

Principles of Biomedical Science Course Resume

Course resumes showcase the technical skills students obtain in each PLTW course. Each resume outlines the computational skills, analytical skills, and knowledge acquired in the course. Course Resumes also detail student experience with tools, software, lab work, and engineering design. The detailed skills listed within course resumes illustrate the immediate, applicable contributions that students can make within a workplace.

Laboratory Skills

- Aseptic technique
- Bacterial plating and identification
- Gram staining
- Micropipetting
- DNA gel electrophoresis

Clinical Skills

- Blood pressure measurement and analysis
- EKG analysis
- Pedigree analysis
- Bloodwork analysis

Equipment and Software Proficiencies

- Microsoft Office (Excel, Word, PowerPoint)
- Vernier probes and sensors
- Data acquisition Software (Vernier Logger Pro)
- Microscope

Scientific Experimentation Skills

- Design and conduct reliable scientific experiments
- Analyze and interpret laboratory data
- Construct graphs (by hand and using graphing software)
- Interpolate and extrapolate data from a graph
- Draw conclusions based on experimental data
- Thoroughly and clearly communicate results and conclusions both orally and in writing

Professional Skills

- Group collaboration
- Planning and organizing
- Time management
- Problem-solving
- Technical writing
- Verbal and written communication
- Decision-making
- Creative thinking

Course Knowledge

- Over-arching themes
 - Biomedical science careers
 - Bioethics
 - Interrelationship between body systems and health/disease
- Forensic investigation and cause of death
 - Crime scene investigation
 - HIPAA legislation and implications
- Autopsy and cause of death
- Diabetes and biochemistry
 - Pathology, treatment, and complications of Type 1 and 2 diabetes
 - Homeostasis and positive and negative feedback mechanisms
 - Structure and Function of Macromolecules
 - Calorimetry
 - Nutrition
- Sickle cell anemia and molecular biology
 - Structure of DNA
 - Restriction Fragment Length Polymorphisms (RFLP) analysis
 - Hematocrit and anemia
 - Pathology, treatment, and complications of sickle cell disease
 - Relationship between genes, chromosomes, and DNA
 - Protein synthesis
 - Relationship between DNA, mutations, protein structure, and disease or dysfunction
 - Mitosis and meiosis
 - Genotype and phenotype
 - Punnett squares, pedigree construction, and pedigree analysis
- Heart disease
 - Cardiovascular system anatomy and physiology
 - Pathology, treatment, and complications of heart disease
 - Hypercholesterolemia, HDL, LDL, and the impact of abnormal cholesterol levels on the body
- Infectious disease
 - Infectious disease transmission
 - Bacterial isolation and identification

- Immune system anatomy and physiology