



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: MET 2201 Statistical Quality Control Techniques

Date: Spring 2023

Credit Hours: 3

Complete all that apply or mark "None" where appropriate:

Prerequisite(s): MTH 1206 with a C or better or consent of instructor

Enrollment by assessment or other measure? Yes No

If yes, please describe: by appropriate assessment

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor: Yes No

Delivery Method:	<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
	<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
	<input checked="" type="checkbox"/> Lab	2 Contact Hours (2-3 contact = 1 credit hour)
	<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)

Offered: **Fall** **Spring** **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

This course includes fundamentals of statistics including std. deviation; normal curve frequency distribution; central limit theorem; construction and use of variable control charts (X and R charts); study of process capability; control charts for attributes such as P&C charts; basic concepts of acceptance sampling; various sampling plans; AQL; and introduction to the reliability of the product.

ACCREDITATION STATEMENTS AND COURSE NOTES:

None

COURSE TOPICS AND CONTENT REQUIREMENTS:

- 1.0 Introduction to Quality Assurance
- 2.0 Introduction to Statistics
- 3.0 Control Charts for Variables
- 4.0 Probability
- 5.0 Control Charts for Attributes
- 6.0 Lot by Lot Acceptance Sampling
- 7.0 Additional Sampling Plans
- 8.0 Reliability
- 9.0 Additional Quality Concepts

INSTRUCTIONAL METHODS:

Lecture
Lab Work
Computer Based Training

EVALUATION OF STUDENT ACHIEVEMENT:

1. Tests
2. Quizzes
3. Homework
4. Lab Performance

INSTRUCTIONAL MATERIALS:

Textbooks

Pearson- Statistical Quality Design and Control, second edition

Resources

None

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- 1) Communication – to communicate effectively;
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

1. Understand and apply the basic concepts of statistical quality control
2. Apply the various principles of statistical quality control to everyday industrial situations and problems.
3. Recognize and apply statistical quality control as a problem solving tool.