

# Minnesota State University Moorhead

## PHYS 306: Experimental Physics II

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 1

Lab Hours/Week: 4

OJT Hours/Week: \*.\*

Prerequisites:

This course requires both of these prerequisites

PHYS 305 - Experimental Physics I

PHYS 350 - Computational Methods for Physical Science

Corequisites: PHYS 322

MnTC Goals: None

Study of laboratory techniques and measuring instruments.

**B. COURSE EFFECTIVE DATES:** 03/04/2013 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Error analysis
2. Experiments typically develop concepts and include measurements in X-ray spectroscopy, Gamma-ray spectroscopy, Nuclear magnetic resonance, Atomic force microscopy
3. Technical report writing

### D. LEARNING OUTCOMES (General)

1. Develop care in making and recording observations
2. Develop the ability to draw both qualitative and quantitative conclusions from experimental data
3. Use the computer as a tool in the laboratory, both as part of the instrumentation system and as a modeling tool
4. Develop data analysis and error analysis skills within a laboratory experiment
5. Develop scientific communication skills, both in written and oral form

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted