

# QUALITY (QLTY)

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## QLTY 111, QUALITY MEASUREMENTS - METROLOGY 3 (5)

Learning proper use and care of quality measuring instruments or devices. Students will be trained in measurement techniques and procedures based on industry standards and practices. Also included are introduction to advanced precision measurement devices, methods for inspection, maintenance and care of instruments, and writing technical reports. Laboratory required. (A special fee will be assessed.) Prerequisite: High school algebra and geometry or divisional approval.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: High school algebra and geometry or divisional approval

**Typically Offered:** Spring Semester

## QLTY 121, QUALITY ASSURANCE TECHNIQUES (SPC) 2 (4)

This is an introductory course in fundamental quality assurance techniques. Basic statistical process and normal probability applications for quality improvements: histogram, Pareto charts, cause and effect analysis, control charts for variable and attribute data and its interpretation for process capability and probability of occurrences analysis are covered. Also studied are R&R gage capability and basic sampling techniques. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Course placement policy: Grade of C or higher in MTHM 033 or satisfactory placement assessment in mathematics

**Typically Offered:** Fall and Spring Semesters

## QLTY 121G, QUALITY ASSURANCE TECHNIQUES (SPC) 2 (4)

This is an introductory course in fundamental quality assurance techniques. Basic statistical process and normal probability applications for quality improvements: histogram, Pareto charts, cause and effect analysis, control charts for variable and attribute data and its interpretation for process capability and probability of occurrences analysis are covered. Also studied are R&R gage capability and basic sampling techniques. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

## QLTY 122, BASIC QUALITY TOOLS AND APPLICATIONS 3 (5)

This course introduced basic quality tools and application techniques widely used in business and industry. Basic statistical processes control methods and quality improvements tools: histogram, Pareto charts, cause and effect analysis, scatter plots, and control charts for variable and attribute data and the interpretation for process capability and probability of occurrences analysis are covered. Quality problem root-cause analysis for corrective actions is discussed. This course offers an opportunity for experiential learning. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1, IN2

**Course Entry Requirement(s):** Concurrent: MTHM 168; Course placement policy: MTHM 058

## QLTY 199, INTRODUCTION TO THE WORLD OF WORK - QLTY 1 (1)

This course provides an internship-level supervised work experience with an approved employer. Emphasis is on career exploration to maximize sound career decisions. Students also explore the role of a college education in career preparation. Focus on self-examination of the world of work in terms of values, skills, and interests. Exploration of occupational paths for all majors, disciplines, examination of employer-employee expectations, preparation of resumes and development of interviewing skills are covered. Prerequisite: A student must have completed a minimum of 12 semester credit courses at LCCC (courses transferred are not counted), have earned minimum 2.0 overall GPA; OR have division approval. (Maximum three "1" credit courses allowed.)

**Course Entry Requirement(s):** A student must have completed a minimum of 12 semester credit courses at LCCC (courses transferred are not counted), have earned minimum 2.0 overall GPA; OR have division approval (Maximum three "1" credit courses allowed.)

**Typically Offered:** Offer as required

## QLTY 221, QUALITY MANAGEMENT PRINCIPLES AND PRACTICES 3 (3)

Fundamental principles and practices of Total Quality Management (TQM) in an organization are covered. The basic TQM concepts of leadership, customer satisfaction, employee involvement, problem solving, bench marking, continuous process improvement, supplier partnership, and performance quality assessment are addressed. ISO 9000 related practices are discussed.

**General Education:** IN1

**Typically Offered:** Spring Semester

## QLTY 222, INTERNAL PLANT LOGISTICS 3 (3)

This course covers all the basics of internal plant logistics in manufacturing and service operation planning including inventory control systems, purchasing, enterprise resource planning, and physical distribution and transportation systems from suppliers to consumers. Continuous quality improvement applications in all activities are emphasized.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: MTHM 121 or MTHM 151

**Typically Offered:** Fall Semester

## QLTY 224, LEAN MANAGEMENT PRINCIPLES & PRACTICES 3 (3)

This course explains applications of Lean Principles and Practices for Quality Management in Manufacturing and Services. Lean principles and practices base improvements on time and motion studies. Time and motion studies are implemented in manufacturing and service environments to achieve Improved Quality, Eliminate Waste, Reduce Lead Times and Reduce Operating Costs. This course will provide the students with a basic understanding of Lean Principles and Practices as well as tools to utilize to achieve the improvement goals.

