

# Inver Hills Community College

## ENGR 2250: Special Topics in Engineering

### A. COURSE DESCRIPTION

Credits: 1,2,3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Provides an opportunity for deeper exploration of special topics in engineering or undergraduate research experience in engineering.

**B. COURSE EFFECTIVE DATES:** 08/26/2013 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Scientific/Technical Literature and Literature Review (10%)
2. Mathematical Modeling Methods for Engineering Applications (20%)
3. Methods of Engineering Analysis (20%)
4. Methods of Engineering Approximation (20%)
5. Numerical Methods for Engineering Applications (20%)
6. Technical Writing for Engineering Audience (10%)

### D. LEARNING OUTCOMES (General)

1. Construct mathematical model based on appropriate laws/principles of physics that govern engineering application(s) under investigation.
2. Analyze a topic of interest using methods of engineering analysis.
3. Formulate and validate an approximate solution using numerical methods or other approximation methods.
4. Identify possible areas of further investigation or directions for further research.
5. Describe the need for lifelong learning.

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted