

# BIOLOGY MS DEGREE PROGRAM HANDBOOK

Revised March 2018

## 1. Program Description

The Department of Biology offers a Master's Degree in a broad range of biological fields, with special emphasis in Cellular and Molecular Biology, Developmental Biology, and Ecology, Evolution and Conservation Biology website (<http://www.unr.edu/biology/people>). The Biology Department has 32 faculty, and you can find details of their research interests at the Biology Department website. The program provides education in theoretical, experimental, and applied aspects of biology. Our goal is to produce scientists with the best technical and analytical skills. A Master's degree in Biology can prepare you for advanced training in a top tier PhD program, assist you in entering medical and other professional schools, prepare you for jobs in government agencies (e.g., Nevada Division of Wildlife, U. S. Fish and Wildlife Service, Bureau of Land Management), prepare you for a career in laboratory sciences, or provide advanced training for teachers.

### Student Learning Outcomes:

- Students will understand the theoretical and empirical basis of biological sciences, especially as it relates to evolution, ecology, cell and molecular biology, developmental biology, and related fields.
- Students will learn laboratory and field procedures, computer tools, conceptual and analytical models, and techniques for data analysis.
- Students will develop the ability to articulate scientific concepts and results in written, graphical, and oral contexts.
- Graduates will learn tools that will help them secure a position in their chosen field upon graduation.

## Contact Information

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- Director of the Biology Masters Degree Program
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- (775) 784-6583

**Note:** This handbook lists graduate program academic policies and procedures. It includes information on graduate school policies, degree requirements, timeline for degree completion, committee selection guidelines and comprehensive exam/thesis requirements. Every effort has been made to make this handbook accurate as of the date of publication; however, this handbook does not constitute a contractual commitment. Graduate programs may not offer all of the courses as described, and policies are subject to yearly review and changes with program director and Graduate Council approval.

## Tracks

Areas of emphasis are (1) Cellular and Molecular Biology, (2) Ecology, Evolution and Conservation Biology and (3) General Biology. Within these areas, students can select a research thesis option (Plan A) or a non-thesis option (Plan B).

## 2. Programs and degree requirements

Program Description: The Department of Biology offers two Master's Degree Programs.

Plan A (thesis option) is a program culminating in a research thesis for students interested in pursuing further advanced degrees or employment in biological research.

Plan B (non-thesis option) is a program leading to a non-thesis Master's Degree, and is intended as the terminal degree for students seeking careers with government agencies, or in industry, education, or other areas.

It is strongly recommended that the required course work for either Plan A or Plan B degree be completed within the first two years of residency. It is possible to transfer from one of these programs into the other. All requirements for either degree must be satisfied within the period of 4 calendar years immediately preceding the granting of the degree.

1. **Degree Requirements, Plan A (thesis):** A minimum of 30 semester graduate credits in biology or related fields must be completed with an average grade of B or better, with not less than 21 credits to be earned in residence at UNR. At least 18 credits must be in 700-level courses, including six thesis credits. Course selection will be determined in consultation with the Faculty Advisor and Advisory Committee. The student is required to complete an independent research project and a written thesis suitable for publication in a peer-reviewed scientific journal (BIOL 797 Thesis; 6 credits). At the end of the student's research program and following acceptance of the written thesis by the Faculty Advisor and Advisory Committee, the student will make a public presentation of the thesis research. Following the public presentation, the student's Advisory Committee will administer and judge a final oral examination that serves as defense of the candidate's thesis, and an examination of the student's general knowledge.
2. **Degree Requirements, Plan B (non-thesis):** A minimum of 32 semester graduate credits in biology or a related discipline must be completed with an average grade of B or better, with not less than 23 credits to be earned in residence at UNR. At least 15 credits must be in 700-level courses. Course selection will be determined in consultation with the Faculty Advisor and Advisory Committee. A research thesis is not required, but a scholarly paper must be prepared (BIOL 792 Special Problems; 6 credits taken over 2 semesters). The paper may be in the form of a scholarly review, analysis, and synthesis of a current topic in biology, or may be presented as a grant proposal in a format appropriate to a specific funding agency. Following an oral presentation of the written paper to the student's Advisory Committee and to the public, the Advisory Committee will administer an oral examination, which covers both general knowledge of

the candidate's field and a more in-depth analysis of the topic of the candidate's study. Passing the oral examination is determined by the Advisory Committee, and is necessary to complete the degree requirements.

*a. Program Objectives/Student Learning Outcomes*

- conduct rigorous research that makes a significant contribution to scientific progress
- produce clear and coherent written presentations of their work
- complete the program in a reasonable period of time
- attend and give presentations at professional meetings
- prepare and submit papers for publication
- prepare and submit grant proposals
- mentor undergraduates

### Suggested schedule of classes for Plan B Master's Program

Students in the Plan B program may concentrate their study in one of the following three areas:

1. Cell and Molecular Biology
2. Ecology, Evolution, and Conservation Biology, or
3. General Biology

*Required and suggested courses for the three areas of emphasis at listed below.*

#### **1. Cell and Molecular Biology (CMB)**

➤ **Year 1: 18 credits**

– ***Semester 1***

- BCH 705 (4) Molecular Genetics
- BCH 606 (3) Molecular Biology Laboratory
- BIOL 694 (1) Seminar

