

BIOLOGY 315
TECHNIQUES IN BIOLOGY

Tentative schedule:

1- Principles and uses of light and electron microscopy

Introduction to microtechniques:

Temporary and permanent whole mount preparations

Preservation of specimens: different modes of fixation

Paraffin sectioning: fixation, infiltration, and embedding

2- Hematoxylin-eosin staining

Species concepts; Voucher specimens; Major modes of speciation

Population Genetics; Test for Hardy-Weinberg Equilibrium

Starch gel electrophoresis

3-Population models; Interpretation of zymograms

4-High Pressure Liquid Chromatography

5-Atomic Absorption

6-Molecular Tools in Systematics and Classification

7-Photography in research.....

8-Scientific illustrations/sketching techniques

9-Immunoassays: ELISA

10-Cell culture

11-Protein and Nucleic Acid Analysis

12-Polymerase Chain Reaction

13-Confocal Microscopy and Flow Cytometry

