

### Physics Teacher Preparation Concentration

<p><b>FRESHMAN FALL (14 CREDITS)</b>            PHYS 220: University Physics I (4)            MATH 164: Pre-Calculus (4)            EDUC 245: Human Growth &amp; Development (3)            CTZN 110: Inquiry into Citizenship (3)</p>	<p><b>FRESHMAN SPRING (15 CREDITS)</b>            PHYS 221: University Physics II (4)            MATH 261: Calculus I (4)            SCED 152: Principles of Secondary Ed in Science (1)            ENGL 165: Writing &amp; Rhetoric (3)            Pillar Course (3)</p>
<p><b>SOPHOMORE FALL (16 CREDITS)</b>            PHYS 222: University Physics I Lab (2)            PHYS 321: Modern Physics (3)            MATH 262: Calculus II (4)            SCED 252: Practicum (2)            EDUC 260: Intro to the Teaching Profession (2)            Pillar Course (3)</p>	<p><b>SOPHOMORE SPRING (17 CREDITS)</b>            PHYS 223: University Physics II Lab (2)            MATH 361: Multivariable Calculus (4)            CHEM 111: Chemistry I (4)            BIOL 120: Integrative Biology (4)            Pillar Course (3)</p>
<p><b>JUNIOR FALL (18 CREDITS)</b>            PHYS 332: Classical Electricity &amp; Magnetism (3)            PHYS 324: Thermodynamics (3)            PHYS 370: Advanced Physics Lab I (3)            EASC 300: The Dynamic Planet (3)            Perspective Course (3)            Perspective Course (3)</p>	<p><b>JUNIOR SPRING (17 CREDITS)</b>            PHYS 352: Mechanics (3)            MATH 362: Differential Equations (3)            SCED 451: Teaching Secondary Science (2)            EDUC 432: Content Area Literacy (3)            PHYS Elective (3)            Perspective Course (3)</p>
<p><b>SENIOR FALL (18 CREDITS)</b>            SPED 389: Survey of Exceptional Children (3)            EDUC 473: Inquiry into the Classroom Community (3)            EDUC 487: Classroom Management &amp; System Issues (3)            CTZN 410: Symposium for the Common Good (3)            PHYS Elective (3)            Perspective Course (3)</p>	<p><b>SENIOR SPRING (12 CREDITS)</b>            SCED 490: Research Methods in Science Ed (3)            SCED 482: Directed Teaching (9)</p>



## AFTER GRADUATION

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

- Apprentice Developer, MAXX Potential
- Graduate Student, University of South Carolina
- Technical Support Engineer, Innerspec Technologies
- Computer Detection Systems Repairer, U.S. Army
- Field Technician, FDH Infrastructure Services
- iOS Developer, Audible
- Application Support Analyst, Fannie Mae
- Health Physics Technician, Dominion Energy

## GRADUATE PROFILE

**Derek Holmberg**, class of 2020



Originally from Earlysville, VA, Derek embarked on a PhD in Physics at William & Mary after finishing his degree at Longwood. In his senior year, he was the university's nominee for the Goldwater scholarship, a prestigious national award for students pursuing graduate studies in science, mathematics, and engineering.

As a freshman, Derek participated in the Society of Physics Students, working on fun projects for Oktoberfest and Spring Weekend. That year the group made homemade frozen "Dippin' Dots" using liquid nitrogen. He was also able to enroll in classes abroad, participate in the Yellowstone summer program, and conduct research through the PRISM program. "Each of these experiences was greatly meaningful," he says, "and broadened my horizons."

Faculty mentorship is a hallmark of the Physics program. "While all my professors have been amazing and helpful, Dr. Pestka has been my greatest mentor. I learned so much about performing experiments, collecting data, analyzing data, and doing error analysis through our work."

## 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 Physics include:

- Business Administration
- Chemistry
- Earth Science
- History
- Mathematics

## GRADUATE PROFILE

**Nicole Marzolf**, class of 2018

A member of the Cormier Honors College, Nicole earned degrees in both Physics and Mathematics. She works now in Charlottesville as a physicist with the Department of the Army, where she creates computer models of electrical and mechanical systems.

At Longwood, Nicole was actively involved in community service and completed a study abroad experience. She was also committed to meaningful and original research through the PRISM program, a paid summer mentoring program for students in STEM. "Both of my research projects at Longwood—one on Lorentzian geometries on Lie algebras and the other on the application of spherical geometric probability to mathematical physics—allowed me to attend multiple conferences to present my work."

Originally from Chesterfield County, Nicole was a member of Sigma Pi Sigma, the national physics honor society, and Pi Mu Epsilon, the national mathematics honor society, as well as the History Club, Longwood PRIDE and the Stampede Pep Band.