– ***Semester 2***

- CMB 710 (4) Molecular Cell Biology
- BIOL 691 (2) Independent Study (Lab in Genetics and Cell Biology)
- BIOL 694 (1) Seminar
- **Summer 1**
  - BIOL792 (3) Special Problems (directed study or research)

*An independent study course resulting in a paper consisting of a scholarly review and synthesis of a current topic in biology or a grant proposal in a format appropriate to a major funding agency.*

➤ **Year 2: 14 credits:**

- BIOL 792 (3) The continuation of the independent study course resulting in a paper consisting of a scholarly review and synthesis of a current topic in biology or a Grant Proposal in a format appropriate to a major funding agency
- BIOL or BCH electives (11) with at least 1 credit at 700 level
  - **Available Electives**
    - ANSC 628 (3) Stem Cell Biology
    - ANSC 670 (3) Genomics and Proteomics
    - ANSC 729 (3) Biotechniques/Advanced Biotechniques
    - ANSC793 (3) Pharmacogenomics
    - ANSC 794 (3) Comparative Genomics
    - BCH/BIOL 605 (3) Molecular Biology
    - BCH/BIOL 606 (3) Molecular Biology Laboratory
    - BCH 610 (3) Plant Physiology
    - BCH 613 (3) Molecular Biophysics
    - BCH 617 (3) Metabolic Regulation
    - BCH 701 (3) Experimental Biochemistry I
    - BCH 704 (3) Biochemistry
    - BCH 706 (3) Functional Genomics
    - BCH 718 (3) Plant Molecular Biology & Biotechnology
    - BCH 740 (3) Enzymology
    - BCH 793 (1-3) Independent Study
    - BCH 794 (1) Colloquium
    - BIOL 604 (3) Population Genetics
    - BIOL 610 (3) Plant Physiology
    - BIOL 615 (4) Evolution
    - BIOL 650 (1-3) Special Topics
    - BIOL 653 (3) Immunology
    - BIOL 654 (3) Genomic Conflict, Epigenetics & Human Disease

- BIOL 656 (3) Molecular Basis of Epigenetics
- BIOL 666 (3) Developmental Biology
- BIOL 675 (3) Neurobiology
- BIOL 677 (3) Genes, Brain & Behavior
- BIOL 682 (3) Cell Biology of Disease
- BIOL 705 (3) Current Topics in Cell & Molecular Biology
- BIOL 711 (3) Advanced Cellular Biology
- BME 601 (3) Introduction to Biomedical Engineering
- BME 626 (3) Biomedical Engineering
- BME 725 (3) Ethics and Scientific Research
- BME/PHAR 730 (3) Introduction to Images & Optics
- CMB 710 (4) Molecular Cell Biology
- CMB 790 (1) Graduate Seminar
- CMB 794 (1) Colloquium
- CMPP 740 (3) Neuroeffector Mechanisms
- CMPP/PHAR 750 (3) Molecular Mechanisms of Excitability
- MICR 670 (3) Cellular Microbiology
- MICR 676 (3) Cancer Immunobiology
- MICR 700 (2) Biotechnology Today & Tomorrow
- MICR 780 (3) Introductory Cellular Immunology
- MICR 784 (3) Molecular Mechanisms of Viruses
- PCB 710 (3) Medical Cell Biology
- PCB 711 (7) Systems Physiology
- PHAR 600 (3) Introduction to Human Pharmacology
- PHAR 710 (3) Molecular Pharmacology

*Upon agreement of the Faculty Advisor and individual Advisory and Examining Committee, prepared students may substitute specialized electives for certain required courses. The course work can and should be completed within 2 calendar years.*

## 2. Ecology, Evolution and Conservation Biology (EECB)

### ➤ Year 1: 18 credits

#### – Semester 1

- BIOL 750 (3) Research Design in Ecology
- BIOL 694/BIOL 794 (1) Seminar or Colloquium
- BIOL (3) elective

#### – Semester 2

- BIOL 615 (4) Evolution
- BIOL 694/BIOL 794 (1) Seminar or Colloquium
- BIOL (3) elective

#### – Summer 1

- BIOL 792 (3) Special Problems (directed study or research)

*An independent study course resulting in a paper consisting of a scholarly review and synthesis of a current topic in biology or a Grant Proposal in a format appropriate to a major funding agency.*

➤ **Year 2: 14 credits:**

- EECB 752 (3) Topics in Evolution or
- EECB 753 (3) Topics in Conservation Biology
- BIOL 792 (3) – Continuation of the independent study course resulting in a paper consisting of a scholarly review and synthesis of a current topic in biology or a Grant Proposal in a format appropriate to a major funding agency
- EECB and BIOL (8) electives, with at least 3 credits at 700 level

