

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