

## NEVADA STATE COLLEGE

## SCHOOL OF LIBERAL ARTS &amp; SCIENCES

## BIOLOGY, B.S.

## COLLEGE CORE CURRICULUM (33-44 CREDITS)

Unless otherwise noted, please refer to the NSC catalog for full list of core requirements. Note: A single course cannot be used to fulfill both a major and core curriculum requirement. Additionally, a single course cannot fulfill more than one core requirement.

 ENGLISH 3-8 CREDITS

NSC students can be placed into English courses by submitting ACT or SAT scores, or by completing the Directed Self Placement questionnaire. Students who complete Composition II will satisfy the Core Curriculum requirement. Typically, students take Composition I during their first semester at the college and Composition II during the second semester.

- English Composition I (ENG 100, 101, or 116) 3-5  
 English Composition II 3

 STUDY AND TECHNOLOGY SKILLS 0-3 CREDITS

Transfer students with 30 or more transferrable college credits or students who complete the Nepantla Summer Bridge Program with an average GPA of 3.0 or greater will be able to waive the Study and Technology Skills Core Requirement.

 MATHEMATICS 4 CREDITS

NSC students can directly self-place into Mathematics, however it is recommended that students place according to their ACT/SAT scores or complete EdReady to better guide their placement. All degree programs require MATH 120 or higher to fulfill the Mathematics Core Curriculum (please see your degree outline for specific course requirements).

The following is required as a Biology major within the Core Mathematics requirement:

- MATH 181\*\* | Calculus I 4

 NATURAL SCIENCES 8 CREDITS

The following is required as a Biology major within the Core Natural Science requirement:

- CHEM 121\*\* † | General Chemistry I 4  
 CHEM 122\*\* † | General Chemistry II 4

 SOCIAL SCIENCES 3 CREDITS FINE ARTS 3 CREDITS HUMANITIES 6 CREDITS

- Humanities Core 3  
 Humanities Core 3

 CONSTITUTION 3-6 CREDITS

Completion of US and NV Constitutions required. Complete either one US Constitution course and one NV Constitution course or complete one course that fulfills both US and NV Constitutions (CH 203 or PSC 101).

- Nevada Constitution 0-3  
 United States Constitution 0-3

 CULTURAL DIVERSITY 3 CREDITS

For a full breakdown of requirements for the Biology major, please refer to accompanying "Major Degree Checklist"

## MAJOR REQUIREMENTS (59 CREDITS)

## ADDITIONAL GENERAL ELECTIVES (17-28 CREDITS)

## TOTAL CREDITS FOR DEGREE (120 CREDITS)

Check box when requirement is satisfied

\*\*Indicates a prerequisite and/or corequisite is required. Please refer to the catalog or speak to an advisor about these requirements.

† Indicates a lab is required.

This sample degree checklist is a planning tool intended for the current academic year. Each student's situation is unique and your degree may differ from the sample presented here. It is recommended that current NS students review the Academic Requirements report in their Student Center to monitor progress toward their degree and graduation requirements. It is also strongly recommended that you meet regularly with your Academic Advisor to verify degree progression.



SCAN HERE FOR MORE  
INFORMATION ON THE COLLEGE  
CORE CURRICULUM INCLUDING A  
FULL LIST OF ELIGIBLE COURSES

## NEVADA STATE COLLEGE

## SCHOOL OF LIBERAL ARTS &amp; SCIENCES

## BIOLOGY, B.S.

All courses used to fulfill major requirements must be completed with a minimum C-. Grades below a C- carry no credit towards major requirements.

## MAJOR REQUIREMENTS (59 CREDITS)

## BIOLOGY CORE COURSES

21 CREDITS

- |                          |                     |                                     |   |
|--------------------------|---------------------|-------------------------------------|---|
| <input type="checkbox"/> | <b>BIOL 190** †</b> | Intro to Cell and Molecular Biology | 4 |
| <input type="checkbox"/> | <b>BIOL 191 †</b>   | Intro to Organismal Biology         | 4 |
| <input type="checkbox"/> | <b>BIOL 209**</b>   | Cell Processes                      | 3 |
|                          | <b>BIOL 220**</b>   | Intro to Ecological Principles      | 3 |
| <input type="checkbox"/> | <b>OR</b>           |                                     |   |
|                          | <b>ENV 220**</b>    | Intro to Ecological Principles      | 3 |
| <input type="checkbox"/> | <b>BIOL 300** †</b> | Principles of Genetics              | 4 |
| <input type="checkbox"/> | <b>BIOL 415**</b>   | Evolution                           | 3 |

