

# Minnesota State University Moorhead

## BIOL 385L: Molecular Biology Lab

### A. COURSE DESCRIPTION

Credits: 1

Lecture Hours/Week: 0

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course is required for students in the Biology/Chemistry double major with an emphasis in Biochemistry and Biotechnology. The course may be used as an elective by students in other biology programs.

**B. COURSE EFFECTIVE DATES:** 05/10/2004 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Isolation of plasmid and genomic DNA
2. Manipulation of plasmid and genomic DNA
3. Analysis of plasmid and genomic DNA
4. Introduction to bioinformatics
5. Topics include experimental techniques used to study genomes and genes.

### D. LEARNING OUTCOMES (General)

1. Maintain a laboratory record book.
2. Restriction digest and gel electrophoresis.
3. Image analysis of DNA gels.
4. Spectral analysis of DNA.
5. Subcloning DNA.
6. Understand Polymerase Chain Reaction.
7. Data base analysis of DNA sequence.
8. Genotyping.
9. Use of E. coli host strains for plasmid DNA applications.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted