

# BIO 201 LAB FINAL REVIEW GUIDELINES

## **Molecular Models/Techniques and Calculations**

- \*know the basic structure and recognize alpha and beta glucose
- \*know the basic structure and recognize L and D amino acids
- \*understand the role of the above molecules in biological systems
- \*don't forget to review the dilutions handout in your lab manual
- \*review metric conversions

## **Enzymes**

- \*understand the function of enzymes
- \*be able to define turnover number
- \*understand what sort of parameters affect turnover number as opposed to those that affect reaction rate

## **Microscopes**

- \*know how to properly use a microscope
- \*know how to calibrate and use an ocular micrometer

## **DNA Electrophoresis**

- \*understand the basic structure of DNA
- \*understand the principle of electrophoresis
- \*know how to calculate the length of a DNA fragment
- \*understand RFLP and its applications

## **Bacterial Genetics**

- \*know how to determine the concentration of a bacterial culture using a viable cell count
- \*understand the dynamics of bacterial growth (three phases, doubling time, etc.)
- \*understand the principles of Beadle and Tatum's experiment
- \*be able to reconstruct a biosynthetic pathway from a data set

## **Diffusion and Osmosis**

- \*know and understand the terms listed in the lab manual
- \*know how to experimentally determine the osmolarity of a plant cell

## **Photosynthesis**

- \*understand the role of DCPIP in the Hill reaction
- \*understand how heat and Atrazine (herbicide) affect photosynthesis
- \*know how to determine the rate of photosynthesis, and the effect of light intensity on that rate

## **Scientific Papers**

- \*know sections of a scientific paper and general guidelines regarding what to include in each section

## **Other Information**

- \*past quizzes and lab reports are excellent indicators of the material you are expected to know for the practical
- \*be able to explain the results from each lab