Soil and Environmental Microbiology Laboratory  
Safety Rules and Procedures  
(Agron 485/585)

A soil and environmental microbiology laboratory requires safe practices and procedures to protect you and others working in the laboratory. This is a “Biosafety Level 1 (BSL1)” laboratory and is suitable for work not known to cause disease in healthy adult humans and with a minimal potential hazard to laboratory personnel and the environment (if you are immunocompetent, please tell the instructor and consider not taking this course). We will be isolating unknown organisms from soil, so precautions are needed. A BSL1 lab requires no special design features beyond those suitable for a well-designed and functional laboratory. Biological safety cabinets (BSCs) are not required. Work may be done on an open bench top, and containment is achieved through the use of practices normally employed in a basic microbiology laboratory.

Each student in this laboratory should read and following these safety rules and procedures. If in doubt, ask the instructor for clarification.

General Safety Rules and Procedures:

1. Familiarize yourself with the location of safety equipment in the lab (e.g., eye-wash station, shower, sinks, fire extinguisher, spill kits, etc.).

2. Absolutely no food, drinks, or chewing gum is allowed in the laboratory. Do not put anything in your mouth such as pencils, pens, labels, or fingers (you may leave drinks in the hallway outside the door).

3. Only closed-toe shoes are to be worn in the laboratory. Sandals are not permitted.

4. Work areas/surfaces must be disinfected before and after use.

5. Keep your workspace free of all unnecessary materials. Backpacks, purses, and coats should be placed out of the way. If you need help in storing your materials, please ask the instructor.

6. Purchase a lab coat and safety glasses, bring them to class, and use them. They can be stored in a drawer below your work station when not in use. Safety glasses are required and must be worn in this lab except when using the microscope or computer or at other times as designated by the instructor.

7. Disposable gloves will be provided. Use anytime you feel they are needed or when encouraged to wear by your instructor (in a laboratory working with pathogens, you would be required to wear disposable gloves).

8. Long hair should be secured behind your head, especially when Bunsen burners are being used in the laboratory.

9. Be careful around Bunsen burners: flames cannot always been seen.

10. Hands must be washed before leaving the laboratory.

12. Label all materials with your name, date, and any other applicable information (e.g., media, organism, etc.).

13. Dispose of wastes in their proper location. Do not pour chemicals down the drain unless directed by the instructor. All unknown cultures will be decontaminated by autoclaving.

14. Return all chemicals, reagents, cultures, and glassware to their appropriate places.

15. Glassware should be washed with soap and water, and then rinsed with distilled water.

16. Flame transfer loops, wires, or needles before and immediately after use when used to transfer biological materials.

17. Any chemical or biological fluid spills must be immediately reported to the instructor. If you are injured in the laboratory, immediately contact the instructor. Follow all instructions given by the instructor for cleaning up any spills or broken glass.

18. Place broken glass and sharp objects in the appropriate ‘sharps and broken glass’ container and not in the trash can.

19. Always wipe and clean the lenses of your microscope before putting it away. Use only the lens paper and cleaning solution provided for this purpose.

20. If you have a question regarding the proper disposal of an item, please ask the instructor. In general, noncontaminated items that pose no threat can be disposed by placing them in the regular trash.

21. If you have questions, in general, about safety in the laboratory, please ask the instructor.

22. ABOVE ALL, BE SAFE!