Note: These learning objectives are intended as a study guide. This is not intended to be the sole source of your studies. This is not necessarily a complete guide.

Lab Exam 2

In preparation for the exam you should be able to perform the following:

Identify the components of a bright field microscope.
Explain the functions of the components of a microscope. See this link http://faculty.sdmiramar.edu/dtrubovitz/microscope/
Explain how to care for a microscope with respect to: transport, electric cord, lens, cleaning.
Explain what resolution is, and what affects the resolution.
Give approximately the resolution of our scopes.
Explain how to focus, and how to use oil immersion.
Define parfocal.
Determine magnification of any microscope.
Explain how field of view and brightness change with magnification.
Explain how to use the iris diaphragm and when it should be open or closed.
Determine the field of view of a microscope with a stage micrometer.
Give the field of view for your microscope.
Estimate the size of a specimen in mm and in µm.
Define: bacillus, cocci, spirillochaetes, spirillum, strepto, staphylo.
Explain what surfaces or exposures provided the most and the least bacteria for growth.
Compare alpha, beta and gamma hemolysis.
Compare the purpose of blood agar versus other agar media used in our labs so far.
Describe and following media:

- nutrient agar
- nutrient broth
- TSB
- slant
- petri plate
- LB
- deep
- LB agar

Explain how to place tubes and plates in the incubator.
Make a negative stain, or explain how.
Make and explain how to make a smear from a broth or a solid media.
Explain how to make an aseptic transfer from a tube.
Make a simple stain and identify the cells shape and arrangement.
Explain how to perform a capsular stain.
Be able to perform a hanging drop preparation and determine motility.
Distinguish between Brownian movement and true motility.
Be able to inoculate a motility deep and read results.
Explain and perform a streak plate and pour plate for isolation.
Explain what it means to subculture a bacteria colony.
Perform and list all the steps and their timing of a Gram stain, note the results of a positive and negative stain. You will need to do at least one Gram stain without a lab book.

Answer questions in the laboratory reports for practice.