# Biology, A.S.

## General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. **(**http://registrar.wvu.edu/gef/**)**

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

| Code | Title | Hours |
|---|---|---|
| **General Education Foundations** | | |
| F1 - Composition & Rhetoric | | 3-6 |
| ENGL 101<br>& ENGL 102 | Introduction to Composition and Rhetoric<br>and Composition, Rhetoric, and Research | |
| or ENGL 103 | Accelerated Academic Writing | |
| F2A/F2B - Science & Technology | | 4-6 |
| F3 - Math & Quantitative Reasoning | | 3-4 |
| F4 - Society & Connections | | 3 |
| F5 - Human Inquiry & the Past | | 3 |
| F6 - The Arts & Creativity | | 3 |
| F7 - Global Studies & Diversity | | 3 |
| F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree) | | 9 |
| Total Hours | | 31-37 |

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

## Curriculum Requirements

| Code | Title | Hours |
|---|---|---|
| **A GPA of 2.0 in Biology course work is required for graduation.** | | |
| GEF Requirements (4, 5, or 6) | | 6 |
| ENGL 101<br>& ENGL 102 | Introduction to Composition and Rhetoric<br>and Composition, Rhetoric, and Research (GEF 1) | 6 |
| BIOL 115<br>& 115L | Principles of Biology<br>and Principles of Biology Laboratory (GEF 2 - Minimum grade of C-) | 4 |
| BIOL 117<br>& 117L | Introductory Physiology<br>and Introductory Physiology Laboratory (GEF 8 - Minimum grade of C-) | 4 |
| BIOL 219<br>& 219L | The Living Cell<br>and The Living Cell Laboratory | 4 |
| BIOL 221 | Ecology and Evolution | 3 |
| CHEM 115<br>& 115L | Fundamentals of Chemistry 1<br>and Fundamentals of Chemistry 1 Laboratory (GEF 8) | 4 |
| CHEM 116<br>& 116L | Fundamentals of Chemistry 2<br>and Fundamentals of Chemistry 2 Laboratory (GEF 8) | 4 |
| CHEM 233<br>& 233L | Organic Chemistry 1<br>and Organic Chemistry 1 Laboratory | 4 |
| CHEM 234<br>& 234L | Organic Chemistry 2<br>and Organic Chemistry 2 Laboratory | 4 |
| WVUE 191 | First Year Seminar | 1 |
| MATH 150 | Applied Calculus (GEF 3) | 3 |
| or MATH 155 | Calculus 1 | |
| STAT 211 | Elementary Statistical Inference | 3 |
| PHYS 101<br>& 101L | Introductory Physics 1<br>and Introductory Physics 1 Laboratory | 4 |

| | | |
|---|---|---|
| PHYS 102 & 102L | Introductory Physics 2 and Introductory Physics 2 Laboratory | 4 |
| Elective | | 2 |
| Total Hours | | 60 |

## Suggested Plan of Study

**First Year**

| Fall | Hours | Spring | Hours |
|---|---|---|---|
| ENGL 101 | 3 | ENGL 102 | 3 |
| BIOL 115 & 115L (GEF 2) | 4 | BIOL 117 & 117L (GEF 8) | 4 |
| CHEM 115 & 115L (GEF 8) | 4 | CHEM 116 & 116L (GEF 8) | 4 |
| MATH 150 or 155 (GEF 3) | 3 | STAT 211 | 3 |
| WVUE 191 | 1 | HLSC 270 (or Elective) | 1 |
| | 15 | | 15 |

**Second Year**

| Fall | Hours | Spring | Hours |
|---|---|---|---|
| BIOL 219 & 219L | 4 | BIOL 221 | 3 |
| CHEM 233 & 233L | 4 | CHEM 234 & 234L | 4 |
| PHYS 101 & 101L | 4 | PHYS 102 & 102L | 4 |
| GEF Elective (4, 5 or 6) | 3 | GEF Elective (4, 5, or 6) | 3 |
| | | Elective | 1 |
| | 15 | | 15 |

Total credit hours: 60

## Major Learning Outcomes

### BIOLOGY

Upon completion of the associates in biology program, students will be able to:

1. Explain how information is stored, processed and used within cells and organisms.
2. Analyze how organisms obtain and process energy and matter.
3. Explain the primary forces of evolution, including how these forces lead to genetic differentiation and speciation.
4. Describe how biological structures dictate their function.
5. Explain how organisms, populations, communities and ecosystems are structured and function.
6. Transfer into a bachelor degree program in biology.