MACHINIST/2 (180 Hours)

Course No.: 77-85-60

COMPETENCY CHECKLIST

Student Name _____

Teacher Name _____ School Site _____

Start Date _____ Completion Date _____ Certificate Date_____

Teacher Signature _____ Student Signature _____

(Signatures verify completion of course competencies)

A. INTRODUCTION (5 hrs)

_____ 1. Scope and purpose of course
_____ 2. Course content as part of Linked Learning
_____ 3. Review classroom policies and procedures
_____ 4. Review occupations available in industry
_____ 5. Opportunities available for women
_____ 6. Purpose of OSHA for machinists
_____ 7. Effect of EPA legislation on industry
_____ 8. Proper hazardous materials removal
_____ 9. MSDS as applied to manufacturing industry
____ 10. Class/work first aid & emergency procedures
____ 11. Review responsibilities for a safe workplace
____ 12. Safety exam with 100% accuracy

B. RESOURCE MANAGEMENT REVIEW (1 hr)

_____ 1. Review listed terms related to topic
_____ 2. Review management of resources in industry
_____ 3. Review components of CPM and their impact
_____ 4. Examples of effective resource management
_____ 5. Benefits of effective resource management
_____ 6. Economic/environmental benefits/liabilities

C. MATH AND SCIENCE PRINCIPLES (10 hrs)

_____ 1. Practical application of math in machining
_____ 2. Demo problem solving with whole numbers
_____ 3. Demo problem solving with fractions
_____ 4. Demo problem solving with decimals
_____ 5. Changing fractions to decimals
_____ 6. Changing decimals to fractions
_____ 7. English/metric systems of measuring length
_____ 8. English/metric systems of measuring weight
_____ 9. English/metric systems of measuring volume
____ 10. Demo solving various measuring problems
____ 11. Demo measuring w/tools common to trade
____ 12. Metric in ascending/descending powers of 10
____ 13. Convert English numbering to metric system
____ 14. Convert metric system to English numbering
____ 15. Calculate square roots of English numbers
____ 16. Solving techniques for geometric problems
____ 17. Solving techniques for algebraic problems
____ 18. Problem solving using percentages
____ 19. Reading and interpreting graphs
____ 20. Demo techniques for using a calculator
____ 21. Chemistry principles as applied to machining
____ 22. Physics principles as applied to machining

D. PRECISION TOOLS (10 hrs)

_____ 1. Review /demo hand tools used in industry
_____ 2. Review/demo precision measuring tools
_____ 3. Identify/demo use of listed measuring items

E. CNC EQUIPMENT (10 hrs)

_____ 1. Identify/describe listed CNC equipment
_____ 2. Potential and limitations of CNC equipment
_____ 3. Identify/describe methods used in CNC
_____ 4. Retrofitting techniques to convert into CNC

F. METALS AND ALLOYS (10 hrs)

_____ 1. Features/functions of metals alloys in CNC
_____ 2. Define metal coding
_____ 3. Discuss role of metals in CNC process

G. BLUEPRINT READING (15 hrs)

_____ 1. Review four information blocks
_____ 2. Explain view or projections
_____ 3. Review types of lines used
_____ 4. Explain dimension using listed terms
_____ 5. Explain tolerance using listed terms
_____ 6. Symbols/abbreviations used in blueprints

_____ 7. Written exam on orthographic projection
_____ 8. Written exam in dimensions and notes

H. COMMUNICATIONS MEDIA (10 hours)
_____ 1. Identify listed items related to topic
_____ 2. Ways to control possibilities of human error
_____ 3. Identify/describe various coding systems
_____ 4. Define coordinates
_____ 5. Differentiate language of G-codes
_____ 6. G-codes format vs auxiliary codes

I. PROGRAMMING (100 hrs)
_____ 1. Manuscript preparation operations
_____ 2. Define listed types of programming
_____ 3. Define tape shortage/breakage
_____ 4. Describe/demo listed techniques

J. ROBOTICS (5 hrs)
_____ 1. Define robotics
_____ 2. Robotics as aspect of CNC
_____ 3. Relationship of robotics with listed items
_____ 4. Identify/describe structural parts of a robot
_____ 5. Define/describe power sources for a robot

K. EMPLOYABILITY SKILLS REVIEW (5 hrs)
_____ 1. Employer requirements in employee
_____ 2. Update list of potential employers
_____ 3. Role of social media in job search
_____ 4. Update sample résumés and cover letters
_____ 5. Requirements for filling out job application
_____ 6. Complete sample job application correctly
_____ 7. Review enthusiasm in interview/on job
_____ 8. Appropriate appearance in interview/on job
_____ 9. Continuous upgrading of job skills
____ 10. Customer service as means to build business
____ 11. Demo appropriate interview techniques
____ 12. Info material to be successful in interview
____ 13. Update sample follow-up letters
____ 14. Demo appropriate follow-up procedures

L. ENTREPRENEURIAL SKILLS (4 hrs)
_____ 1. Define entrepreneur
_____ 2. Characteristics of successful entrepreneurs
_____ 3. Contributions of entrepreneurs to industry
_____ 4. Purpose/components of business plan
_____ 5. Examine personal goals for starting business
_____ 6. Sources of monetary investment for business
_____ 7. Licensing requirement in machining business
_____ 8. Scenario w/student as business owner
_____ 9. LEED practices vs standard business practices