BEGINNING SURVEY — CIVL 1131

A. Course Description
   - Credits: 5.00
   - Lecture Hours/Week: 2.00
   - Lab Hours/Week: 3.00
   - OJT Hours/Week: 0
   - Prerequisites: None
   - Corequisites: None
   - MnTC Goals: None

Introduces the three basic surveying tools - the tape, level and transit/theodolite - along with proper field procedures for basic surveying which include taking field notes, taping and EDM, leveling, bearings and azimuths, topography, and mapping. Prerequisites: None.

B. Course Effective Dates: 8/22/16 – Present

C. Outline of Major Content Areas
   - As noted on course syllabus

D. Learning Outcomes
   1. Accomplish a level loop within appropriate precision
   2. Accomplish the measurement of a basic traverse
   3. Be able to describe and use a total station
   4. Define GIS
   5. Define GPS
   6. Explain what surveying is and what a surveyor does
   7. Know the sources of error in distance measurement and determination of elevation
   8. Measure distances with a tape
   9. Understand and write field notes
   10. Understand the mathematical basis of angle measurement
   11. Use an automatic level to produce survey notes and drawings

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

F. Learner Outcomes Assessment
As noted on course syllabus

G. **Special Information**

None noted