

MANUFACTURING TECHNOLOGY: CNC MACHINING PROFILE OF TRAINING MASTERY

Instructor _____

Date _____

Program _____

Grade _____ School _____

Name _____ Soc. Sec. No. _____

Address _____ Phone _____

In Case of Emergency, Contact _____

Address _____ Phone _____

Allergies/Disabilities that might require special accommodation for training (please specify) _____

The above information can be used for school records and/or to ensure safety of students. This confidential information is not to be released to employers or the general public.

Date of Enrollment ____ - ____ - ____ Total Class Hours _____ Total Hours Absent _____

Date of Withdrawal ____ - ____ - ____ Total On-the-Job Training Hours _____ Total Hours Tardy _____

Date of Completion ____ - ____ - ____ Total Lab Hours _____

ON-THE-JOB TRAINING/WORK EXPERIENCE

Duration of Employment _____ Job Title _____ Supervisor's Name _____

Address of Employer _____ Phone _____

Duration of Employment _____ Job Title _____ Supervisor's Name _____

Address of Employer _____ Phone _____

Use of This Document

This document can be used to record information about the student and skills mastered. This information is useful in documenting student progress during training and in providing information about the student's qualifications to potential employers and/or for entry into advanced training programs. Instructors using these materials are authorized to reproduce this document as required for use in their training programs.



Copyright 2004

Curriculum and Instructional Materials Center, Oklahoma Department of Career and Technology Education

1500 West Seventh Avenue, Stillwater, Oklahoma 74074-4364

1-800-654-4502

Fax 405-743-5154

SPECIFIC JOB COMPETENCIES

Instructor: As each competency is mastered, place your initials and the date in the blank on the left. This will verify that the student can perform the skill with a minimum of supervision.

Date/Initials	Date/Initials
<p style="text-align: center;">UNIT 1 - INTRODUCTION TO CNC MACHINING & PREVENTATIVE MAINTENANCE</p> <p>_____ 1. Explore the history of CNC machining.</p> <p>_____ 2. Select facts related to CNC machining.</p> <p>_____ 3. Identify jobs related to CNC machine tools.</p> <p>_____ 4. Select terms associated with preventative maintenance (PM).</p> <p>_____ 5. Select elements of good preventative maintenance (PM) procedures.</p> <p>_____ 6. Select preventative (PM) maintenance tasks.</p> <p>_____ 7. Perform Preventative Maintenance (PM). (Job Sheet)</p> <p style="text-align: center;">UNIT 2 - POWER UP MACHINE & CONTROL UNIT</p> <p>_____ 1. Match terms associated with machine power-up and control unit to the correct definition.</p> <p>_____ 2. Match control unit indicators used in the power-up, run, and shut-down sequences of operation to the correct definition.</p> <p>_____ 3. Review CNC safety guidelines.</p> <p>_____ 4. Complete a CNC safety guidelines test. (Assignment Sheet 1)</p> <p>_____ 5. Select types of programs used in a CNC machine tool.</p> <p>_____ 6. Match letter addresses to their correct meaning.</p> <p>_____ 7. Match preparatory codes to their correct function.</p> <p>_____ 8. Match miscellaneous codes to their correct function.</p> <p>_____ 9. Select from a list of facts related to the Cartesian coordinate system.</p> <p>_____ 10. Define Cartesian points on a graph. (Assignment Sheet 2)</p> <p>_____ 11. Label coordinate points in absolute and incremental (Lathe). (Assignment Sheet 3)</p> <p>_____ 12. Identify control unit features of CNC machine tool (in shop). (Job Sheet 1)</p> <p>_____ 13. Power-up, initialize, and shut down a CNC machine tool (in shop). (Job Sheet 2)</p> <p style="text-align: center;">UNIT 3 - WRITE A PROGRAM</p> <p>_____ 1. Match terms associated with writing a program to their correct definition.</p> <p>_____ 2. Match program words, g-codes, and m-codes to their functions.</p> <p>_____ 3. Select factors to consider when preparing to write a program and complete machining operation.</p> <p>_____ 4. Complete a setup sheet.</p> <p>_____ 5. Complete program sheet.</p> <p>_____ 6. Write a program.</p> <p style="text-align: center;">UNIT 4 - SET UP CNC MACHINE & TEST RUN PROGRAM</p> <p>_____ 1. Match terms associated with machine tool setup to their correct definitions.</p> <p>_____ 2. Select information contained on a work order.</p> <p>_____ 3. Select guidelines for setup.</p> <p>_____ 4. Interpret setup sheet.</p> <p>_____ 5. Match tool/workpiece holding devices to their correct definition.</p> <p>_____ 6. Identify control unit features used for setup and test run.</p> <p>_____ 7. Identify methods to load program to machine tool control.</p> <p>_____ 8. Prepare workstation for production. (Job Sheet 1)</p> <p>_____ 9. Setup tool/work holding devices, including establishing tool position and offset(s). (Job Sheet 2)</p> <p>_____ 10. Load program. (Job Sheet 3)</p> <p>_____ 11. Test run program. (Job Sheet 4)</p>	<p style="text-align: center;">UNIT 5 - EVALUATE FIRST RUN</p> <p>_____ 1. Match terms associated with evaluation to their correct definitions.</p> <p>_____ 2. Select items to check during visual inspection of first run.</p> <p>_____ 3. Match terminology and symbols found on the blueprint to their correct meanings.</p> <p>_____ 4. Identify inspection equipment.</p> <p>_____ 5. Select items to be checked in dimensional inspection of first run.</p> <p>_____ 6. Select indications that setup changes and/or program editing maybe required.</p> <p>_____ 7. Review blueprint. (Assignment Sheet 1)</p> <p>_____ 8. Inspect part. (Assignment Sheet 2)</p> <p>_____ 9. Calculate required setup, program, or offset changes. (Assignment Sheet 3)</p> <p>_____ 10. Run first part. (Job Sheet 1)</p> <p>_____ 11. Evaluate first run. (Job Sheet 2)</p> <p>_____ 12. Edit program and change setup as required. (Job Sheet 3)</p> <p>_____ 13. Run part for inspection of production run. (Job Sheet 4)</p> <p style="text-align: center;">UNIT 6 - PERFORM PRODUCTION RUN</p> <p>_____ 1. Match terms associated with a production run to their correct definitions.</p> <p>_____ 2. Select guidelines to monitor dimensional accuracy, determine inspection rate, and monitor tool life.</p> <p>_____ 3. Review the procedure to calculate efficiency.</p> <p>_____ 4. Calculate efficiency. (Assignment Sheet 1)</p> <p>_____ 5. Review the procedure to calculate productivity.</p> <p>_____ 6. Calculate productivity. (Assignment Sheet 2)</p> <p>_____ 7. Perform a production run. (Job Sheet)</p> <p style="text-align: center;">ADDITIONAL OBJECTIVES</p> <p>_____ 1.</p> <p>_____ 2.</p> <p>_____ 3.</p> <p>_____ 4.</p> <p>_____ 5.</p> <p>_____ 6.</p>

Student ratings on specific competencies evaluated during the course are available upon student's written request and/or by calling the instructor. Parent's or guardian's signature is necessary if student is under 18 years of age.