A. Course Description
   - Credits: 2.00
   - Lecture Hours/Week: 1.00
   - Lab Hours/Week: 1.00
   - OJT Hours/Week: 0
   - Prerequisites: None
   - Corequisites: None
   - MnTC Goals: None

A course on fundamental construction layout principles required for typical construction projects. Topics include: basic control networks, coordinate systems and coordinate geometry, alignment and grade for structures, roadway, and utilities, data collector use, and RTK GPS data acquisition, positioning, and mapping.

B. Course Effective Dates: 12/12/19 – Present

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

D. Learning Outcomes
   1. Design and layout roadways using civil and surveying CAD software/hardware and surveying equipment
   2. Develop a route location for a transportation project
   3. Perform a field survey for control, topographic and planimetric surveys
   4. Perform a field survey to slope stake a roadway
   5. Prepare route surveying documentation for different types of projects
   6. Summarize the proper use of the total station and data collector software and hardware
   7. Use Robotic and total station equipment for setting construction corners and evaluations

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

F. Learner Outcomes Assessment
   As noted on course syllabus

G. Special Information
   None noted