– ***Available Biology and EECB Electives***

- BIOL 604 (3) Population Genetics
- BIOL 620 (3) Aquatic Ecology
- BIOL 621 (3) Conservation Biology
- BIOL 629 (3) Biological Diversity
- BIOL 630 (1) Field Ornithology
- BIOL 631 (2) Ichthyology
- BIOL 632 (4) Herpetology
- BIOL 633 (3) Ornithology
- BIOL 634 (4) Mammalogy
- BIOL 637 (3) Entomology
- BIOL 646 (3) Desert & Montane Ecosystems
- BIOL 650 (1-3) Special Topics
- BIOL 654 (3) Genomic Conflict, Epigenetics & Human Disease
- BIOL 666 (3) Developmental Biology
- BIOL 677 (3) Genes, Brain & Behavior
- BIOL 681 (3) Principles of Animal Behavior
- BIOL 684 (4) Population and Community Ecology
- BIOL 688 (3) Behavioral Ecology
- BIOL 690 (3) Biogeography
- BIOL 712 (3) Mathematical Modeling in Ecology
- BIOL 717 (3) Seminar in Arid Lands Ecology
- BIOL 721 (2) Molecular Ecology I. Theory and Application
- BIOL 722 (2) Molecular Ecology II. Techniques and Analysis
- EECB 751 (2 or 3) Topics in Ecology
- EECB 752 (2 or 3) Topics in Evolution
- EECB 753 (2 or 3) Topics in Conservation Biology
- NRES 710 (3) Life History Evolution
- NRES 750 (3) Ecological Theory and Restoration
- NRES 775 (3) Landscape Ecology

- NRES 777 (4) Microbial Ecology
- NRES 780 (3) Analysis & Modeling of Animal Populations

*Upon agreement of the Faculty Advisor and individual Advisory and Examining Committee, prepared students may substitute specialized electives for certain required courses. The course work can and should be completed in 2 calendar years.*

### 3. General Biology

#### ➤ Year 1: 20 credits

##### – Semester 1

- BCH/BIOL 605 (4) Molecular Biology
- BIOL 615 (4) Evolution
- BIOL 694 (1) Seminar

##### – Semester 2

- CMB 710 (4) Molecular Cell Biology
- BIOL 685 (3) Population and Community Ecology
- BIOL 694 (1) Seminar

##### – Summer 1

- BIOL792 (3) Special Problems (directed study or research)

*An independent study course resulting in a paper consisting of a scholarly review and synthesis of a current topic in biology or a Grant Proposal in a format appropriate to a major funding agency.*

#### ➤ Year 2: 12 credits:

- BIOL 792 (3) Continuation of the independent study course resulting in a paper consisting of a scholarly review and synthesis of a current topic in biology or a Grant Proposal in a format appropriate to a major funding agency
- BIOL, EECB, BCH, or CMB electives (9) at least 5 credits at 700 level

##### – Available Electives

- See Electives for CMB and EECB programs

*Upon agreement of the Faculty Advisor and individual Advisory and Examining Committee, prepared students may substitute specialized electives for certain required courses.*

## BIOLOGY MS CURRICULUM

Students may take courses listed in BIOL, NRES, GEOG, EECB and other relevant disciplines. Full-time graduate enrollment for students with a ½ time (20 hours/week) TA or RA is a minimum of six (6) credits. See the Graduate School for exceptions.

### Required Courses

*Required courses include:*

- BIOL 797 Thesis (6 credits; for Plan A) and
- BIOL 792 (6 credits; for Plan B).

Attendance at the weekly EECB colloquium is expected; however, students must also take colloquium as a class two times for one (1) credit each time (2 credits total).

*Other suggested courses:*

- EECB 750 Research Design (offered each spring, TBA)
  - \* It is strongly recommended that you take this course as early as possible in your graduate study, if you expect to conduct experiments.
- EECB 751 Introduction to Ecology, Evolution, and Conservation Biology
  - \* This course that acquaints new students with different fields and approaches to the study of ecology and conservation biology. Offered in the fall semester.
- 700-level courses:
  - \* A minimum of 18 credits of 700 level courses, including thesis credits, is required
  - \* Credits may be transferred from previous graduate work; see the graduate credit evaluation request online through the [Graduate School Forms and Deadlines Website](https://www.unr.edu/grad/forms-and-deadlines)<sup>1</sup>.

*As with much of your course of study, additional or different requirements are at the discretion of your advisory committee and with approval of the Director of the Biology MS Program.*

### Graduate School Academic Requirements:

All graduate students must maintain a cumulative graduate GPA of 3.0. If their GPA drops below 3.0 they are either placed on probation or dismissed. Undergraduate courses will not count towards graduate GPA.

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<sup>1</sup> <https://www.unr.edu/grad/forms-and-deadlines>

### *Probation*

Students whose cumulative graduate GPA is .1 to .6 points below that needed for a 3.0 GPA are put on probation. Students are placed on academic probation for one semester. If they fail to raise their cumulative GPA to 3.0 by the end of one semester, they are dismissed from their graduate program. Thesis, S/U graded credits, and transfer credits have **no** impact on a student's GPA.

### *Dismissal*

Students whose cumulative graduate GPA is .7 or more grade points below that needed for a 3.0 GPA can be dismissed. Dismissed students are no longer in a graduate program but may take graduate-level courses as a Grad Special. Students wishing to complete their degree must obtain approval to take graduate-level courses, raise their graduate GPA to at least 3.0 and then re-apply to a graduate program. Any courses taken to raise their GPA will be included in the graduate special/transfer credit limitation (9 credits for master's degrees).

## **3. Transfer credits**

These are credits transferred from another institution. Credits completed at UNR in another program or as a graduate special do not need to be transferred. Transfer credit is requested on the [Graduate Credit Transfer Evaluation Request Form](#)<sup>2</sup> available on [Graduate School Website](#)<sup>3</sup> and must be signed by the student, major advisor, and graduate director. Transfer credits applied to a master's program must comply with the time limitation on master's work (6 years). Thus, if a student took a course five years prior to admission, they would have to complete the degree within one year for the course to apply to the degree.

