ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: CNC 1204; CNC Turning Center Operations I

Date: Spring 2015

Credit Hours: 3

Prerequisite(s):   CNC-1200 with a grade of C or better and CNC-1202 with a grade of C or better

Delivery Method: ☒ **Lecture**   **2 Contact Hours** (1 contact = 1 credit hour)

☐ **Seminar**   **0 Contact Hours** (1 contact = 1 credit hour)

☒ **Lab**   **2 Contact Hours** (2 contact = 1 credit hour)

☐ **Clinical**   **0 Contact Hours** (3 contact = 1 credit hour)

☐ **Online**

☐ **Blended**

Offered: ☒ **Fall**   ☒ **Spring**   ☐ **Summer**

IAI Equivalent –*Only for Transfer Courses*-go to *http://www.itransfer.org*:

CATALOG DESCRIPTION:
In this course students learn basic CNC Turning Center Operations (Lathe). The student will learn basic CNC Lathe components and operations, understand and write part programs, and learn Lathe operator skills. Proper loading of programs into the machine control, verifying accuracy and program editing, and the basis of speeds and feeds will also be taught.

GENERAL EDUCATION GOALS ADDRESSED

[See the last page of this form for more information.]

Upon completion of the course, the student will be able:

[Choose those goals that apply to this course.]

- ☒ To apply analytical and problem solving skills to personal, social and professional issues and situations.
- ☒ To communicate orally and in writing, socially and interpersonally.
- ☐ To develop an awareness of the contributions made to civilization by the diverse cultures of the world.
- ☒ To understand and use contemporary technology effectively and to understand its impact on the individual and society.
- ☒ To work and study effectively both individually and in collaboration with others.
- ☐ To understand what it means to act ethically and responsibly as an individual in one's career and as a member of society.
- ☐ To develop and maintain a healthy lifestyle physically, mentally, and spiritually.
- ☐ To appreciate the ongoing values of learning, self-improvement, and career planning.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

[Outcomes related to course specific goals.]

Upon completion of the course, the student will be able to:

1.0   The student will be able to write a part program.
2.0   The student will be able to install and set tooling in the Lathe Turret.
3.0   The student will demonstrate proper workplace loading procedures.
4.0   Proper loading of programs into the machine control will be demonstrated by the student.
5.0   Reading and interpretation of action codes will be performed by the student.
6.0   The student will verify and edit programs.
7.0   The student will recognize tool wear and replace tools.
8.0   The student will demonstrate adjustment to speed and feed.

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Safety
2. DVD instruction
3. Computer simulation
4. Sequence of operations
5. Loading and molding work pieces
6. Program loading
7. Reading and interpreting action codes
8. Verifying program accuracy

INSTRUCTIONAL METHODS:
1. Lecture
2. Demonstration
3. DVD/Videotape instruction
4. Practical applications
5. Individualized instrumentation
6. Hands-on lab work
7. Master task on-line lecture/tests

INSTRUCTIONAL MATERIALS:

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:
1. Problem solving
2. Computer simulation testing
3. Skill proficiency
4. Technical Knowledge

OTHER REFERENCES
Master Task's Mastering CNC Lathes Student Guides For:

Course 1:   The Basic CNC Lathe
Course 2.   Understanding Part Programs
Course 3.   Lathe Operator Skills

Other References:

1.   Okuma LB-15 Operations Manuals
2.   Milltronics ML15 Operations Manual
3.   Introduction to Computer Numerical Control ISBN: 0-13-217603-3
4.   Computer Numerical Control Operation and Programming
5.   Machinist Ready Reference ISBN: 097033980
6.   Example Programs

Course Competency/Assessment Methods Matrix

CNC 1204; CNC Turning Center	Assessment Options

For each competency/outcome place an "X" below the method of assessment to be used.	Assessment of Student Learning	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment
Assessment Measures – Are direct or indirect as indicated. List competencies/outcomes below.	Direct/ Indirect	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D						
1.0 The student will be able to write a part program.					X	X		X	X				X																			
2.0 The student will be able to install and set tooling in the Lathe Turret.					X	X									X																	
3.0 The student will demonstrate proper workplace loading procedures.					X	X		X							X																	
4.0 Proper loading of programs into the machine control will be demonstrated by the student.					X	X		X							X																	
5.0 Reading and interpretation of action codes will be performed by the student.					X	X		X							X																	
6.0 The student will verify and edit programs.					X	X		X							X																	
7.0 The student will recognize tool wear and replace tools.						X									X																	
8.0 The student will demonstrate adjustment to speed and feed.						X		X							X																	