

ILLINOIS VALLEY COMMUNITY COLLEGE



COURSE OUTLINE

DIVISION: Workforce Development

COURSE: MET-1200; Inspection, Measurement, and Quality

Date: Spring 2014

Credit Hours: 3

Prerequisite(s):

Delivery Method: **Lecture** **3 Contact Hours** (1 contact = 1 credit hour)
 Seminar **0 Contact Hours** (1 contact = 1 credit hour)
 Lab **0 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:

Inspection and gaging covered in a concise manner, including many phases of inspection work and their application to present day manufacturing operations. The course covers a variety of manual and automatic measuring devices and gages, their specific function, and specialized techniques of application. The course also analyzes quality systems and the methods and duties of the different types of inspectors.

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. Understand the importance and application of Metrology
2. Properly inspect, calibrate, repair, and use precision measuring tools
3. Understand and apply various Metrology and Quality terms and definitions

COURSE TOPICS AND CONTENT REQUIREMENTS:

- 1.0 Introduction to Metrology
- 2.0 Systems of Measurement
- 3.0 Scaled and Dialed Instruments
- 4.0 Gage Blocks
- 5.0 Measurement by Comparison
- 6.0 Angle Measurement
- 7.0 Surface Finish Measurement
- 8.0 Instrument Calibration and Repair
- 9.0 Quality Systems

INSTRUCTIONAL METHODS:

Lecture and Demonstration

Lab

INSTRUCTIONAL MATERIALS:

Fundamentals of Dimensional Metrology, 5th edition, Connie L. Dotson, ISBN-13:978-1-4180-2062-0

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Quizzes

Tests

Comprehensive Final

Labs

Group Projects

Skills Tests

OTHER REFERENCES

“This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timelines, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use, by an organization and/or personal use by an individual for non-commercial purposes, is permissible. All other uses require the prior authorization of the copyright holder.”

Course Competency/Assessment Methods Matrix

MET 1200; Inspection, Measurement & Quality	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									
	Direct/ Indirect	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 Introduction to Metrology		X			X			X	X			X																													
2.0 Systems of Measurement					X			X	X			X			X						X																				
3.0 Scaled and Dialed Instruments					X			X	X			X			X						X																				
4.0 Gage Blocks					X			X	X			X			X						X																				
5.0 Measurement by Comparison					X			X	X			X			X						X																				
6.0 Angle Measurement					X			X	X			X			X						X																				
7.0 Surface Finish Measurement					X			X	X			X			X						X																				
8.0 Instrument Calibration and Repair				X	X			X	X			X			X						X																				
9.0 Quality Systems								X	X			X																													