## **4. Timeline for degree completion**

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<sup>2</sup> <https://www.unr.edu/Documents/graduate-school/GraduateCreditTransferEvaluationRequest.pdf>

<sup>3</sup> <https://www.unr.edu/grad>

## Year 1

### *First Semester*

- If applicable, transfer previous graduate credits through the Graduate School
- Recommended courses
  - [Plan A](#)<sup>4</sup>
    - \* Colloquium (EECB 794)
    - \* Introduction to Ecology, Evolution and Conservation Biology (EECB 751)
  - [Plan B](#)<sup>5</sup>
    - \* see Program and degree requirements

### *Second Semester*

- Form official advisory committee
- Submit a [Declaration of /Major Advisor/Committee Chair Form](#)<sup>6</sup> through the Graduate School
- Submit a [Program of Study Form](#)<sup>7</sup> to the Graduate School
- Prepare a thesis proposal by end of semester and present it to your committee
- Recommended courses
  - \* Colloquium (EECB 794)
  - \* Research Design (EECB 750), (course recommended by committee)

## Year 2

- Continue coursework as recommended by advisory committee
- Conduct thesis research

## Year 3

- Finish coursework
- Complete thesis research and prepare thesis

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<sup>4</sup> [https://catalog.unr.edu/preview\\_program.php?catoid=24&poid=17803](https://catalog.unr.edu/preview_program.php?catoid=24&poid=17803)

<sup>5</sup> [https://catalog.unr.edu/preview\\_program.php?catoid=24&poid=17804](https://catalog.unr.edu/preview_program.php?catoid=24&poid=17804)

<sup>6</sup> <https://www.unr.edu/Documents/graduate-school/Declaration-of-Advisor.pdf>

<sup>7</sup> <https://www.unr.edu/Documents/graduate-school/program-of-study.pdf>

- Review important deadlines and milestones for graduation
- Submit a Graduation Application Form (due several weeks in advance; check the [Graduation and Deadlines Website](#)<sup>8</sup> for exact dates)
- Schedule a public defense presentation and a defense meeting with your committee
- Submit a [\(Master's\) Notice of Completion Form](#)<sup>9</sup> through the Graduate School
- Submit your Dissertation Title to Graduate School
- Fill out an [Exit Survey](#)<sup>10</sup>
  - The Graduate School is interested in assuring that the graduate experience is the best it can be. Please help us by completing this voluntary, short survey. Choosing to decline participation in this survey will have no adverse effect on your relationship with the University or the Graduate School. Your survey responses will be confidential and will not be reported individually.

*You can find an updated list of forms and requirements at the [Graduate Forms and Deadlines Website](#)<sup>11</sup>.*

## 5. Committee selection guideline

Each student will assemble an advisory committee consisting of at least three members including your major advisor, one other Biology faculty member, and one 'outside' member acting as representative of the Graduate School. The outside member (Grad School representative) of your committee must be a graduate faculty (i.e., not adjunct, lecturer, etc.) that is not a member of your home department (i.e., Biology). Committee members may be outside of the Nevada System of Higher Education system; check with your committee and the Graduate School if you would like an outside-NSHE committee member. For master's students, the completed form must be submitted to Graduate School by the end of the student's second semester. You can also submit a [Change of](#)

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<sup>8</sup> <https://www.unr.edu/grad/graduation-and-deadlines>

<sup>9</sup> <https://www.unr.edu/Documents/graduate-school/notice-of-completion-master-degree-updated.pdf>

<sup>10</sup> <https://www.unr.edu/grad/forms-and-deadlines/exit-survey>

<sup>11</sup> <https://www.unr.edu/grad/forms-and-deadlines>

[Advisory Committee Form](#)<sup>12</sup> if you need to make a change to the personnel on your advisory committee. Formal approval of all student advisory committees is made by the Graduate Dean.

## 6. Comprehensive exams

A comprehensive written examination is not required in the Biology MS program. There is, however, an oral defense of the thesis (Plan A) or scholarly paper (Plan B).

## 7. Thesis requirements

The thesis requirements are negotiated between the student and advisory committee. Generally, the thesis and other scholarly documents shall be written in a form that is potentially publishable in prominent scientific journals.

Once all requirements have been met, students need to follow the [Thesis Filing Guidelines](#)<sup>13</sup> and submit a [Final Review Approval Form](#)<sup>14</sup> that must be signed off by your advisory committee chair.

## 8. Graduate Assistantships

All graduate students holding an assistantship (teaching GTA or GRA) are considered Nevada residents for tuition purposes. Non-resident tuition is only waived for the duration of the assistantship. State-funded assistantships (GTA/GRA) may be held for a maximum of three (3) years for master's degree students. To be eligible for an assistantship, students must be admitted to a degree-granting program and be in good academic standing. The student must have an overall GPA of at least 3.0 and must be continuously enrolled in at least 6 graduate level credits (600-700) throughout the duration of the assistantship.

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<sup>12</sup> <https://www.unr.edu/Documents/graduate-school/3change-of-advisory-committee.pdf>

<sup>13</sup> <https://www.unr.edu/grad/forms-and-deadlines/thesis-filing-guidelines>

<sup>14</sup> <https://www.unr.edu/Documents/graduate-school/thesis-final-review-approval-form.pdf>

## Teaching Assistantships (TA)

A “full” (1/2) time teaching assistantship is supposed to take up 20 hours a week. In order to be eligible for a TA position you must be enrolled in a minimum of six (6) graduate-level units. Meet with the professor who will supervise your teaching and make sure the expectations regarding your duties and responsibilities are explicit. The Biology Department has 37 TA positions (in 2016).

