

# Rangeland and Wildlife Management

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The Master of Science in Rangeland and Wildlife Management prepares students with a bachelor's degree in resource management or related disciplines to pursue advanced study of rangelands and range management. Graduate study in range management serves as the basis for a professional career in rangeland livestock production systems; grassland, savanna, wetland and shrubland ecology and management; native plants; rangeland rehabilitation; conservation easements; wildlife habitat; water quality issues; working landscapes; and rangeland economics and policy.

The graduate program in range management is administered by an interdepartmental group of faculty members from the Department of Environmental Science, Policy, and Management (ESPM) and related departments at UC Berkeley.

Excellent laboratory and field facilities are available for student research. These include several experimental range properties as well as large wildland ranges easily accessible from Berkeley. The faculty is actively engaged in both theoretical and practical research.

Doctoral work in Rangeland and Wildlife Management may be pursued as part of the PhD program in ESPM.

## Admission to the University

### Minimum Requirements for Admission

The following minimum requirements apply to all graduate programs and will be verified by the Graduate Division:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A grade point average of B or better (3.0);
3. If the applicant has completed a basic degree from a country or political entity (e.g., Quebec) where English is not the official language, adequate proficiency in English to do graduate work, as evidenced by a TOEFL score of at least 90 on the iBT test, 570 on the paper-and-pencil test, or an IELTS Band score of at least 7 on a 9-point scale (note that individual programs may set higher levels for any of these); and
4. Sufficient undergraduate training to do graduate work in the given field.

### Applicants Who Already Hold a Graduate Degree

The Graduate Council views academic degrees not as vocational training certificates, but as evidence of broad training in research methods, independent study, and articulation of learning. Therefore, applicants who already have academic graduate degrees should be able to pursue new subject matter at an advanced level without the need to enroll in a related or similar graduate program.

Programs may consider students for an additional academic master's or professional master's degree only if the additional degree is in a distinctly different field.

Applicants admitted to a doctoral program that requires a master's degree to be earned at Berkeley as a prerequisite (even though the applicant already has a master's degree from another institution in the same or

a closely allied field of study) will be permitted to undertake the second master's degree, despite the overlap in field.

The Graduate Division will admit students for a second doctoral degree only if they meet the following guidelines:

1. Applicants with doctoral degrees may be admitted for an additional doctoral degree only if that degree program is in a general area of knowledge distinctly different from the field in which they earned their original degree. For example, a physics PhD could be admitted to a doctoral degree program in music or history; however, a student with a doctoral degree in mathematics would not be permitted to add a PhD in statistics.
2. Applicants who hold the PhD degree may be admitted to a professional doctorate or professional master's degree program if there is no duplication of training involved.

Applicants may apply only to one single degree program or one concurrent degree program per admission cycle.

### Required Documents for Applications

1. **Transcripts:** Applicants may upload *unofficial* transcripts with your application for the departmental initial review. Unofficial transcripts must contain specific information including the name of the applicant, name of the school, all courses, grades, units, & degree conferral (if applicable).
2. **Letters of recommendation:** Applicants may request online letters of recommendation through the online application system. Hard copies of recommendation letters must be sent directly to the program, by the recommender, not the Graduate Admissions.
3. **Evidence of English language proficiency:** All applicants who have completed a basic degree from a country or political entity in which the official language is not English are required to submit official evidence of English language proficiency. This applies to institutions from Bangladesh, Burma, Nepal, India, Pakistan, Latin America, the Middle East, the People's Republic of China, Taiwan, Japan, Korea, Southeast Asia, most European countries, and Quebec (Canada). However, applicants who, at the time of application, have already completed at least one year of full-time academic course work with grades of B or better at a US university may submit an official transcript from the US university to fulfill this requirement. The following courses will not fulfill this requirement:
  - courses in English as a Second Language,
  - courses conducted in a language other than English,
  - courses that will be completed after the application is submitted, and
  - courses of a non-academic nature.

Applicants who have previously applied to Berkeley must also submit new test scores that meet the current minimum requirement from one of the standardized tests. Official TOEFL score reports must be sent directly from Educational Test Services (ETS). The institution code for Berkeley is 4833 for Graduate Organizations. Official IELTS score reports must be sent electronically from the testing center to University of California, Berkeley, Graduate Division, Sproul Hall, Rm 318 MC 5900, Berkeley, CA 94720. TOEFL and IELTS score reports are only valid for two years prior to beginning the graduate program at UC Berkeley. Note: score reports can not expire before the month of June.

## Where to Apply

Visit the Berkeley Graduate Division application page (<http://grad.berkeley.edu/admissions/apply/>).

Two types of program plans lead to the M.S. degree in Rangeland and Wildlife Management. Most rangeland and wildlife students participate in ongoing research during their studies, and generally follow Plan II (non-thesis/comprehensive exam), however Plan I (thesis) is also available with Head Faculty Advisor consent. Students work with their advisors to develop a program to meet career goals, including desired certifications and qualifications. Plan II students completing 3 or more of the upper division core courses as undergraduates may be able to finish their MS in one year with careful planning with their advisor. Students must be sure to meet the unit requirements for their choice of plan:

The minimum core courses required for completion of the M.S. in Rangeland and Wildlife Management include courses from each of Categories A, B, and C, as indicated in the above table, and listed below. With Head Faculty Advisor approval, the program of study may substitute courses for those on the 3 lists to help the student meet specific career goals. These can include courses in resource economics, hydrology, wildlife, plant ecology, fire ecology, remote sensing, GIS, biogeochemistry, policy, soils, and so forth depending on student interests and preparation and in compliance with the upper division and graduate course balance specified in Plans I or II. Course requirements must be completed with a GPA of at least 3.0. Students should meet with the HFA as soon as possible after arrival on campus to discuss their plans, and if they are doing a thesis, they need to have their 3 person committee approved by their guiding professor and the HFA before the end of the second semester.