**General Education:** IN1

**Course Entry Requirement(s):** Concurrent: ENGL 161

**Typically Offered:** Spring Semester

## QLTY 226, SIX SIGMA BASIC TOOLS & TECHNIQUES 3 (4)

This course is an application of Six Sigma Basic Tools and Techniques for Quality students. The Six Sigma processes and principles will be covered that include an overview of the history and quality tools focusing on continual improvement for all processes and functions in business. Tools such as Measurement methods, process capabilities, probabilities and design of experiments will be provided for direct application. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: MTHM 151 or MTHM 121

**Typically Offered:** Fall Semester

**QLTY 232, SAMPLING AND INSPECTION CONTROL 2 (3)**

This course covers the principles of acceptance sampling plans for quality control and the use of sampling tables and standards in preparing inspection plans for new product design, product improvement, incoming material control, and vendors' parts supply. Also included are gauge calibration, maintenance, and gauge data management studies. Design of experiment for reliability study will be introduced. Laboratory is required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: QLTY 111 and QLTY 121

**Typically Offered:** Spring Semester

**QLTY 234, LEAN SIX SIGMA FOR PROCESS IMPROVEMENT 4 (5)**

This course integrates "Lean Principles and Procedures" with "Six Sigma Tools and Techniques" as practiced by quality improvement industry. Students will be engaged in hands on practical applications of setting goals for lean enterprise, value stream mapping, eliminating waste, and reducing operating costs. Students will also apply the Define Measure, Analyze, Improve and Control (DMAIC) Model to improve project outcomes. Laboratory is required. (A special fee will be assessed).

**General Education:** IN1, IN2

**Typically Offered:** Fall Semester

**QLTY 235, QUALITY AUDIT & CORRECTIVE ACTION 2 (2)**

Introduction of basic principles of quality audit and cost control procedures that are applied in a typical industrial or service environment is covered. Implementation of auditing procedures, failure and root-cause analysis for corrective action, and preparing preventive action plans in both manufacturing and service oriented environment using case study analyses are discussed.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: QLTY 121, QLTY 226 or QLTY 232 or divisional approval

**Typically Offered:** Spring Semester

**QLTY 236, RELIABILITY CENTERED MAINTENANCE 3 (0)**

This course covers the concepts, core principles and applications of reliability centered maintenance (RCM) in an industrial manufacturing setting. Practical applications for Total Productive Maintenance (TPM), preventive and predictive maintenance, implementing Failure Modes and Effects Criticality Analysis (FMECA) and determining resources for corrective actions will be discussed. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1, IN2

**Course Entry Requirement(s):** Concurrent: MTHM 121

**Typically Offered:** Spring Semester

**QLTY 287, WORK-BASED LEARNING I - QLTY 1-3 (1)**

This course provides supervised work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating classroom learning with work experience. Students will be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Activities are coordinated and evaluated by college personnel. Course will be graded on the S/U basis. Prerequisite: A student must be pursuing an approved program at LCCC; have completed 15 semester hours with a minimum of six semester hours in the discipline of placement; have a minimum GPA of 2.5 in the discipline and a 2.0 overall GPA; and have divisional approval.

**Course Entry Requirement(s):** A student must be pursuing an approved program at LCCC; have completed 15 semester hours with a minimum of six semester hours in the discipline of placement; have a minimum GPA of 2.5 in the discipline and a 2.0 overall GPA; and have divisional approval.

**Typically Offered:** Offer as required

**QLTY 288, WORK-BASED LEARNING II - QUALITY 1-3 (1)**

This course provides supervised work experience building on experience in Work-Based Learning I approved employer(s) in an area related to the student's program. Emphasis is placed on integrating classroom learning with work experience. Student will be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Activities are coordinated and evaluated by college personnel. Course will be graded on the S/U basis. Prerequisite: QLTY 287

**Course Entry Requirement(s):** Prerequisite: QLTY 287

**Typically Offered:** Offer as required