DATE SUBMITTED: July 26, 2013
DATE DICC APPROVED: 10/22/2013
CATALOG NO.: CIMM 160

COURSE INFORMATION FORM

DISCIPLINE: CIMM
COURSE TITLE: Advanced Lathe Operations

CR.HR: 4  LECT HR: 2.5  LAB HR: 3  CLIN/INTERN HR:  0  CLOCK HR:  0

CATALOG DESCRIPTION
This course covers numerous topics in lathe operation not covered by the basic courses. This will include CNC Lathe as well as Manual Lathe. The course is designed for students in the machining and manufacturing careers.

PREREQUISITES
CIMM 121 or concurrent enrollment

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Perform all required manual lathe and CNC lathe operations safely.
2. Perform all types of threading operations on manual and CNC lathes.
3. Perform tapered turning operations on the manual lathe.
4. Perform turning operations on the CNC lathe with compensation for taper.
5. Program and prove in all common canned cycles on the CNC lathe.
6. Demonstrate proficiency with all facets of the CNC lathe control panel.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

Outcomes                                                              ESO

PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Students will demonstrate the ability to apply foundational skills in an industrial setting, safely and to industry guidelines.
2. Students will think critically and apply problem-solving skills.
3. The program will graduate individuals who exhibit competence in CNC programming, setup and operation.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Classroom discussion/Participation: (1 – 6)
2. Assignments/Labs: (1 – 6)
3. Written and Application Exam: (1 – 6)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Threading operations on the manual lathe
II. Threading operations on the CNC lathe
III. Taper turning on the manual lathe
IV. Taper compensation on the CNC lathe
V. Program in G and M codes all CNC lathe canned cycles
   A. Write programs
   B. Prove in programs
   C. Adjust tooling for wear
VI. CNC Machine control panel use
   A. All mode functions
   B. All display keys
   C. Help modes for various functions
   D. On-screen calculators