INDS 1671: Motion Control and Servos

A. COURSE DESCRIPTION

   Credits: 3
   Lecture Hours/Week: 2
   Lab Hours/Week: 2
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None

   An introduction to basic tools, common materials and processes will be covered. The various types of mechanical drives and their features will be discussed along with building and preventive maintenance programs. (Prerequisites: none) (3 credits: 1 lecture/2 lab)

B. COURSE EFFECTIVE DATES: 02/01/2019 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

   1. Describe maintenance tools
   2. Explain correct tool usage
   3. Explain rigging methods
   4. Inspect lifting apparatus
   5. Select appropriate lifting apparatus
   6. Calculate lifting weight
   7. Differentiate ladder and scaffold usage
   8. Describe scaffolding assembly
   9. Perform an elevated work task
   10. Analyze a lifting scenario
   11. Explain lubrication purposes
   12. Explain lubrication techniques
   13. Describe components and applications for oil lubricants
   14. Describe components and applications for grease lubricants
   15. Select lubricant
   16. Lubricate mounted and un-mounted bearings
   17. Calculate correct interval and quantity for re-lubrication
   18. List types and purposes of anti-friction bearings
   19. Differentiate ball and roller bearings
   20. Differentiate housed and naked bearings
   21. Select correct housing and shaft fit
   22. Read electrical wiring diagrams and symbols
   23. Select correct type belt drive
   24. Differentiate various types of drive belts
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted