

1. It is better to ask questions than to make a mistake that could have easily been avoided.
2. General lab safety procedures including:
 - a. Appropriate clothing
 - b. Food and drink in the lab
 - c. Lab coat/gloves/glasses
3. How to find and use helpful reference manuals such as Current Protocols
4. Chemical and biological safety issues including:
 - a. How to dispose of wastes
 - b. How and when to use a fume hood
 - c. How to handle chemicals safely
 - d. How to clean up a spill
 - e. How to assess whether a particular chemical should be handled in a fume hood
 - f. How to handle and dispose of biological materials
5. “Chemical hygiene”—cleaning up, discarding excess (not returning waste to the original bottle!), using clean spatulas each time
6. How to use a pipette correctly, including how to read and manipulate it
7. Making chemical solutions; provide guide sheets for:
 - a. Solution preparation
 - b. Molarity calculations
 - c. Dilutions
8. Understanding the importance and practice of sterile technique
9. Media preparation and how to use an autoclave
10. Literature research skills
11. Basic microbiology including:
 - a. Plating for single colonies
 - b. Growing liquid cultures
 - c. Growth conditions for an organism
12. Basic molecular biology techniques including:
 - a. DNA isolation
 - b. Proper use of restriction enzymes
13. DNA isolation:
 - a. How to avoid contaminating DNA/RNA free/autoclaved materials
 - b. How to open microfuge tubes properly
 - c. How to label reagents
14. Basic guidelines for generating graphs and tables