The goal of the Biomanufacturing Kit curriculum is to introduce the concepts of biomanufacturing to high school educators and their students in a hands-on setting and to provide information about the biomanufacturing industry and career pathways within biomanufacturing.

Students are grouped in biomanufacturing teams being trained to work for a fictional biomanufacturing company Protein Purification Partners. The curriculum is divided into three modules. Proper documentation is carried out in each module, and documentation forms are included in each module.

- Module 1 begins with employee on-boarding and training including:
    - Introduction to Biomanufacturing
    - Lab safety training
    - Introduction to Regulations
        - Food and Drug Administration (FDA)
        - Good Manufacturing Process (GMP)
    - Quality Assurance (QA) and Quality Control (QC)
    - Job assignments and career exploration
    - Standard Operating Procedure (SOP)
    - Team logo design

- Module 2 introduces students to Upstream Process. Students learn aseptic technique and then inoculate bacteria expressing red fluorescent protein (RFP) or green fluorescent protein (GFP) into liquid media. They scale up the culture, induce expression of RFP or GFP, and plot bacterial growth curves. Student teams measure the success of their scale up by calculating cfu/mL using a limiting dilution plating experiment. Batch record documentation is carried out.

- Module 3 introduces students to Downstream Process from bacterial lysis to column purification of RFP or GFP. Student teams measure the success of their protein purification by measuring protein yield with the Bradford assay. Batch record documentation is completed. Students fill vials and design a label for their product vials.