### Each of the core courses below must be completed:

ESPM 116B	Grassland and Woodland Ecology	4
ESPM 186	Grassland and Woodland Management and Conservation	4
ESPM 173	Introduction to Ecological Data Analysis	3
INTEGBI 102LF	Introduction to California Plant Life with Laboratory	4

### 8 UNITS (PLAN I) OR 12 UNITS (PLAN II) OF 200 LEVEL COURSES FROM THE REMAINING TWO CATEGORIES, INCLUDING:

#### Your choice of two of the following range graduate courses:

ESPM 268	Seminar in Range Ecology	2
ESPM 278	Range Assessment	3
ESPM 279	Seminar on Pastoralism	3
ESPM 280	Seminar in Range Ecosystem Planning and Policy	3

#### Your choice of one course in western land use policy or applied social science, such as:

ESPM C252	Topics in Science and Technology Studies	3
ESPM 268	Seminar in Range Ecology	2
CY PLAN 252	Land Use Controls	3
CYPLAN C253	Course Not Available	
LD ARCH 239	Course Not Available	
ESPM 280	Seminar in Range Ecosystem Planning and Policy	3
ESPM 258	Race, Science, and Resource Policy	3

GEOG 203	Nature and Culture: Social Theory, Social Practice, and the Environment	4
GEOG 250	Course Not Available	

## Curriculum

### Category A: Tools

ESPM 116B	Grassland and Woodland Ecology	4
ESPM 186	Grassland and Woodland Management and Conservation	4
INTEGBI 102LF	Introduction to California Plant Life with Laboratory	4
ESPM 181A	Fire Ecology	3
ESPM 173	Introduction to Ecological Data Analysis	3
or ESPM 174	Design and Analysis of Ecological Research	
PBHL 164	Course Not Available	
ESPM 106	American Wildlife: Management and Policy in the 21st Century	3
ESPM 114	Wildlife Ecology	3
ESPM C115C	Fish Ecology	3
LD ARCH C188	Geographic Information Science	4
or GEOG C188	Geographic Information Science	
ESPM 233	Course Not Available	
ESPM 164	GIS and Environmental Science	3
ESPM C172	Remote Sensing of the Environment	4
ESPM 111	Ecosystem Ecology	4
ESPM 134	Fire, Insects, and Diseases in Forest Ecosystems	3
EPS 101	Field Geology and Digital Mapping	4
INTEGBI 157LF	Ecosystems of California	4

### Category B: Depth

ESPM 268	Seminar in Range Ecology	2
ESPM 278	Range Assessment	3
ESPM 279	Seminar on Pastoralism	3
ESPM 280	Seminar in Range Ecosystem Planning and Policy	3
ESPM 290-27	Course Not Available	
LD ARCH 221	Quantitative Methods in Environmental Planning	3
ESPM 265	Seminar on Fire as an Ecological Factor	2

### Category C: Breadth

ESPM C252	Topics in Science and Technology Studies	3
CRP C253	Course Not Available	3
CRP 252	Course Not Available	3
LAEP 239	Course Not Available	4
GEOG 203	Nature and Culture: Social Theory, Social Practice, and the Environment	4
ESPM 277	Advanced Topics in Conservation Biology	3
ESPM 280	Seminar in Range Ecosystem Planning and Policy	3
ESPM 258	Race, Science, and Resource Policy	3
GEOG C250	Seminar in Sociology of Forest and Wildland Resources	3
ESPM 298	Directed Group Study	1-6
INTEGBI C156	Principles of Conservation Biology	4
ESPM C170	Carbon Cycle Dynamics	3
CY PLAN 291	Special Projects Studio in Planning	4-6

**The two MS plans at UC Berkeley are as follows:**

**Plan I : Coursework and Thesis**

Plan I is used infrequently in our program. It requires a minimum of 24 semester units of upper division and graduate courses, and completion of a thesis. For the 24 unit minimum in our program, a minimum of 12 units must be graduate courses in the 200 series courses in the student's major subject, including 4 units of thesis research. A substantial part of the coursework will be designed to acquire in-depth knowledge relevant to the thesis. Before starting thesis research, the student must have a research plan approved by the guiding professor and the HFA. The thesis may be on any subject selected by the student with the approval of the HFA and their guiding professor. Students must have a properly constituted thesis committee of three members, two of whom must be Academic Senate members from the student's major. It is preferred, but not required, that students following Plan I have on the thesis committee an outside member, an Academic Senate faculty member outside the student's major field. If a proposed committee member does not belong to the Academic Senate, a request for an exception must accompany the application for advancement to candidacy. Please see: <https://grad.berkeley.edu/policy/degrees-policy/#14-unit-credit-for-the-...> (<https://grad.berkeley.edu/policy/degrees-policy/#14-unit-credit-for-the-masters-degree>).

**Plan II: Coursework and Exam**

Plan II is the most frequently used plan in our program. It requires a minimum of 24 semester units of upper division and graduate courses. Of the 24 units, a minimum of 12 units must be in 200-level graduate courses in the student's major subject. This plan requires that students pass a comprehensive oral exam before the degree can be awarded. The examination will emphasize the student's program of graduate study, but the student must also demonstrate an understanding of other principles and issues related to the study of Rangeland and Wildlife Management.

**Meeting required units:**

Courses in the 300 series or higher do not count toward the unit requirements for either Plan I or Plan II Masters degrees. For either the 20-unit Plan I or 24-unit Plan II, a maximum of 6 units of 299 course work may be used toward fulfilling degree unit requirements. For degree programs requiring more than 24 units, up to 25% of the unit total may be units in 299 courses.