Doctor of Philosophy - Biological Sciences

Plan Description

The School of Life Sciences (SoLS) offers a Ph. D. program in Cell and Molecular Biology, Ecology and Evolutionary Biology, Integrative Physiology, Microbiology and Quantitative Biology and Bioinformatics. This degree is research intensive and is designed to prepare students for careers in academia, government, or industry. Students complete a minimum of 60 ~~**credit hours**~~ **credits** from a list of core and approved courses within their section. In addition, students are typically a Teaching Assistant (TA) for at least one semester. It is expected that students will first-author at least one peer-reviewed journal article. For more information about your program, including your graduate program handbook and learning outcomes please visit the Degree Directory.

Plan Admission Requirements

Application deadlines

Applications available on the UNLV Graduate College website.

Applications for fall admission that are completed by the posted deadline will be given priority for state-funded graduate assistantships. Admission is based on a combination of criteria that may differ from one year to another, however, most successful applicants have a minimum of a 3.0 undergraduate grade point average (junior and senior years). Students interested in enrolling in the Quantitative Biology and Bioinformatics Track (Subplan 5) must have taken two semester-long biology classes prior to admission. Decisions for fall applicants will be made by April 1 if not sooner.

Applications are not considered complete unless they contain:

A completed Graduate College Application with Official transcripts and three Letters of Recommendation.

A two-page personal statement describing why the applicant wishes to obtain a Ph.D. in biological sciences.

All domestic and international applicants must review and follow the Graduate College Admission and Registration Requirements.

Students are accepted into a degree program as described in the Graduate Catalog. The faculty and corresponding sub-disciplines and sub-plans within the described programs are subject to change at any time.

Plan Requirements

See Subplan Requirements below.

Subplan 1: Post-Bachelor's – Cellular and Molecular Biology Track

Subplan 2: Post-Bachelor's – Ecology and Evolutionary Biology Track
Subplan 3: Post-Bachelor's – Integrative Physiology Track
Subplan 4: Post-Bachelor's – Microbiology Track
Subplan 5: Post-Bachelor's – Quantitative Biology and Bioinformatics Track
Subplan 6: Post-Master's Track

Subplan 1 Requirements: Post-Bachelor's - Cellular and Molecular Biology Track

Total Credits Required: 60

Course Requirements

Core Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2

Required Courses – Credits: 9

Complete 9 credits from the following list of courses:

BIOL 607 Molecular Biology	3
BIOL 625 Genomics	
BIOL 645 Cell Physiology	3
CHEM 772 Nucleic Acid Chemistry	3

Didactic Courses – Credits: 9

Complete 9 credits of advisor-approved didactic courses.

Seminar Courses – Credits: 6

Complete 6 credits from the following course:

BIOL 793A Advanced Topics in Life Sciences: Ecology and Evolution	1 - 2
BIOL 793B Advanced Topics in Life Sciences: Organismal Physiology	1 - 2
BIOL 793C Advanced Topics in Life Sciences: Cell and Molecular Biology	1 - 2

BIOL 793D Advanced Topics in Life Sciences: Microbiology	1-2
BIOL 796 Graduate Seminar	1 – 2

Elective Courses – Credits: 23

Complete 23 credits of advisor-approved independent study, colloquium, seminar, or didactic courses.

Dissertation – Credits: 12

BIOL 799 Dissertation	3 – 6

Degree Requirements

Complete a minimum of 60 ~~**credit hours**~~ **credits** beyond the undergraduate degree. At least 24 of these ~~**hours**~~ **credits** (excluding dissertation) must be completed at the 700-level. Dissertation credits may be repeated for credit as needed, but only 12 credits may be counted towards the 60 ~~**credit hour**~~ **credits** minimum graduation requirement. Students must complete the specific didactic course work required. See SoLS's Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements. Students working on their dissertation must register for at least 3 credits each semester (excluding summer) until the Dissertation is completed and given final approval.

Graduation Requirements

See Plan Graduation Requirements below.

Subplan 2 Requirements: Post-Bachelor's - Ecology and Evolutionary Biology Track

Total Credits Required: 60

Course Requirements

Core Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2

Didactic Courses – Credits: 18

Complete 18 credits of advisor-approved didactic courses.

