MACH 1642: CNC Operations 1

A. COURSE DESCRIPTION

Credits: 2
Lecture Hours/Week: 0
Lab Hours/Week: 4
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None

This course will familiarize the student with CNC machining and set up. Students will set up and run programs on a CNC lathe and a CNC mill. (Prerequisite: None) (2 Credits: 0 lecture/2 lab)

B. COURSE EFFECTIVE DATES: 04/16/2020 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Safety considerations
2. Calculate machining data
3. Setup for CNC machines
4. Operation of CNC machines
5. Measure parts and compare to specifications
D. LEARNING OUTCOMES (General)
   1. Demonstrate professionalism
   2. Explain machine shop safety
   3. Practice machine shop safety
   4. Wear safety glasses & proper attire
   5. Use reference books
   6. Understand machine shop formulas
   7. Calculate speeds & feeds
   8. Calculate depth of cut
   9. Saw parts
  10. Keep tools clean
  11. Maintain work area
  12. Set up proper stop
  13. Use proper fixture
  14. Set up CNC machine
  15. Use proper tool holders
  16. Use cutter compensation
  17. Check CNC set up
  18. Run program on CNC machine tool
  19. Set tool offset
  20. Set work offset
  21. Load correct tool
  22. Download program
  23. Fabricate parts to print
  24. Clean work area

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted