

Lab Competence Checklist

This lab is based around the ability to demonstrate a number of skills. The exact skill requirements are based on the guidelines set forth by the American Society for Microbiology's *Curriculum Guidelines for Introductory Microbiology* and my experiences as a professional microbiologist. You will be given an opportunity to fulfill all of these requirements and as each is completed to my satisfaction I will sign off the requirement in your notebook. The competencies do not have to be completed in order, but there are completion deadlines for each tier.

Tier One Competencies (Must be completed during assigned lab, NO MAKEUP)

- I. Successful **Use of Microscope** that demonstrates the ability to get a clear image of a prepared slide at 400X.
- II. Successful **Use of Microscope** that demonstrates the ability to get a clear image at 1000X without instructor aid on a slide of proper bacterial density
- III. Successful **Gram Stain** that demonstrates differentiation between known organisms in a single field of view
- IV. Successful **Endospore Stain** that demonstrates differentiation between known organisms in a single field of view

Tier Two Competencies

- I. Successful **Streak Plate Isolation** with single colony isolation and no evidence of contamination on two (2) successive subcultures, or greater than half of the total number of samples.
- II. Successful **Gram Stain identification** of three out of four unknown bacterial specimens
- III. Successful Completion of **Dilution Plate Isolation and Quantization** worksheet, with experimental work also completed
- IV. Successful **Characterization of Culture** of an unknown environmental species demonstrating a grasp of macroscopic and microscopic descriptive terminology along with use of a dichotomous key.