Seminar Courses – Credits: 6

Complete 6 credits from any combination of the following courses:

BIOL 793A Advanced Topics in Life Sciences: Ecology and Evolution	1 - 2
BIOL 793B Advanced Topics in Life Sciences: Organismal Physiology	1 - 2
BIOL 793C Advanced Topics in Life Sciences: Cell and Molecular Biology	1 - 2
BIOL 793D Advanced Topics in Life Sciences: Microbiology	1-2
BIOL 796 Graduate Seminar	1 – 2
BIOL 714 Topics in Population and Evolutionary Genetics	**3**
BIOL 781 Topics in Population and Evolutionary Ecology	**3**
BIOL 783 Topics in Community and Ecosystem Ecology	**3**
BIOL 784 Topics in Applied Ecology and Conservation Biology	**3**

Elective Courses – Credits: 23

Complete 23 credits of advisor-approved independent study, colloquium, seminar, or didactic courses.

Dissertation – Credits: 12

BIOL 799 Dissertation	3 – 6

Degree Requirements

Complete a minimum of 60 ~~**credit hours**~~ **credits** beyond the undergraduate degree. At least 24 of these ~~**hours**~~ **credits** (excluding dissertation) must be completed at the 700-level. Dissertation credits may be repeated for credit as needed, but only 12 credits may be counted towards the 60 ~~**credit hour**~~ **credits** minimum graduation requirement. Students must complete the specific didactic course work required. See SoLS's Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements. Students working on their dissertation must register for at least 3 credits each semester (excluding summer) until the Dissertation is completed and given final approval.

Graduation Requirements

See Plan Graduation Requirements below.

Subplan 3 Requirements: Post-Bachelor's - Integrative Physiology Track

Total Credits Required: 60

Course Requirements

Core Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2

Didactic Courses – Credits: 18

Complete 18 credits of advisor-approved didactic courses.

Seminar Courses – Credits: 6

Complete 6 credits from the following course:

BIOL 793A Advanced Topics in Life Sciences: Ecology and Evolution	1 - 2
BIOL 793B Advanced Topics in Life Sciences: Organismal Physiology	1 - 2
BIOL 793C Advanced Topics in Life Sciences: Cell and Molecular Biology	1 - 2
BIOL 793D Advanced Topics in Life Sciences: Microbiology	1-2
BIOL 796 Graduate Seminar	1 – 2

Elective Courses – Credits: 23

Complete 23 credits of advisor-approved independent study, colloquium, seminar, or didactic courses.

Dissertation – Credits: 12

BIOL 799 Dissertation	3 – 6

Degree Requirements

Complete a minimum of 60 ~~**credit hours**~~ **credits** beyond the undergraduate degree. At least 24 of these ~~**hours**~~ **credits** (excluding dissertation) must be completed at the 700-level. Dissertation credits may be repeated for credit as needed, but only 12 credits may be counted towards the 60 ~~**credit hour**~~ **credits** minimum graduation requirement. Students must complete the specific didactic course work required. See SoLS's Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements. Students working on their dissertation must register for at least 3 credits each semester (excluding summer) until the Dissertation is completed and given final approval.

Graduation Requirements

See Plan Graduation Requirements below.

Subplan 4 Requirements: Post-Bachelor's - Microbiology Track

Total Credits Required: 60

Course Requirements

Core Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2

Required Courses – Credits: 3

Complete 3 credits from the following list of courses:

BIOL 609 Virology	
BIOL 618 Microbial Ecology	
BIOL 653 Immunology	3
BIOL 664 Bacterial Pathogenesis	3
BIOL 660 Microbial Physiology	3
BIOL 685 Microbial Genetics	4

Didactic Courses – Credits: 15

Complete 15 credits of advisor-approved didactic courses.

Seminar Courses – Credits: 6

Complete 6 credits from any combination of the following courses:

BIOL 793A Advanced Topics in Life Sciences: Ecology and Evolution	1 - 2
BIOL 793B Advanced Topics in Life Sciences: Organismal Physiology	1 - 2
BIOL 793C Advanced Topics in Life Sciences: Cell and Molecular Biology	1 - 2
BIOL 793D Advanced Topics in Life Sciences: Microbiology	1-2
BIOL 796 Graduate Seminar	1 – 2

Elective Courses – Credits: 23

Complete 23 credits of advisor-approved independent study, colloquium, seminar, or didactic courses.

Dissertation – Credits: 12

BIOL 799 Dissertation	3 – 6

Degree Requirements

Complete a minimum of 60 ~~**credit hours**~~ **credits** beyond the undergraduate degree. At least 24 of these ~~**hours**~~ **credits** (excluding dissertation) must be completed at the 700-level. Dissertation credits may be repeated for credit as needed, but only 12 credits may be counted towards the 60 ~~**credit hour**~~ **credits** minimum graduation requirement. Students must complete the specific didactic course work required. See SoLS's Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements. Students working on their dissertation must register for at least 3 credits each semester (excluding summer) until the Dissertation is completed and given final approval.

Graduation Requirements

See Plan Graduation Requirements below.

Subplan 5 Requirements: Post Bachelor's - Quantitative Biology and Bioinformatics Track

Total Credits Required: 60

Course requirements

Core Course - Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2

Required Courses - Credits: 6

Complete 6 credits from the following list of courses:

BIOL 611 Molecular Evolution	3
BIOL 616 Bioinformatics	3
BIOL 625 Genomics	
BIOL 636 Biometry	3
BIOL 680 Introduction to Biological Modeling	3
BIOL 714 Topics in Population and Evolutionary Genetics	3

Didactic courses - Credits: 12

Complete 12 credits of advisor-approved didactic courses.

Seminar Courses – Credits: 6

Complete 6 credits from the following course:

BIOL 793A Advanced Topics in Life Sciences: Ecology and Evolution	1 - 2
BIOL 793B Advanced Topics in Life Sciences: Organismal Physiology	1 - 2
BIOL 793C Advanced Topics in Life Sciences: Cell and Molecular Biology	1 - 2
BIOL 793D Advanced Topics in Life Sciences: Microbiology	1-2
BIOL 796 Graduate Seminar	1 – 2
BIOL 714 Topics in Population and Evolutionary Genetics	**3**

BIOL 781 Topics in Population and Evolutionary Ecology	**3**
BIOL 783 Topics in Community and Ecosystem Ecology	**3**
BIOL 784 Topics in Applied Ecology and Conservation Biology	**3**

Elective Courses – Credits: 23

Complete 23 credits of advisor-approved independent study, colloquium, seminar, core, or didactic courses.

Dissertation – Credits: 12

BIOL 799 Dissertation	3 – 6

Degree Requirements

Complete a minimum of 60 ~~**credit hours**~~ **credits** beyond the undergraduate degree. At least 24 of these ~~**hours**~~ **credits** (excluding dissertation) must be completed at the 700-level. Dissertation credits may be repeated for credit as needed, but only 12 credits may be counted towards the 60 ~~**credit hour**~~ **credits** minimum graduation requirement. Students must complete the specific didactic course work required. See SoLS's Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements. Students working on their dissertation must register for at least 3 credits each semester (excluding summer) until the Dissertation is completed and given final approval.

Graduation requirements

See Plan Graduation Requirements below.

Subplan 6 Requirements: Post-Master's Track

Total Credits Required: 30

Course Requirements

Core Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2

Seminar Courses – Credits: 6

Complete 6 credits from the following courses:

BIOL 793A Advanced Topics in Life Sciences: Ecology and Evolution	1 - 2
BIOL 793B Advanced Topics in Life Sciences: Organismal Physiology	1 - 2
BIOL 793C Advanced Topics in Life Sciences: Cell and Molecular Biology	1 - 2
BIOL 793D Advanced Topics in Life Sciences: Microbiology	1-2
BIOL 796 Graduate Seminar	1 – 2
BIOL 714 Topics in Population and Evolutionary Genetics	**3**
BIOL 781 Topics in Population and Evolutionary Ecology	**3**
BIOL 783 Topics in Community and Ecosystem Ecology	**3**
BIOL 784 Topics in Applied Ecology and Conservation Biology	**3**

Didactic Courses – Credits: 11

Complete 11 credits of advisor-approved didactic courses.

Dissertation – Credits: 12

BIOL 799 Dissertation	3 – 6

Degree Requirements

Complete a minimum of 30 ~~**credit hours**~~ **credits** when entering the program with a master's degree from another institution. At least 9 of these ~~**hours**~~ **credits** must be completed at the 700-level. Dissertation credits may be repeated for credit as needed, but only 12 credits may be counted towards the 30 ~~**credit hour**~~ **credits** minimum graduation requirement. Students must complete the didactic course work required by the Section (e. g., Ecology and Evolutionary Biology, Cell and Molecular Biology, Microbiology, and Integrative Physiology) to which they belong. See SoLS's Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements. Students working on their dissertation must register for at least three (3) credits each semester (excluding summer) until the Dissertation is completed and given final approval.

Graduation Requirements

See Plan Graduation Requirements below.

Plan Graduation Requirements

The student must submit all required forms to the Graduate College ~~**and then**~~ **as well as** apply for graduation up to two semesters prior to completing ~~**his/her**~~ **their** degree requirements. The student must submit and successfully defend ~~**his/her**~~ **their** dissertation by the posted deadline. The defense must be advertised and is open to the public. After the dissertation defense, the student must electronically submit a properly formatted pdf copy of their dissertation to the Graduate College for format check. Once the dissertation format has been approved by the Graduate College, the student will submit the approved electronic version to ProQuest. Deadlines for dissertation defenses, format check submissions, and the final ProQuest submission can be found here.