If you are teaching for the first time at UNR, you must enroll in the GRAD 701 mini-course offered through the Graduate School before the beginning of each semester (contact the Grad School for date, time and location). This workshop acquaints students with teaching responsibilities and classroom etiquette. New Teaching Assistants must take this workshop. NO EXCEPTIONS. Students that do not take GRAD 701 cannot perform as a TA at UNR.

A teaching assistantship (in 2016) includes a stipend of \$16,500.00 (\$1650 per month for 10 months), non-resident tuition (\$8193.00 in 2016), the allowable portion of course fees (\$166.21 of \$246.50), and medical insurance coverage (\$1720.00), bringing the financial package for each recipient to more than \$27,000.00. In addition, there are opportunities for supplementary income working on faculty grants and contracts, and the University administers an extensive program of financial aid services. Potential students are advised to check the [Graduate School Webpage](#)<sup>15</sup> and discuss options for support with their prospective advisors. The Department of Biology does not guarantee financial support.

For further information, see the [Graduate Assistantships Website](#)<sup>16</sup> and refer to the [Graduate Assistantship Handbook](#)<sup>17</sup>.

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<sup>15</sup> <http://www.unr.edu/grad>

<sup>16</sup> <https://www.unr.edu/grad/funding/graduate-assistantships>

<sup>17</sup> [https://www.unr.edu/Documents/administration-finance/hr/hr-graduate/GA\\_handbook.pdf](https://www.unr.edu/Documents/administration-finance/hr/hr-graduate/GA_handbook.pdf)

## Research Assistantship (RA)

RA positions are usually provided by faculty (your thesis advisor or PI) research grants with money allotted for graduate student support. Students that begin their graduate studies as a TA can sometimes “write themselves into” their advisors grants (see Fellowships and Grants below and [other assistantship related forms](#)<sup>18</sup>).

## Fellowships & Grants

Fellowships generally cover some or all of your tuition and living expenses with less specific requirements such as teaching and research load. No intramural fellowships are available through Biology or the Graduate School, so they must be obtained extramurally if desired. Many small grants (usually up to \$2,500) are available both intramurally and extramurally to cover research costs, and beginning students usually apply for as many of these as possible. Small grants help with research and make your CV look better so that more people are inclined to give you money in the future. Larger grants such as big NSF programs are usually handled by your PI, so talk with them very early on as to whether you’ll work on one of these together.

The following are some common fellowship and grant opportunities. This is not an exhaustive list, and it is the responsibility of each student to research funding resources and keep up with current submission deadlines.

### American Association of University Women

The AAUW Educational Foundation, one of the largest sources of funding exclusively for graduate women in the world, supports aspiring scholars around the globe, teachers and activists in local communities, women at critical stages of their careers, and those pursuing professions where women are underrepresented. Eligibility criteria and applications for fellowships and grants may be downloaded from the website. The Foundation also makes several prestigious national awards to recognize excellence in achievement.

### Animal Behavior Society

Student research grants range from \$500 to \$2,000 each, depending on category of the grant and evaluations. Applicants must be enrolled in graduate programs and must be active members of the Animal Behavior Society. Applicants apply via a single application process, usually at the end of the year.

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<sup>18</sup> <https://www.unr.edu/hr/forms?c=662&a=All>

### Anza-Borrego Foundation

Howie Wier Memorial Conservation grants of up to \$2,000 are awarded annually to assist graduate students conducting field studies in ecology, systematics, evolutionary biology, and conservation biology in the Colorado Desert and Peninsular Range region of southern California. Deadline December. Student Entomology grants are also available.

### American Museum of Natural History

The American Museum of Natural History offers competitive grants and fellowships in areas broadly related to its scientific and educational objectives. These areas include the fields of vertebrate zoology, invertebrate zoology, paleozoology, anthropology, astrophysics and earth and planetary sciences. Frank M. Chapman Grants support and foster research in ornithology, both neontological and paleontological. Lerner-Gray Grants for Marine Research support marine zoology. Theodore Roosevelt Memorial Grants support research on North American fauna in any phase of wildlife conservation or natural history.

### American Ornithological Union

AOU Research awards provide support for research in various areas of avian biology to students and postdoctoral researchers who are members of the American Ornithologists' Union or other members without access to funds from major granting agencies. Awards are made annually in amounts up to a maximum of \$2,500. Deadline early February.

### American Society of Ichthyologists and Herpetologists

Gaige awards are intended to provide support to young herpetologists for museum or laboratory study, travel, fieldwork, or any other activity that will effectively enhance their professional careers by contributing to the science of herpetology. Applicants must be members of ASIH and should be enrolled in an advanced degree program. Individual awards are typically in the range of \$400-1,000, and will be awarded on the basis of both merit and need.

### American Society of Mammalogists

Grants-in-Aid of Research Program offers awards up to \$1,500 to graduate and upper-level undergraduate students who are members of the Society at the time of application. Awards primarily will be in support of field or laboratory work in mammalogy or for the purchase of supplies and small items of equipment related thereto. Applications due each spring.

