

## FLORIDA STATE COLLEGE AT JACKSONVILLE

## COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: PMT 2205

COURSE TITLE: Measuring Devices and ISO Inspections

PREREQUISITE(S): None

COREQUISITE(S): None

CREDIT HOURS: 2

CONTACT HOURS/WEEK: 2

CONTACT HOUR BREAKDOWN:

    Lecture/Discussion: 1

    Laboratory: 1

    Other \_\_\_\_\_:

FACULTY WORKLOAD POINTS: 1.67

STANDARDIZED CLASS SIZE  
ALLOCATION: 24

CATALOG COURSE DESCRIPTION:

This course concentrates on the lathe series of machines and includes set-up, centering, turning, facing, filing, polishing, burning, thread cutting and other processes common to the lathe series.

SUGGESTED TEXT: Machine Tool Practices, ISBN: 0-13-033447-2 by Kibbe and Neely

IMPLEMENTATION DATE: Fall Term, 2009 (20101)

REVIEW OR MODIFICATION DATE:

COURSE TOPICS	CONTACT HOURS <u>PER TOPIC</u>
I. Use of Machinist measuring hand tools.	5
<ul style="list-style-type: none"> <li>A. Use of Micrometers both inside and outside.</li> <li>B. Use of Dial, Digital, and Vernier calipers.</li> <li>C. Use of the Machinist 6 inch scale.</li> <li>D. Use of laser levelers.</li> <li>E. Thread Pitch Gauge.</li> <li>F. Feeler gauges</li> <li>G. Parallel gauges</li> <li>H. Pin gauges</li> <li>I. Hole gauges</li> <li>J. Depth gauges</li> <li>K. Thermo coupling</li> </ul>	
II. Quality/ISO inspection methods.	10
<ul style="list-style-type: none"> <li>A. Control Chart the primary SQC tool</li> <li>B. SPC charting</li> <li>C. Flow chart to show each stage of a manufacturing process.</li> <li>D. Visual inspection using go/no go gauges.</li> </ul>	
III. Pareto Chart to identify the most important factors in the system.	5
IV. Scatter Diagram to highlight the effect of one variable on another.	5
V. Cause and Effect Diagram associate an effect with its possible causes.	5

PROGRAM TITLE: Engineering Technology  
COURSE TITLE: Measuring Devices and ISO Inspections  
NUMBER: 0615.061300 AAS

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLES(S):

12.0 DEMONSTRATE PROFICIENCY IN THE PRINCIPLES, CONCEPTS AND APPLICATIONS  
IN METAL FABRICATION METHODS - The student will be able to:

12.01 Understand professionalism in the manufacturing environment.

12.02 Understand, use and work with precision numbers.

12.03 Interpret mechanical drawings.

12.04 Demonstrate the use of geometric dimensioning and tolerancing.

12.05 Understand materials, and machining processes.

12.06 Demonstrate safe use of hand and power tools.

12.07 Identify the use and process in part layout.

12.08 Demonstrate a working knowledge of metal forming equipment.

12.09 Demonstrate the use of precision steel rulers.

12.10 Demonstrate the use of oxy - fuel cutting.

12.11 Demonstrate acceptable methods in tungsten inert gas welding.

12.12 Demonstrate acceptable methods in gas metal arc welding.

12.17 Demonstrate acceptable methods to use a dial indicator.

12.18 Explain the use of a height gauge to measure stock.

12.19 Identify aircraft sheet metal tools.

12.20 Demonstrate acceptable methods hand cutting and forming sheet metal.

12.21 Demonstrate the use of layout sheet metal tools.

12.22 Demonstrate acceptable methods using micro-counter sinks.

12.23 Demonstrate acceptable methods of Riveting solid rivets.

12.24 Identify and demonstrate operation of the pneumatic rivet gun.

12.25 Demonstrate the use of a rivet gauge set.

12.26 Demonstrate acceptable methods using a back rivet set.

12.27 Demonstrate acceptable methods using bucking bars.

12.28 Demonstrate the use of rivet squeezers and dimpling.

12.29 Demonstrate acceptable methods in using a blind riveting.

## LIST PERFORMANCE STANDARD ADDRESSED: (Continued)

NUMBER(S):            TITLES(S):

- 12.30 Identify the axes on a CNC mill.
- 12.31 Demonstrate hand jog features on a CNC mill & CNC lathe.
- 12.32 Demonstrate acceptable methods to use an ironworker.
- 12.33 Demonstrate acceptable methods using a break & shear.
- 12.34 Demonstrate the use of dial calipers.