## RELATED MATH/SCIENCE REQUIREMENTS

22 CREDITS

- |                          |                     |  |   |
|--------------------------|---------------------|--|---|
| <input type="checkbox"/> | <b>CHEM 241** †</b> | Organic Chemistry I                        | 4 |
| <input type="checkbox"/> | <b>CHEM 242** †</b> | Organic Chemistry II                       | 4 |
| <input type="checkbox"/> | <b>CHEM 474**</b>   | Biochemistry I                             | 3 |
| <input type="checkbox"/> | <b>PHYS 151** †</b> | General Physics I                          | 4 |
| <input type="checkbox"/> | <b>PHYS 152** †</b> | General Physics II                         | 4 |
| <input type="checkbox"/> | <b>STAT 391**</b>   | Applied Statistics for Biological Sciences | 3 |

## UPPER DIVISION BIOLOGY ELECTIVES

16 CREDITS

Students may choose from any of the electives listed below, or may complete the classes specifically required for one of the three optional 16-credit concentrations (Cellular and Molecular Biology; Physiology; Ecology and Evolution). Students should discuss the best option with their advisors.

Students must choose from the following courses (see catalog for prerequisites). At least one elective must be a 4-credit course that has a lab/field experience component

- |                          |                     |                                   |   |
|--------------------------|---------------------|-----------------------------------|---|
| <input type="checkbox"/> | <b>BIOL 305**</b>   | Intro to Conservation Biology     | 3 |
| <input type="checkbox"/> | <b>BIOL 306</b>     | Introduction to Scientific Ethics | 1 |
| <input type="checkbox"/> | <b>BIOL 319** †</b> | Vertebrate Biology                | 4 |
| <input type="checkbox"/> | <b>BIOL 321**</b>   | Marine Biology                    | 3 |
| <input type="checkbox"/> | <b>BIOL 330** †</b> | Plant Biology                     | 3 |
| <input type="checkbox"/> | <b>BIOL 340** †</b> | Urban Agriculture                 | 4 |
| <input type="checkbox"/> | <b>BIOL 350**</b>   | Clinical Epidemiology             | 3 |
| <input type="checkbox"/> | <b>BIOL 351** †</b> | Microbiology                      | 4 |
| <input type="checkbox"/> | <b>BIOL 405**</b>   | Molecular Biology                 | 3 |

- |                          |                     |  |   |
|--------------------------|---------------------|--|---|
| <input type="checkbox"/> | <b>BIOL 405L**</b>  | Molecular and Cell Biology Techniques                  | 1 |
| <input type="checkbox"/> | <b>BIOL 408**</b>   | Bioremediation   | 3 |
| <input type="checkbox"/> | <b>BIOL 409**</b>   | Virology   | 3 |
| <input type="checkbox"/> | <b>BIOL 414**</b>   | Endocrinology  | 3 |
| <input type="checkbox"/> | <b>BIOL 416**</b>   | Bioinformatics   | 3 |
| <input type="checkbox"/> | <b>BIOL 419**</b>   | Tropical Ecology                                       | 3 |
| <input type="checkbox"/> | <b>BIOL 428**</b>   | Medical Gross Anatomy                                  | 4 |
| <input type="checkbox"/> | <b>BIOL 433** †</b> | Ornithology  | 4 |
| <input type="checkbox"/> | <b>BIOL 437**</b>   | Entomology   | 4 |
| <input type="checkbox"/> | <b>BIOL 440** †</b> | Mammalian Physiology                                   | 3 |
| <input type="checkbox"/> | <b>BIOL 441**</b>   | Field Ecology  | 4 |
| <input type="checkbox"/> | <b>BIOL 447**</b>   | Comparative Animal Physiology                          | 4 |
| <input type="checkbox"/> | <b>BIOL 448**</b>   | Mammalian Physiology - Laboratory                      | 1 |
| <input type="checkbox"/> | <b>BIOL 450**</b>   | Special Topics   | 3 |
| <input type="checkbox"/> | <b>BIOL 450L**</b>  | Special Topics Lab                                     | 1 |
| <input type="checkbox"/> | <b>BIOL 453**</b>   | Immunology   | 3 |
| <input type="checkbox"/> | <b>BIOL 457** †</b> | Molecular and Cellular Immunology                      | 4 |
| <input type="checkbox"/> | <b>BIOL 460**</b>   | Microbial Physiology                                   | 3 |
| <input type="checkbox"/> | <b>BIOL 461**</b>   | Global Health  | 4 |
| <input type="checkbox"/> | <b>BIOL 462**</b>   | Microbial Ecology                                      | 3 |
| <input type="checkbox"/> | <b>BIOL 470**</b>   | Topics in Applied Microbiology                         | 3 |
| <input type="checkbox"/> | <b>BIOL 472** †</b> | Limnology  | 4 |
| <input type="checkbox"/> | <b>BIOL 473**</b>   | Advanced Topics in Cell and Molecular Biology          | 3 |
| <input type="checkbox"/> | <b>BIOL 474**</b>   | History & Evolution of Medicine and Medical Procedures | 4 |
| <input type="checkbox"/> | <b>BIOL 475**</b>   | Neurobiology   | 3 |
| <input type="checkbox"/> | <b>BIOL 493**</b>   | Undergraduate Seminar                                  | 1 |
| <input type="checkbox"/> | <b>BIOL 494**</b>   | Biology Colloquium                                     | 1 |
| <input type="checkbox"/> | <b>BIOL 497**</b>   | Senior Thesis  | 3 |
| <input type="checkbox"/> | <b>CHEM 456**</b>   | Medical Biochemistry                                   | 3 |
| <input type="checkbox"/> | <b>CHEM 472**</b>   | Biochemistry Laboratory                                | 2 |
| <input type="checkbox"/> | <b>CHEM 475**</b>   | Biochemistry II  | 3 |