### American Society of Naturalists

The American Society of Naturalists offers \$2,000 Student Research Awards, which support research by student members that advances the goals of the society. Only Ph.D. candidates are eligible. Research must address a major conceptual issue in ecology, evolution or behavior, and projects on all types of research (i.e., laboratory, field, theory) are encouraged. Proposals will be

judged on originality, strength and significance of the questions being addressed, prospects for significant results, and the match between the proposed research and the ASN mission. Deadline January.

### Association of Field Ornithologists

The Bergstrom Award is designed to promote field studies of birds by helping to support research or analyses. Special consideration will be given to proposals dealing with avian life history, the use of data collected all or in part by amateurs, or that employ bird banding or other marking techniques. The applicant and/or their primary research supervisor must be a member of the Association of Field Ornithologists. Approximately five awards (maximum \$1,000 each) are made to applicants working in the U.S. or Canada annually. Deadline January. The Skutch Award is also offered to support the study of life histories, especially social relations and reproduction, of little-known birds of the Continental Neotropics including Trinidad and Tobago.

### California Desert Research Legacy Fund

The California Desert Research Fund supports graduate student research that contributes to the understanding and conservation of desert parks, wildernesses, and other ecologically significant open spaces in the California Desert in San Bernardino, Riverside, Inyo, and Imperial Counties. Grants ranging from \$1,000-\$4,000 and are available for scientific research conducted by graduate students in wildlands of the California Desert, especially within wilderness areas and wilderness study areas. Application deadlines March and October.

### California Native Plant Society

The Educational Grants Committee administers the Educational Grants Program. Four types of grants are available including conservation, elimination of exotics, and evolutionary botany. All grant proposals must be postmarked by September 30th each year.

EECB Small Grants Program (contact EECB director or secretary)

EECB usually offers a small grant competition in January/February each year, intended as seed money for research needs and travel to scientific meetings. Several grants up to \$1,000 are generally awarded. This program may not be offered depending on budgetary restrictions.

### Entomological Society of America

Offers numerous fellowships and grants for various aspects of entomological research; see website for full list.

### EPA STAR FellowshipEPA

EPA's STAR graduate fellowship program supports masters and doctoral candidates in environmental studies. Students can pursue degrees in traditionally recognized environmental disciplines as well as other fields such as social anthropology, urban and regional planning, and decision sciences. The actual amount awarded per year will vary depending on the amount of

tuition and fees and the number of months the stipend is needed. Benefits of an EPA STAR Fellowship include Up to \$37,000 per year of support, including \$12,000 per year for tuition and fees, \$20,000 per year in a monthly stipend, and an annual expense allowance of \$5,000. Masters level students can receive support for a maximum of two years. Doctoral students can be supported for a maximum of three years with funding available, under certain circumstances, over a period of four years.

### Explorer's Club

The Explorers Club offers a number of Grant Programs as part of its Public Service commitment. Applications are judged on the scientific and practical merits of the proposal, the competency of the applicant and the appropriateness of the budget.

### Ford Foundation

Through its Fellowship Programs, the Ford Foundation seeks to increase the diversity of the nation's college and university faculties by increasing their ethnic and racial diversity, to maximize the educational benefits of diversity, and to increase the number of professors who can and will use diversity as a resource for enriching the education of all students. Pre-doctoral fellowships are available.

### Graduate Student Association GSA Awards

Each year in April, the GSA Awards Committee gives over \$40,000 in the form of scholarships, grants, and prizes to graduate students. EECB students often enter into the research grant competition (up to \$2,500) and poster, paper, and presentation competitions (\$300 – \$650).

### Mazamas

The Mazamas are dedicated to the exploration and preservation of mountain environments in the Pacific Northwest. Mazamas activities include gathering and disseminating scientific information concerning the natural features of mountains, forests, rivers, and lakes. Investigations of geologic features, biotic communities, and human endeavors pertaining to the enjoyment and safety of outdoor recreation are all relevant research topics. Most successful applicants are graduate students or experienced scientists performing field studies in the Pacific Northwest. Graduate students are encouraged to apply for the Graduate Student Grant which has a maximum award of \$1,500.

### Nevada Native Plant Society

The Nevada Native Plant Society (NNPS) Margaret Williams research grants program will annually award up to two grants of not over \$1,000 each. These grants are designed to facilitate basic botanical research and increase our understanding of Nevada's native and naturalized flora. The research should cover some aspect of our flora from single species to whole communities or ecosystems. Research can include, but is not limited to, disciplines such as

conservation, landscape analysis, ecology, biogeography, or taxonomy. Successful applicants will be required to discuss their research results with NNPS. This can be through an article for our newsletter or by giving a presentation at an evening NNPS meeting. Deadline early February.

### **NOAA NERRS Graduate Research Fellowship**

The NERRS Graduate Research Fellowship Program is one of the largest graduate programs supported by NOAA. Fellows conduct their research within a National Estuarine Research Reserve and gain hands-on experience by engaging with reserve staff and participating in their host reserve's research, education, stewardship and training programs. Fellows use reserves as living laboratories to address NERRS natural and social science priority issues based on the reserves' local coastal management needs. Fellows receive a stipend of \$20,000 per year. Fellowships may be funded for up to three years. Deadline is November 1 each year.

