Major in Biological Sciences

**Bachelor of Science**

**Emphasis in Evolution, Ecology & Organismal Biology (EEOB)**

A complete 8-semester degree plan is available at https://www.astate.edu/info/academics/degrees/

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| University Requirements:  |
| See University General Requirements for Baccalaureate degrees (p. 47)  |
| **First Year Making Connections Course:**  | Sem. Hrs.  |
| BIO 1013, Making Connections - Biology  | **3**  |
| **General Education Requirements:**  | Sem. Hrs.  |
| See General Education Curriculum for Baccalaureate degrees (p. 84) **Students with this major must take the following:** *MATH 2194 Survey of Calculus* ***OR*** *MATH 2204, Calculus I* *CHEM 1013* ***AND*** *1011, General Chemistry I and Laboratory* *BIO 1503* ***AND*** *1501, Biology of Plants and Laboratory* *COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)*  | **36**  |
| **Language Requirement:**  |  |
| *A student must complete the foreign language requirements before graduating as a Biological Sciences Major. (Refer to Department of Biological Sciences Foreign Language Requirement, p. 410).*  |
| **Major Requirements:**  | Sem. Hrs.  |
| BIO 1303 **AND** 1301, Biology of Animals and Laboratory  | 4  |
| BIO 2013 **AND** 2011, Biology of the Cell and Laboratory  | 4  |
| BIO 3013 **AND** 3011, Genetics and Laboratory  | 4  |
| BIO 3023, Principles of Ecology  | 3  |
| BIO 4083, Evolution | 3 |
| BIO 4021, Biological Seminar  | 1  |
| CHEM 1023 **AND** 1021, General Chemistry II and Laboratory  | 4  |
| CHEM 3103 **AND** 3101, Organic Chemistry I and Laboratory  | 4  |
| CHEM 3113 **AND** 3111, Organic Chemistry II and Laboratory  | 4  |
| PHYS 2054, General Physics I  | 4  |
| PHYS 2064, General Physics II  | 4  |
| Sub-total  | 39  |
| **Biology Choice Requirements (Choose among the courses in thematic categories) 15-19 hrs:**  | 15-19  |
| Physiology (Choose 1 of the following) | Sem. Hrs. |
| BIO 4443 **AND** 4441, Comparative Animal Physiology and Laboratory **OR**BIO 4513, Plant Physiology | 3-4  |
| Microorganisms and microscopy (Choose 1 of the following) | Sem. Hrs. |
| BIO 3542 AND 3541, Plant Pathology and Laboratory OR BIO 4011 **AND** 4012, Microtechnique and Laboratory **OR**BIO 4104, Microbiology ORBIO 4542 AND 4541, Mycology and Laboratory OR BIO 4552 AND 4551, Medical Mycology and Laboratory | 3-4 |
| Statistics (Choose 1 of the following) | Sem. Hrs. |
| BIO 4043, Biometry ORSTAT 3233, Applied Statistics I | 3 |
| Cell and Molecular Biology (Choose 1 of the following) | Sem. Hrs. |
| BIO 4133 AND 4131, Cell Biology and Laboratory ORBIO 4173, Molecular Biology | 3-4 |
| Taxon-focused Electives (Choose 1 of the following) | Sem. Hrs. |
| BIO 3303 AND 3301, General Entomology and Laboratory OR BIO 3322 **AND** 3332, Invertebrate Zoology and Laboratory **OR**BIO 4354, Mammalogy **OR**BIO 4384, Parasitology **OR**BIO 4402 **AND** 4401, Ichthyology and Laboratory **OR**BIO 4423 **AND** 4421, Ornithology and Laboratory **OR**BIO 4454, Herpetology **OR**BIO 4704, Plant Systematics ORBIO 4714, Dendrology | 3-4  |
| **Upper-level Biology Electives – 14-18 hours of electives; must have BIO prefix and be 3000- or 4000-level** | 14-18 |
| **Electives – 9 hours of electives; can be in Biology or from across disciplines** | 9 |
| Sub-total of Biology Choice Requirements, Upper-level Biology Electives, and other Electives | 42 |
| **Total Required Hours:**  | **120** |