



Health Science: Biotechnology Glacier Peak High School Only

The Biotechnology Pathway is a great program for students who have an interest in the human body, medical issues, and treatment of disease. With employment in the healthcare industry to grow by 18% by 2026, the Biotechnology Pathway provides students with experiences that will lead to available jobs. Students who complete two credits in this pathway will meet CTE graduation pathway requirements.



Students in this pathway will:

- ➔ Be able to meet one year of science credit requirements by taking Biotechnology 1 and Biotechnology 2.
- ➔ Be able to participate in Health Occupations Students of America (HOSA) to practice their skills in healthcare.
- ➔ Be able to receive 10 credits in Biotechnology from Everett Community College and the University of Washington upon successful completion of Molecular Biology for Global Health and Advanced Molecular Biology for Global Health.
- ➔ Be able to apply for the Fred Hutch Cancer Center summer paid internship in Seattle.
- ➔ Be prepared to receive additional training at two- and four-year colleges.

What high-demand careers are related to an Biotechnology Pathway?

High-demand careers	Annual salary in Washington	Required training after high school	Schools offering degrees or certification
Biological technicians	\$83,000	Bachelor's degree	Shoreline Community College Bellevue College Bates Technical College
Medical and health services managers	\$145,000	Bachelor's degree	Washington State University Seattle University University of Washington
Medical scientists	Not available	Doctoral degree	University of Washington Seattle University Northwest University

* Information from Washington State Employment Security Department, 2023

What high-demand careers are related to the Biotechnology Pathway?

High school courses in this pathway	College credit offered			Leads to a certification?	Equivalencies offered to meet graduation requirements
	CTE dual credit	College in the High School	AP		
Molecular Biology for Global Health (1.0 credit)		X		N/A	1.0 science credit
Advanced Molecular Biology for Global Health (1.0 credit)		X		N/A	1.0 science credit

Biotechnology Pathway course sequence:



High school course descriptions:

Molecular Biology for Global Health – This is a year-long, project-based STEM class that focuses on a wide range of biotechnology skills as they relate to disease. Students will learn current lab techniques that are currently utilized in current industry lab settings. Key skills taught in the class involve working with DNA (isolation and purification, restriction digest, transformation, PCR, sequencing), ELISA testing, and gel electrophoresis. Dual credit is available through Everett Community College’s College in the High School program and there is a 1.0 science equivalency credit for this class.

Advanced Molecular Biology for Global Health - This is a year-long class that focuses on global health as well as concepts and skills related to industry standards for a research lab or program of study. The first semester embeds curriculum from UW Global Health 101 course, and the review of industry standard lab concepts. During the second semester, students conduct a major independent research project done in collaboration with scientists at the Institute for Systems Biology, Fred Hutch Cancer Center, the Center for Infectious Disease Research, and the University of Washington. Dual credit is available through the University of Washington’s College in the High School program, and there is a 1.0 science equivalency credit for this class.

What clubs are offered to practice career-related skills and leadership?

Healthcare Occupations Students of America (HOSA) is the CTE co-curricular opportunity (called a Career and Technical Student Organization) that is related to the Biotechnology Pathway. HOSA, also known as Future Health Professionals, is a prominent student organization dedicated to preparing young individuals for careers in healthcare and medical fields. Through HOSA, students engage in a range of educational and skill-building activities, including workshops, competitions, and community service projects that promote leadership, teamwork, and clinical proficiency. Members have the opportunity to explore various healthcare disciplines, from nursing and medical assisting to biotechnology and emergency medicine. As HOSA students progress through their education, they gain hands-on experience, develop a strong understanding of healthcare practices, and often pursue further studies in medical or allied health programs. After high school, HOSA alumni frequently enter careers as nurses, doctors, medical technicians, therapists, researchers, and other healthcare professionals, contributing to the well-being of individuals and communities through their expertise and compassion.

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