### **Northwest Scientific Association**

The Northwest Scientific Association awards grants of up to \$1,500 to support student research in the pure and applied sciences. Undergraduate students are encouraged to apply—may be a good resource for you or a student you are mentoring. Applicants must be student members of NWSA. Grant monies may only be used to support research travel, materials, and supplies for student research. Funding will only be offered for projects conducted in the Pacific Northwest. Deadline each February.

### **NSF Doctoral Dissertation Improvement Grant (DDIG)**

The National Science Foundation awards Doctoral Dissertation Improvement Grants in selected areas of the biological sciences. These grants provide partial support of doctoral dissertation research to improve the overall quality of research. Allowed are costs for doctoral candidates to participate in scientific meetings, to conduct research in specialized facilities or field settings, and to expand an existing body of dissertation research. Grants are typically awarded for periods up to 24 months and for amounts up to \$15,000. You are qualified to apply for a DDIG once you have advanced to doctoral candidacy. Applications are due each November.

### **NSF East Asia and Pacific Summer Institutes (EAPSI)**

EAPSI provides U.S. graduate students in science and engineering: 1) first-hand research experiences in Australia, China, Japan, South Korea, New Zealand, Singapore or Taiwan; 2) an introduction to the science, science policy, and scientific infrastructure of the respective location; and 3) an orientation to the society, culture and language. The primary goals of EAPSI are to introduce students to East Asia and Pacific science and engineering in the context of a research setting, and to help students initiate scientific relationships that will better enable future collaboration with foreign counterparts. All institutes, except Japan, last approximately eight weeks from June to August. Japan lasts approximately ten weeks from June to August.

### **NSF Graduate Research Fellowship Program**

The NSF Graduate Research Fellowship Program (GRFP) recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based masters and doctoral degrees at accredited United States institutions. Fellows benefit from a three-year annual stipend of \$30,000 along with a \$10,500 cost of education allowance for tuition and fees, opportunities for international research and professional development, and the freedom to conduct their own research at any accredited U.S. institution of graduate education they choose. You are only eligible to apply for this before or during your first two (2) years of graduate school, with some exceptions. Applications are due early November.

### **NPS Robert Lee / Joshua Tree NP Grad Student Research Grant**

Joshua Tree National Park has instituted a program to encourage independent field research by graduate students enrolled in accredited institutions. The program benefits the student researcher by providing an opportunity to demonstrate how their research can apply to land management issues. Research proposals should focus on some aspect of the natural or cultural resources of Joshua Tree National Park. Appropriate fields of study include, but are not limited to: botany, wildlife, desert ecology, archaeology, ethnography, paleontology, geology, soil science, museum science, resource management, and conservation. In addition, it provides park staff with a better understanding of the resources at Joshua Tree National Park. Thanks to The Lee Family Foundation, grants of up to \$4,000 are available to assist students with expenses. Deadline May.

### **Sigma Xi**

Grants range from a few hundred dollars to \$1,000. Designated funds from the National Academy of Sciences allow for grants of up to \$2,500 for astronomy or vision related research. Funds may be used to purchase non-standard laboratory equipment necessary to complete a research project or for travel expenses to a research site. Applications are due 15 March and 15 October, annually.

### **Smithsonian Institution**

Fellowships at the Smithsonian Institution provide students and scholars with opportunities to pursue independent research projects in association with members of the Smithsonian professional research staff. Graduate Student Fellowships allow students to conduct research for ten-week periods in association with Smithsonian research staff members. Predoctoral Fellowships allow students to conduct research for periods of three to twelve months. The Smithsonian Tropical Research Institute (STRI) maintains research facilities for marine and terrestrial research at various locations on the Isthmus of Panama. STRI short-term fellowships enable selected candidates to work in the tropics and explore research possibilities at STRI. The Ernst Mayr Fellowship is awarded 4 times yearly to outstanding short term fellowship candidates.

### **Smithsonian Ornithological Council**

BIRDNET is an exhaustive list of grants, awards, and prizes curated by the Ornithological Council consisting of many professional ornithological organizations.

### **Society for Integrative and Comparative Biology**

The Society for Integrative and Comparative Biology (SICB) offers grants-in-aid of research to support graduate student research. Up to \$1,000, applicants must be members of SICB. Deadline early November. Travel grants up to \$2,000 for travel to distant labs, museums, or field sites are also available.

### **Society for Northwestern Vertebrate Biology**

The Society for Northwestern Vertebrate Biology (SNVB) provides one scholarship of up to \$1000 annually to undergraduate or graduate students conducting vertebrate research within the geographic scope of the society: northwestern North America west of the Great Plains and north of the Mojave Desert. Scholarships are intended to support expenses associated with the proposed research project including but not limited to travel, equipment, and supplies.

### **Society for the Study of Amphibians and Reptiles**

Grants-in-aid of research up to \$500 are intended to provide financial support for deserving individuals or organizations involved in herpetological research, education, or conservation. The Metter awards between \$300-1,000 are to encourage students to pursue field research in herpetology and to facilitate field research in herpetology by providing funds for relevant expenses.

### **Society of Systematic Biologists**

The Society of Systematic Biologists gives awards to assist students in the initiation (first two years) of systematics projects and in the collection of preliminary data to pursue additional sources of support (e.g., Doctoral Dissertation Improvement Grants from the National Science Foundation) or to enhance dissertation research (e.g., by visiting additional field collection sites or museums). Applicants must be members of SSB. Awards range between \$1,200 – \$2000 and approximately seven to nine awards are made. Deadline late spring.

