application fee and transcripts, GRE scores, letters of recommendation and letter of application should be submitted online to the Graduate School. Successful applicants will be selected from those who meet the criteria of grade-point average, GRE scores, and educational background described above and who appear to have professional promise as indicated by personal history and written references.

For the Master of Science degree, a minimum of 30 semester credits of graduate work in the major and related subjects is required, together with a thesis for most students. Of these credits, at least 15 must be in courses numbered 500 or above, and at least 15 must be for courses with the FWCE prefix. Those programs involving a thesis or research project include 4 to 6 credits of research (FWCE 598 Special Research Programs or FWCE 599 Master’s Thesis). Students electing a minor in FWCE are required to take at least 9 credits in the minor field. A nonthesis option is available to some students, depending on prior training and experience, and subject to approval by the advisor and department head.

All students in the program must complete the following requirements:

- A ST 505 Statistical Inference I or equivalent
- One semester of Graduate Seminar (FWCE 515 Graduate Seminar - may be repeated for credit)
- A minimum of 3 additional credits from the Quantitative Methods category in addition to A ST 505 Statistical Inference I (eligible courses listed below)
- 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 Graduate Problems) to apply to one of the three areas. Courses other than those listed may be acceptable, given permission by the student’s supervisory committee.

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FWCE 515</td>
<td>Statistical Inference I (or equivalent)</td>
<td>4</td>
</tr>
<tr>
<td>FWCE 515</td>
<td>Graduate Seminar (may be repeated for credit)</td>
<td>1</td>
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</tbody>
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### Quantitative Methods: Eligible Courses

Select minimum of 3 credits from the following:

- A ST 503 SAS Basics
- A ST 506 Statistical Inference II
- A ST 507 Advanced Regression
- A ST 515 Statistical Analysis with R
- A ST 523 Biological Analysis (s)
- A ST 550 Special Topics
- FWCE 509 Population Ecology (s)
- FWCE 457 Ecological Biometry
- GEOG 585 Advanced Spatial Analysis

### Ecological Concepts: Eligible Courses

Select one from the following:

- 3-4
- BIOL 467 Evolution
- BIOL 484 Animal Communication
- BIOL 489 Genetic Aspects of Population Biology
- BIOL 568 Communities and Ecosystems
- BIOL 587 Behavioral and Evolutionary Ecology
- FWCE 459 Aquatic Ecology
- FWCE 540 Wildlife Habitat Relationships
- GEOG 557 Fundamentals of Biogeography

### Organismal Biology: Eligible courses

Select one from the following:

- 3-4
- FWCE 532 Environmental Biology of Fishes
- FWCE 536 Advanced Avian Ecology
- FWCE 557 Herpetology
- FWCE 582 Ichthyology

### Ecological Techniques: Eligible courses

Select one from the following:

- 3-4
- FWCE 464 Management of Aquatic and Terrestrial Ecosystems
- FWCE 530 Large Mammal Ecology, Conservation and Management
- FWCE 534 Aquatic Contaminants and Toxicology
FWCE 537  Wildlife Damage Management
FWCE 571  GIS for Natural Resource Scientists
GEOG 521  GIS & T Applications and Modeling
RGSC 452  Vegetation Measurements for Rangeland Assessment
RGSC 518  Watershed Methods and Management

**Independent Study: Eligible courses**
Select one from the following:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>FWCE 548</td>
<td>Graduate Problems ²</td>
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<tr>
<td>FWCE 598</td>
<td>Special Research Programs</td>
</tr>
<tr>
<td>FWCE 599</td>
<td>Master’s Thesis</td>
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To meet the 30 credit hour requirements of the MS program, completion of 1 to 2 courses in addition to the requirements described above will be necessary. The additional course(s) must be approved by the graduate student’s supervisory committee.

Total Credits

Graduate work in the department is intended to prepare students for careers in research, teaching, extension and management. Facilities available to graduate students include two ranches of approximately 90,000 acres, a large suite of shared laboratories, and a large fish-culture facility. We actively cooperate with state and federal natural resource management agencies, and graduate students have access to national forests and extensive public lands, as well as the Jornada Basin Long-Term Ecological Research site and associated databases (see [http://jornada-www.nmsu.edu](http://jornada-www.nmsu.edu) for details). Additional research opportunities for graduate students are available in the New Mexico Cooperative Fish and Wildlife Research Unit, located in the department since 1988.

Additional information on the graduate program and faculty is available at [http://aces.nmsu.edu/academics/fws](http://aces.nmsu.edu/academics/fws).

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¹ Other courses, particularly in Applied Statistics, may be eligible with consent of the advisory committee.

² Students may petition to have up to 3 credits of special topics courses (FWCE 548 Graduate Problems) to apply to one of the three areas.