Biomedical Innovation 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
- Micropipetting
- Restriction enzyme digestion
- DNA gel electrophoresis
- Multiplex Polymerase Chain Reaction (PCR)
- DNA ligation
- Bacterial transformation
- Restriction analysis of plasmids

Equipment and Software Proficiencies

- Microsoft Office (Excel, Word, PowerPoint)
- Vernier probes and sensors
- Data Acquisition Software (Vernier Logger *Pro*)
- Microscope
- Thermal cycler

Scientific Experimentation Skills

- Design and conduct reliable scientific experiments
- Analyze and interpret laboratory data
- Statistics analysis of data, including t-tests
- 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 Topics

- Homeostasis
- Biomedical science careers
- Design process
- Emergency room efficiency
- Scientific research
- Design and marketing of a medical innovation
- Literature review
- Environmental health and environmental contamination
- Water quality testing
- Dose-response of chemicals or medications
- Epidemiologic studies
- Grant proposals
- Public health planning and policy
- Construction and cloning of recombinant DNA
- Autopsy and determination of cause of death