### **Valentine Eastern Sierra Reserve Grant**

Valentine Eastern Sierra Reserve grants fund students planning to conduct research at the Reserve. Students apply for projects carried out at either the Sierra Nevada Aquatic Research Laboratory or at Valentine Camp. Deadline January.

### **Welder Wildlife Fellowships**

The Rob and Bessie Welder Wildlife Foundation's graduate research fellowship program was initiated in 1956. The program is designed to promote the education of exceptionally qualified students and provide research information to manage wildlife populations. The scientific breadth of the program is suggested by the academic units of previous fellowship recipients, among them: animal behavior, biology, botany, conservation education, ecology, genetics, mammalogy, ornithology, parasitology, range science, veterinary pathology, and wildlife sciences.

### White Mountain Research Station

The White Mountain Research Station (WMRS) Graduate Student Mini-grant Program funds 10-20 thesis-related graduate student research projects each year, including both UC and non-UC students. Funds are typically granted to cover room, board and lab fees for staying at WMRS facilities, as well as local travel costs (air fare is not covered). This program is typically announced in December with an application deadline in early February. Limited funds will be made available to students or qualified investigators who wish to carry out baseline flora and fauna inventories or initiate long term studies along the White Mountain elevation gradient in conjunction with the GLORIA project.

### Whittel Forest and Wildlife Area / Little Valley Field Station

For more than 50 years, the University has owned and operated a large tract of land 20 mi SW of Reno in the Sierra Nevada, dedicated to the study of natural history. Summer Graduate Assistantships are available on a competitive basis for research conducted at Little Valley. For more information and applications, contact Dr. Stephen Vander Wall ([sv@unr.edu](mailto:sv@unr.edu)).

## 9. Health Insurance

All domestic degree seeking graduate students, who are enrolled in six or more credits (regardless of the course level) in a semester, will be automatically enrolled for the [University Sponsored Health Insurance](#)<sup>19</sup> for each term they are eligible (fall & spring/summer). Insurance coverage is a benefit covered by the TA or RA contract. If a student has other comparable coverage and would like to waive out of the student health insurance, it is the student's responsibility to complete the [University Online Waiver Form](#)<sup>20</sup> prior to the deadline. If approved, a health insurance waiver is good for the current academic year only. A new waiver must be submitted each academic year. All

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<sup>19</sup> <https://www.unr.edu/grad/health-insurance>

<sup>20</sup> <https://studentinsurance.usi.com/UNR/unr-grad>

international graduate students are required to carry student health insurance, and the cost will be automatically added to your student account. Any international graduate students with insurance questions should contact the [Office of International Students and Scholars \(OISS\)](#)<sup>21</sup>.

## 10. Leave of Absence

### Continuous Enrollment:

To maintain “good standing” all graduate students are required to enroll in a minimum of three (3) graduate credits each fall and spring semester until they graduate.

International students may be required to enroll in nine graduate credits each fall and spring semester depending on the requirements of their visa. All students holding assistantships (whether teaching or research assistantships) are required to enroll in a minimum of six (6) graduate credits each semester they hold the assistantship.

### Leave of Absence:

Students in good standing may request a leave of absence by completing a [Leave of Absence Form](#)<sup>22</sup> available on the Graduate School website during which time they are not required to maintain continuous registration. Usually, a leave of absence is approved for one or two semesters. The leave of absence request may be extended by the student filing an additional leave of absence form. Students applying for a leave of absence should not have any “incomplete” grades which could be changed to “F” and have a detrimental impact on their cumulative GPA. Requests for leave of absences must be received by the Graduate School no later than the last day of enrollment for the semester the leave is to begin.

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<sup>21</sup> <https://www.unr.edu/oiss>

<sup>22</sup> [https://www.unr.edu/Documents/graduate-school/leaveofabsencer\\_9.23.pdf](https://www.unr.edu/Documents/graduate-school/leaveofabsencer_9.23.pdf)

## Reinstatement:

When a student has been absent for one semester or more without an approved leave of absence, he or she may request reinstatement via the [Reinstatement to Graduate Standing Form](#)<sup>23</sup> (available on the Graduate School website). This form allows the program the option to recommend the student be re-admitted to their graduate program based on their previous admission OR require the student to re-apply for admission which would require students to submit a new application for admission and pay the application fee. The Notice of Reinstatement to Graduate Standing must be received by the Graduate School no later than the last day of enrollment for the semester the reinstatement is to begin.

## 11. Graduate Student Association

The [Graduate Student Association \(GSA\)](#)<sup>24</sup> represents all graduate students and promotes the welfare and interests of the graduate students at the University of Nevada, Reno. The GSA works closely with appropriate university administrative offices, including the Graduate School and Student Services and reports to the President of the University. The GSA government functions through the Council of Representatives, Executive Council and established committees.

## 12. Graduate School Forms

Please refer to the [Graduate Forms and Deadlines Website](#)<sup>25</sup> for a complete list of the most updated forms.

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<sup>23</sup> <https://www.unr.edu/Documents/graduate-school/Notice-of-Reinstatement-Graduate-Standing.pdf>

<sup>24</sup> <https://www.unr.edu/gsa/>

<sup>25</sup> <https://www.unr.edu/grad/forms-and-deadlines>