Biology, A.A.

Degree Offered

- Associate of Arts

Nature of the Program

The associates program in biology is intended to provide students with a core foundation in biology, chemistry and math so they can be successful in a bachelor degree program. While there is only one associate degree program in biology, students planning to enter a bachelor degree program may choose to receive either a bachelor of science or a bachelor of arts in biology. The bachelor programs vary predominately in their foreign language and math requirements. If pursuing a bachelor of arts degree, six credit-hours of a foreign language at the intermediate level are required. If pursuing a bachelor of science degree, foreign language is not required. Students should discuss the differences with their academic advisor.

The associate degree program provides the initial four-semester core sequence in the biological sciences required to complete a bachelor program in biology at West Virginia University. Students planning to enter a bachelor program at another institution should determine the transfer equivalencies for the courses offered at Potomac State College of WVU and the institution they plan to attend following completion of the associate degree program.

Career Opportunities

An associate degree followed by a bachelor degree in biology provides excellent preparation for students planning to apply to graduate programs in the biological sciences or to professional schools/programs, such as medical, osteopathic, dental, physical or occupational therapy, optometry, pharmacy, veterinary medicine, physician assistant, and chiropractic. In addition, a bachelor degree in biology prepares students for a variety of careers including medicine, biotechnology, genetics, forensics, ecology, environmental biology, and other biologically-related technical fields in government and private industry. Furthermore, with the appropriate electives, a student with a bachelor degree in biology may also choose to enter the fields of law, journalism, education, business, health care administration, pharmaceutical sales, or work for a variety of federal agencies. Due to the variety of careers and opportunities available with a degree in biology, students should discuss their interests with their academic advisor, who can help advise them in selecting appropriate elective courses.

FACULTY

CHAIR

- Vicki Huffman - Ph.D. Biomedical Science
  Year @ PSC (2005)

PROFESSORS

- Vicki Huffman - Ph.D. Biomedical Science
  Year @ PSC (2005)
- Gerald Wilcox - Ph.D. Biology
  Year @ PSC (1979)

ASSOCIATE PROFESSORS

- Sheri Chisholm - Ph.D. Institutional Leadership and Biology Education
  Year @ PSC (2009)
- Erin Cunningham - M.S. Biology
  Year @ PSC (2007)

INSTRUCTOR

- Viktor Frazier - M.S. Biology
  Year @ PSC (2018)

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.

General Education Foundations

F1 - Composition & Rhetoric
ENGL 101 & ENGL 102
Introduction to Composition and Rhetoric
or ENGL 103
Accelerated Academic Writing

<table>
<thead>
<tr>
<th>F2A/F2B - Science &amp; Technology</th>
<th>4-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3 - Math &amp; Quantitative Reasoning</td>
<td>3-4</td>
</tr>
<tr>
<td>F4 - Society &amp; Connections</td>
<td>3</td>
</tr>
<tr>
<td>F5 - Human Inquiry &amp; the Past</td>
<td>3</td>
</tr>
<tr>
<td>F6 - The Arts &amp; Creativity</td>
<td>3</td>
</tr>
<tr>
<td>F7 - Global Studies &amp; Diversity</td>
<td>3</td>
</tr>
<tr>
<td>F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>31-37</strong></td>
</tr>
</tbody>
</table>

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**

A GPA of 2.0 in Biology course work is required for graduation.

**GEF Requirements (4, 5, or 6)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 &amp; ENGL 102</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 115 &amp; BIOL 116</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 117 &amp; BIOL 118</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 219 &amp; BIOL 220</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 115 &amp; 115L</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 116 &amp; 116L</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 233 &amp; 235</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 234 &amp; 236</td>
<td>4</td>
</tr>
<tr>
<td>WVUE 191</td>
<td>1</td>
</tr>
</tbody>
</table>

**Tracks (Select one of the following):**

**BA Track**
- MATH 150
- Applied Calculus (GEF 3)

**BS Track**
- MATH 155
- Calculus 1 (GEF 3)
- STAT 211
- Elementary Statistical Inference
- PHYS 101
- Introductory Physics 1
- PHYS 102
- Introductory Physics

**Total Hours**

**Suggested Plan of Study (BA Track)**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 115 &amp; BIOL 116 (GEF 2)</td>
<td>4</td>
<td>ENGL 101 (GEF 1)</td>
<td>3</td>
</tr>
</tbody>
</table>
CHEM 115 & 115L (GEF 8) 3
MATH 150 (GEF 3) 3
WVUE 191 1
Foreign Language 3

Second Year

Fall Hours  Spring Hours
ENGL 102 (GEF 1) 3 ENGL 102 (GEF 1) 3
BIOL 219 4 BIOL 117 & BIOL 118 (GEF 8) 4
& BIOL 220 & CHEM 234 & CHEM 236
CHEM 233 4 GEF Elective (4, 5, or 6) 3
& CHEM 235
Foreign Language or Elective 3 GEF Elective (4, 5, or 6) 3
Foreign Language or Elective 3

Total credit hours: 16 15

Suggested Plan of Study (BS Track)

First Year

Fall Hours  Spring Hours
ENGL 101 (GEF 1) 3 ENGL 102 (GEF 1) 3
BIOL 115 4 BIOL 117 & BIOL 118 (GEF 8) 4
& BIOL 116 (GEF 2) & CHEM 234 & CHEM 236
CHEM 115 4 CHEM 116 & 116L (GEF 8) 4
& 115L (GEF 8)
MATH 155 (GEF 3) 4 STAT 211 3
WVUE 191 1 UGST 270 (or Elective) 1

Total credit hours: 16 15

Second Year

Fall Hours  Spring Hours
BIOL 219 4 BIOL 221 3
& BIOL 220 & CHEM 234 & CHEM 236
CHEM 233 4 PHYS 101 (or Elective) 3
& CHEM 235 4 PHYS 102 0 or 4
PHYS 101 4 GEF Elective (4, 5, 6) 3
GEF Elective (4, 5, 6) 3

Total credit hours: 15 10-14

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.