## TOTAL CREDITS FOR DEGREE (120 CREDITS)

Check box when requirement is satisfied

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INFORMATION INCLUDING  
COURSE DESCRIPTIONS AND  
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## NEVADA STATE COLLEGE

## SCHOOL OF LIBERAL ARTS &amp; SCIENCES

## BIOLOGY (Cell and Molecular Concentration), B.S.

## OPTIONAL BIOLOGY CONCENTRATIONS

Concentrations are optional for the biology major. If students complete one of the three biology concentrations options (physiology, cellular & molecular biology, evolution & ecology), the courses will count towards the 16 upper division biology electives credits required for the degree.

At least one elective must be a 4-credit course that has a lab/field experience component.

## CONCENTRATION CONCENTRATION IN CELL AND MOLECULAR BIOLOGY

- |                          |                   |                   |   |
|--------------------------|-------------------|-------------------|---|
| <input type="checkbox"/> | <b>BIOL 405**</b> | Molecular Biology | 3 |
| <input type="checkbox"/> | <b>BIOL 453**</b> | Immunology        | 3 |

Please complete 10 additional credits of the following:

- |                          |                     |  |   |
|--------------------------|---------------------|--|---|
| <input type="checkbox"/> | <b>BIOL 306**</b>   | Intro to Scientific Ethics                       | 1 |
| <input type="checkbox"/> | <b>BIOL 330** †</b> | Plant Biology                                    | 3 |
| <input type="checkbox"/> | <b>BIOL 351** †</b> | Microbiology                                     | 4 |
| <input type="checkbox"/> | <b>BIOL 405L**</b>  | Molecular and Cell Biology Techniques            | 1 |
| <input type="checkbox"/> | <b>BIOL 409**</b>   | Virology   | 3 |
| <input type="checkbox"/> | <b>BIOL 414**</b>   | Endocrinology                                    | 3 |
| <input type="checkbox"/> | <b>BIOL 416**</b>   | Bioinformatics                                   | 3 |
| <input type="checkbox"/> | <b>BIOL 437**</b>   | Entomology                                       | 4 |
| <input type="checkbox"/> | <b>BIOL 440** †</b> | Mammalian Physiology                             | 3 |
| <input type="checkbox"/> | <b>BIOL 448**</b>   | Mammalian Physiology - Laboratory                | 1 |
| <input type="checkbox"/> | <b>BIOL 457** †</b> | Molecular and Cellular Immunology                | 4 |
| <input type="checkbox"/> | <b>BIOL 460**</b>   | Microbial Physiology                             | 3 |
| <input type="checkbox"/> | <b>BIOL 470**</b>   | Topics in Applied Microbiology                   | 3 |
| <input type="checkbox"/> | <b>BIOL 473**</b>   | Advanced Topics in Cell and Molecular<br>Biology | 3 |
| <input type="checkbox"/> | <b>BIOL 475**</b>   | Neurobiology                                     | 3 |
| <input type="checkbox"/> | <b>BIOL 493**</b>   | Undergraduate Seminar                            | 1 |
| <input type="checkbox"/> | <b>BIOL 494**</b>   | Biology Colloquium                               | 1 |
| <input type="checkbox"/> | <b>BIOL 497**</b>   | Senior Thesis                                    | 3 |
| <input type="checkbox"/> | <b>CHEM 306**</b>   | Intro to Scientific Ethics                       | 1 |
| <input type="checkbox"/> | <b>CHEM 380**</b>   | Medicinal Chemistry                              | 3 |
| <input type="checkbox"/> | <b>CHEM 456**</b>   | Medical Biochemistry                             | 3 |
| <input type="checkbox"/> | <b>CHEM 472**</b>   | Biochemistry Laboratory                          | 2 |
| <input type="checkbox"/> | <b>CHEM 475**</b>   | Biochemistry II                                  | 3 |

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