# **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, Gammaray 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

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