INTRODUCTION TO BIOSAFETY
Biosafety Outline for High School Students
One Week Course in Biosafety

Day 1: Exposure & Hazard ID
a. Demonstrate the ease with which microbial contamination can spread
b. Demonstrate proper method for donning and doffing PPE
c. Demonstrate proper methods for pipetting and vortexing
d. Debrief on LAIs, including some case studies
e. Show and discuss biohazard symbol as well as Risk Groups
f. Show and discuss GHS symbols and basic chemical safety

Day 2: Protection
a. Explain routes of exposure and how to protect them
b. Demonstrate donning and doffing of PPE
c. Standard microbiological practices exercise and handout
d. Practice aseptic technique - with and w/o flame exercise
e. Biosafety Cabinet demonstration
   1. Function, set up, use, decon, and misuse
f. Biosafety Levels lecture

Day 3: Plan an Experiment
a. Setup
   1. Select an agent
   2. Choose a procedure
   3. Identify risks
   4. Develop a mitigation plan
b. Evaluate risk mitigation plans
c. "What's wrong with this picture" exercise
d. Carry out selected procedure
e. Debrief as a group for any unexpected hazards

Day 4: Clean-up
a. Make a spill
b. Have students determine best method for cleaning up spill
c. Assess student-proposed method
d. Discuss disinfectant selection
e. Have students clean up a small spill and previous day's work (?) (or new work mess)
   1. Prepare spill waste or work waste for disposal - chemical or autoclave
   2. Discuss autoclave function and use
f. Talk about waste streams and proper uses of different ones
g. Discuss how to report an exposure
h. Homework: have students come up with one question they want to know the answer to (prefer it be on-topic for class, but isn't necessary)
Day 5: Demonstrated Proficiency and Resources

a. Rotate students around stations to perform different tasks and capture demonstrated proficiency
b. Have students fill out “People you should know” handout
c. Discuss worker’s rights, supervisor’s responsibilities lecture (how and when to ask questions)
d. Have students share questions from homework assignment
e. Open up discussion to any other questions they might have
f. Close class by handing out contact information for safety personnel