

### **Biology** **Teacher Preparation Concentration**

<p><b>FRESHMAN FALL (17 CREDITS)</b></p> <p>BIOL 120: Integrative Biology (4)            CHEM 111: Fundamentals of Chemistry I (4)            MATH 171: Statistical Decision Making (3)            CTZN 110: Inquiry into Citizenship (3)            EDUC 245: Human Growth &amp; Development (3)</p>	<p><b>FRESHMAN SPRING (15 CREDITS)</b></p> <p>BIOL 251: Intro to Ecology &amp; Evolution (4)            CHEM 211: Organic Chemistry I (3)            CHEM 213: Organic Chemistry I Lab (1)            ENGL 165: Writing &amp; Rhetoric (3)            Pillar: Global Citizenship (3)            SCED 152: Principles of Secondary Ed in Science (1)</p>
<p><b>SOPHOMORE FALL (19 CREDITS)</b></p> <p>BIOL 250: Intro to Genetics &amp; Cell Biology (4)            CHEM 112: Fundamentals of Chemistry II (4)            SCED 252: Practicum in Science Education (2)            MATH 301: Applied Statistics (3)            Pillar: Aesthetic Expression (3)            Perspective: Integrating World Languages (3)</p>	<p><b>SOPHOMORE SPRING (16 CREDITS)</b></p> <p>BIOL 288: Sophomore Seminar (3)            BIOL Organismal Area Course (4)            PHYS 103: Conceptual Physics (4)            Pillar: Historical &amp; Contemporary Insights (3)            EDUC 260: Intro to the Teaching Profession (2)</p>
<p><b>JUNIOR FALL (16 CREDITS)</b></p> <p>BIOL Cell &amp; Molecular Area Course (4)            BIOL Ecology &amp; Evolution Area Course (4)            EASC 300: Dynamic Planet (3)            SCED 451: The Teaching of Secondary Science (2)            SPED 389: Survey of Exceptional Children (3)</p>	<p><b>JUNIOR SPRING (16 CREDITS)</b></p> <p>BIOL Elective in Botany/Zoology/A&amp;P (4)            BIOL 400-Level Elective (3)            EDUC 432: Content Area Literacy (3)            EDUC 473: Inquiry into the Classroom Community (3)            Perspective: Historical or Social (3)</p>
<p><b>SENIOR FALL (17 CREDITS)</b></p> <p>BIOL Elective in Botany/Zoology/A&amp;P (4)            BIOL 488: Senior Capstone in Biology (3)            BIOL 489: Senior Assessment (1)            EDUC 487: Classroom Management &amp; System Issues (3)            Perspective: Global Citizenship or Aesthetic Expression (3)            CTZN 410: Symposium for the Common Good (3)</p>	<p><b>SENIOR SPRING (12 CREDITS)</b></p> <p>SCED 482: Directed Teaching in Secondary School (9)            SCED 490: Research Methods in Science Education (3)</p>



## AFTER GRADUATION

Students who earn a degree in Biology find employment in a variety of settings. We tracked recent graduates of the program, and here's what some of them are doing:

- Fisheries Management & Conservation Grad Student, University of Miami
- Assistant Scientist, PPD
- Environmental Analyst, Environmental Research Group
- Analytical Chemist, Virginia Military Institute
- Laboratory Analyst, IEH Laboratories
- Intern, Eastern Virginia Medical School
- Pharmacy School, VCU and Shenandoah University
- Clinical Research Coordinator
- ED Technician, Centra Health

## GRADUATE PROFILE

**Madison Humerick**, class of 2009

Madison Humerick is an assistant professor in the Department of Family Medicine at WVU Eastern Division Campus and a practicing family doctor. She says she wouldn't have gone on to medical school without a timely push from her mentor, Dr. Consuelo Alvarez, who knew she was ready for a bigger challenge. That push was to pursue a post-



baccalaureate research fellowship at the National Institutes of Health in Maryland. "She had the capability to thrive in that environment, which she did," said Alvarez. "That experience really propelled her to medical school, where she blossomed into the fine doctor she is now."

Whether it's the small classes, the open-door policy of faculty or the intrinsic spirit of the place, these

kinds of relationships seem to develop especially strongly at Longwood—in all shapes and sizes. Freshmen and sophomores find mentors in their older peers. Alumni take students or newly graduated seniors under their wings. Students develop close bonds with professors, coaches or staff members that endure long after graduation. Often the stories of how these mentoring relationships developed originate in the most unexpected places.

## COMMON MINORS

Most minors require about 18 credits, or 6 classes. Some of these classes will also count for Core Curriculum requirements, making the addition of a minor as simple as enrolling in one class per semester.

Common minors for students of Biology include:

- Chemistry
- Criminology/Criminal Justice
- Health Education
- Neuroscience Studies
- Psychology

## GRADUATE PROFILE

**Savannah Barnett**, class of 2015

At Longwood Savannah Barnett, who was a biology and chemistry major, caught the attention of Dr. Amorette Barber one summer when she was working on a research project with another faculty member.



The culminating moment for the two came during Barnett's senior honors thesis. The idea was Barnett's own—combining her two great loves of biology and chemistry—extracting cancer-fighting chemicals from uncommon sea sponges using a method she developed by herself.

"She was off the chart in terms of independence," said Barber. "Savannah had these incredible ideas and would come in just bubbling

about a paper she had read that made her dream about possibilities for projects." In that way, Barber saw something of herself in the young student. Both thrive on new ideas, both enjoy designing and putting new experiments into place, both work best under a great deal of pressure. Barber knew Barnett was beginning to think about a life of research, and she knew just the place for her: Dartmouth College in New Hampshire where Barnett earned a Ph.D. in 2019.