MDAD 1212: Tool Design Lab

A. COURSE DESCRIPTION
   Credits: 5
   Lecture Hours/Week: *.*
   Lab Hours/Week: 10
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None
   The student will apply the knowledge gained in Tool Design lecture. The application will consist of designing three or four jigs and/or fixtures and an injection mold. (Prerequisites: MDAD1202, MDAD1204, MDAD1208, MDAD1214) (5 credits: 0 lecture/5 lab)

B. COURSE EFFECTIVE DATES: 04/27/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)
   1. Create template jigs drawings
   2. Create inspection gaging drawings
   3. Analyze various jig and fixture types - create one type of drawing
   4. Perform predesign analysis
   5. Consider humans in design
   6. Analyze tool drawings
   7. Analyze tool materials
   8. Apply geometric tolerancing
   9. Identify tool design objectives
   10. Analyze design economics
   11. Identify product routing
   12. Identify product scheduling
   13. Identify product inspection
   14. Identify types of fixtures
   15. Define three point locator theory
   16. Define foolproofing
   17. Analyze basic rules of clamping
   18. Create an injection mold drawing
   19. Identify mold bases
   20. Analyze mold components
   21. Analyze runners and gates
   22. Analyze cores and cavities
   23. Analyze part ejection
   24. Analyze injection molded parts
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
    None

F. LEARNER OUTCOMES ASSESSMENT
    As noted on course syllabus

G. SPECIAL INFORMATION
    None noted