

# Master of Science - Biological Sciences

## Plan Description

The School of Life Sciences offers an M.S. program with concentrations in Cell and Molecular Biology, Ecology and Evolutionary Biology, Integrative Physiology, Microbiology, and Quantitative Biology and Bioinformatics. This degree is less research-intensive than the Ph.D. and is designed to prepare students for a diverse set of science-related careers.

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) and score in the upper 50th percentile on all sections of the GRE. Decisions for fall applicants will be made by April 1 if not sooner. Please note that the M. S. and Ph. D. degrees from the School of Life Sciences (SoLS) are research degrees. Applicants must look through the faculty web pages to identify one or more potential mentors as part of their application. They are required to contact these faculty directly regarding the possibility of joining their lab. Applications are not considered complete unless they contain: A completed ~~SoLS application form. A completed~~ Graduate College Application with Official transcripts and two Letters of Recommendation. Official GRE score report; subject GREs are not required. A two-page personal statement describing why the applicant wishes to obtain the MS degree. 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: Cellular and Molecular Biology Track
- Subplan 2: Ecology and Evolutionary Biology Track
- Subplan 3: Integrative Physiology Track
- Subplan 4: Microbiology Track
- Subplan 5: Quantitative Biology and Bioinformatics

## Subplan 1 Requirements: Cellular and Molecular Biology Track

Total Credits Required: 30

## Course Requirements

### Required Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2
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### Core Courses – Credits: 6

Complete 6 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 Course – Credits: 3

Complete 3 credits of an advisor-approved didactic course.

### Seminar Courses – Credits: 4

Complete 4 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: 10

Complete 10 credits of advisor-approved independent study, colloquium, seminar, core, or didactic courses.

## Thesis – Credits: 6

BIOL 797 Thesis

3 – 6

## Degree Requirements

See Plan Degree Requirements below.

## Graduation Requirements

See Plan Graduation Requirements below.

## Subplan 2 Requirements: Ecology and Evolutionary Biology Track

Total Credits Required: 30

## Course Requirements

### Required Course – Credits: 1

BIOL 701 Ethics in Scientific Research

1 - 2

### Didactic Courses – Credits: 9

Complete 9 credits of advisor-approved didactic courses.

### Seminar Courses – Credits: 4

Complete 4 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: 10

Complete 10 credits advisor-approved independent study, colloquium, seminar, or didactic courses.

### Thesis – Credits: 6

BIOL 797 Thesis	3 – 6
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### Degree Requirements

See Plan Degree Requirements below.

### Graduation Requirements

See Plan Graduation Requirements below.

## Subplan 3 Requirements: Integrative Physiology Track

Total Credits Required: 30

### Course Requirements

#### Required Course – Credits: 1

BIOL 701 Ethics in Scientific Research	1 - 2
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#### Didactic Courses – Credits: 12

Complete 12 credits of advisor-approved didactic courses.

## Seminar Courses – Credits: 4

Complete 4 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: 7

Complete 7 credits of advisor-approved independent study, colloquium, seminar, or didactic courses.

## Thesis – Credits: 6

BIOL 797 Thesis	3 – 6
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## Degree Requirements

See Plan Degree Requirements below.

## Graduation Requirements

See Plan Graduation Requirements below.

## Subplan 4 Requirements: Microbiology Track

Total Credits Required: 30

## Course Requirements

## Required Course – Credits: 1

BIOL 701 Ethics in Scientific Research

1 - 2

## Core Courses – Credits: 3

Complete one of following courses:

BIOL 609 Virology

BIOL 618 Microbial Ecology

BIOL 653 Immunology

BIOL 660 Microbial Physiology

BIOL 664 Bacterial Pathogenesis

BIOL 685 Microbial Genetics

3

3

3

4

## Didactic Courses – Credits: 6

Complete 6 credits of advisor-approved didactic courses.

## Seminar Courses – Credits: 4

Complete 4 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: 10

Complete 10 credits of independent study, colloquium, seminar, core, or didactic courses.

## Thesis – Credits: 6

BIOL 797 Thesis

3 - 6

## Degree Requirements

See Plan Degree Requirements below.

## Graduation Requirements

See Plan Graduation Requirements below.

## Subplan 5 Requirements: Quantitative Biology and Bioinformatics Track

Total Credits Required: 30

## Course Requirements

### Required Course – Credits: 1

BIOL 701 Ethics in Scientific Research

1 - 2

### Core Courses – Credits: 6

Complete two of the following courses:

BIOL 611 Molecular Evolution	3
BIOL 616 Bioinformatics	3
BIOL 625 Genomics	
BIOL 628 Biometry	3
BIOL 680 Introduction to Biological Modeling	3
BIOL 714 Population Genetics	3

### Didactic Courses - Credits: 3

Complete 3 credits of advisor-approved didactic courses.

### Seminar Courses - Credits: 4

Complete 4 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: 10

Complete 10 credits of independent study, colloquium, seminar, core, or didactic courses

### Thesis – Credits: 6

BIOL 797 Thesis	3 - 6
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### Degree Requirements

See Plan Degree Requirements below.

### Graduation Requirements

See Plan Graduation Requirements below.

### Plan Degree Requirements

Complete a minimum of 30 credit hours beyond the undergraduate degree. At least 18 of these hours must be completed at the 700-level.

Students may request a maximum of 15 graduate credits taken at UNLV prior to admission into SoLS's Graduate Program to be counted towards the 30 credit hour minimum graduation requirement, provided that those credits were not used to fulfill undergraduate requirements and that a minimum grade of "B" (3.00) was earned in each course.

At least 50 percent of the total credits required to complete the master's degree must be earned at UNLV after admission into the Graduate Program.

Students should register for at least nine (9) credits each semester if they are receiving financial support from SoLS; otherwise they must register for at least six (6) credits each semester.



Students working on their thesis must register for at least three (3) credits each semester (excluding summer) until the Master's Thesis is completed and given final approval.

## Plan Graduation Requirements

The student must submit all required forms to the Graduate College and then apply for graduation up to two semesters prior to completing his/her degree requirements.

The student must submit and successfully defend his/her thesis by the posted deadline. The defense must be advertised and is open to the public.

After the thesis defense, the student must electronically submit a properly formatted pdf copy of their thesis to the Graduate College for format check. Once the thesis format has been approved by the Graduate College, the student will submit the approved electronic version to ProQuest. Deadlines for thesis defenses, format check submissions, and the final ProQuest submission can be found [here](#).