14.0 DEMONSTRATE PROFICIENCY IN THE SET-UP AND OPERATION OF MANUAL AND CNC MACHINING CENTERS - The student will be able to:

- 14.01 Set up and maintain a manual lathe and mill.
- 14.02 Demonstrate acceptable processes using a manual lathe and mill.
- 14.03 Demonstrate acceptable control of machining processes.
- 14.04 Identify and define the physics of machine cutting metals.
- 14.05 Demonstrate the characteristics of machining cutting tools.
- 14.06 Define and identify parameters of cutting tool life.
- 14.07 Demonstrate efficient parameters in production processes.
- 14.08 Demonstrate the process to drill and layout holes to a specific size.
- 14.09 Identify baseline machining layout.
- 14.10 Identify manual machining procedures used in CNC programming.
- 14.11 Identify grinding machining practices and processes.
- 14.12 Identify thread types and tooling used in machining.
- 14.13 Identify metal alloys and their properties in machining.
- 14.14 Demonstrate job planning procedures in machining.
- 14.15 Demonstrate procedures to calculate cutting tool speeds and feeds.
- 14.16 Demonstrate methods for accessing machine RPM.
- 14.17 Identify coordinate and primary machining axes.
- 14.18 Define and describe Absolute and incremental coordinates.
- 14.19 Identify the five CNC drive components.
- 14.20 Demonstrate rapid travel and interpolation.
- 14.21 Identify coordinate and primary machining axes.
- 14.22 Identify and define industrial machining and turning centers.
- 14.23 Identify processes for program creation and data management.
- 14.24 Demonstrate acceptable procedures in starting CNC machines.
- 14.25 Demonstrate the CNC machine controls for set up and operation.
- 14.26 Demonstrate acceptable procedures to set up a CNC Machining center.

LIST PERFORMANCE STANDARD ADDRESSED: (Continued)

NUMBER(S):            TITLES(S):

- 14.27 Demonstrate acceptable procedures to run programs using a CNC machining center.
- 14.28 Demonstrate acceptable procedures to generate a CNC program.
- 14.29 Demonstrate acceptable procedures in CNC job planning.
- 14.30 Identify cutting tools collets and holding fixtures.
- 14.31 Identify CNC tooling and applications.
- 14.32 Define CNC programming code words and conventions.
- 14.33 Define and demonstrate CNC program fixed cycles.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

<b>Section 1</b>	
<b>COURSE PREFIX AND NUMBER: <u>PMT 2205</u></b>	<b>SEMESTER CREDIT HOURS: <u>2</u></b>
<b>COURSE TITLE: <u>Measuring Devices and ISO Inspections</u></b>	

**Section 2**  
**TYPE OF COURSE: (Click on the box to check all that apply)**

AA Elective                       AS Required Professional Course                       College Prep  
 AS Professional Elective                       AAS Required Professional Course                       Technical Certificate  
 Other \_\_\_\_\_  
 General Education: (For General Education courses, you must also complete Section 3 and Section 7)

**Section 3 (If applicable)**  
**INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:**

Communications                       Social & Behavioral Sciences                       Mathematics  
 Natural Sciences                       Humanities

**Section 4**  
**INTELLECTUAL COMPETENCIES:**

Reading     Speaking     Critical Analysis                       Quantitative Skills                       Scientific Method of Inquiry  
 Writing     Listening     Information Literacy                       Ethical Judgment                       Working Collaboratively

<b>Section 5</b> <b>LEARNING OUTCOMES</b>		<b>METHOD OF ASSESSMENT</b>
1	Use of Machinist measuring hand tools.	Hands-on test, quizzes, or written test
2	Quality/ISO inspection methods.	Hands-on test, quizzes, or written test
3	Pareto Chart to identify the most important factors in the system.	Hands-on test, quizzes, or written test
4	Scatter Diagram to highlight the effect of one variable on another.	Hands-on test, quizzes, or written test
5	Cause and Effect Diagram associate an effect with its possible causes.	Hands-on test, quizzes, or written test

**Section 6** Name of Person Completing This Form: Darrell J. High                      Date: 05/07/08