

Biomedical and Health Sciences Program (BioMed)



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What is BioMed?

The Jefferson Biomedical and Health Sciences Program (BioMed) is a three-year professional preparation program that aims to contribute in shifting the narrative of what a scientist “looks like” through empowering students who belong to demographics that are underrepresented in the fields of Sciences, Technology, Engineering, and Mathematics (STEM.)

The standards of this program prepare students with the skills and academic confidence to excel in the competitive fields of medicine, public health, and beyond. Many skills developed through the BioMed program are universally valuable in the professional world, and we welcome students with any career interests who are enthusiastic about the program.

Program Vision

BioMed seeks students who:

- Enjoy hands-on, collaborative learning experiences
- Have an interest in entering the medical and public health career fields
OR have an interest in science, human health, and/or medical equity
- Are committed to taking elevated science courses every year in high school
- Are committed to meeting academic and attendance expectations
- Reflect the demographics of the student body

Program Sequence

- Year 1 - 10th Grade: Intro to Biomedical Research: Principles of Biomedical Sciences
- Year 2 - 11th Grade: Anatomy & Physiology: Human Body Systems (dual-credit)
- Year 3 - 12th Grade: PCC Medical Courses, including: Medical Terminology, Healthcare Essentials, and CPR/AED and First Aid

BioMed utilizes the Project Lead the Way: Biomedical Sciences curriculum, a nationally acclaimed curriculum designed to support students in building skills in STEM and preparing to succeed in post-secondary studies.

More information about this curriculum can be found at <https://www.pltw.org/curriculum/biomedical-science>

Benefits

Academic Preparations: BioMed supports student growth in organization and study skills, communication, time management, collaborative learning, and academic confidence. The BioMed program not only meets, but exceeds the state’s graduation requirements for science. The PLTW Biomedical curriculum utilized in this program is recognized by universities as a rigorous academic experience. For athletes, BioMed also meets the NCAA eligibility requirements. The foundational learning in this program will prepare students for college courses such as general biology, anatomy and physiology, forensics, microbiology, and genetics.

Skills: Throughout the course offerings in this program, students will develop laboratory and clinical skills that are sought after by employers in the healthcare fields, including but not limited to:

Lab Skills: •Aseptic technique •Bacterial culturing, plating, and identification (Gram staining) •Blood testing and typing •Dissection/necropsy •DNA extraction •DNA gel electrophoresis •Fingerprint and hair analysis •Karyotyping •Micropipetting •Microscopy •Restriction digestion •Plaque assay
Clinical Skills: Bloodwork analysis •Blood drawing •Blood pressure measurement and analysis •Clinical empathy •Heart rate measurement and analysis •HIPAA legislation and implications understanding •Scientific terminology and abbreviation usage •Patient questioning, record keeping and documentation •Pedigree construction and analysis •Controlled bleeding techniques •Triage

College Credit: Students in the BioMed program are eligible to receive FREE college credit through the program beginning their junior year. Students who successfully pass Anatomy & Physiology are eligible to receive 4 college-level credits through Oregon Institute of Technology (OIT). BioMed seniors will take three PCC medical courses their senior year, with an option to take additional courses to obtain PCC's Healthcare certificate.

Partnerships & Internship Opportunities: The Jefferson BioMed program has the honor of partnership with Oregon Health and Science University (OHSU) through their *On Track!* OHSU program. *On Track!* is a program "that works with Oregon middle and high schools to increase the number of students from underrepresented minority backgrounds in the health sciences and in Oregon's biomedical workforce." Through our partnership with *On Track!*, we will participate in field trips, mentor visits from OHSU medical professionals and medical students, and other career-related experiences. Students in the BioMed program will also be connected to invaluable internship, research, and clinical shadow opportunities through OHSU and its partners. In addition to the experiences provided in high school, *On Track!* supports students beyond high school graduation.

Program Requirements:

To apply for the program, students must have:

- 2.75 minimum GPA *OR* if lower than 2.75 GPA: a written statement by the student that discusses their GPA
- A filled out recommendation form from a math or science teacher *and* from an English teacher
- Entrance interview with BioMed program staff
- Parent permission form

To remain in the program, students must:

- Pass each semester of each biomed class with a C or higher
- Attend a minimum of 80% of BioMed classes throughout each year of the program
- Arrive on time to a minimum of 75% of BioMed classes throughout each year of the program
- Maintain a minimum of a C in all core classes (Math, Science, English, History)
- Attend a grade-specific minimum of On Track! OHSU events/field trips each year:
 - 10th Grade: Attend a minimum of 1 of 2 events/field trips
 - 11th & 12th Grade: Attend a minimum of 3/4 events field trips

Failing to meet any of the above requirements may result in a probationary period and/or removal from the program. We are here to support our students in their entire academic journey and encourage students to reach out for support before this occurs.

Leaving the Program:

In applying and being accepted into the program, you are committing to remain in the program until graduation. We value what each of our students bring to the program, and it is our goal to support all of the students in our program until they graduate. If the student decides that the program is not a good fit, initial steps and support methods must be attempted before removal from the program may occur.