

## Program Number 31-623-2 Technical Diploma • Two Terms

### ABOUT THE PROGRAM

This technical diploma, Quality Process Improvement, provides you with the basic skills for quality assurance work. This credential ‘ladders’ up to the full two-year Associate Degree, Quality Assurance Technician. Quality assurance is a program for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met. In simple business terms, quality assurance is the difference between success and failure. If you believe in the idea of “quality in, quality out,” and you want to play a vital role in helping an organization achieve success through quality, LTC’s Quality Process Improvement technical diploma is the way to get you started in this field.

### PROGRAM OUTCOMES

- Provides basic understanding of total quality control concepts, inspection methods, data collection, application of sampling plans, quality cost, and quality audits.
- Utilize mathematical calculations, including metric conversions, geometry, trigonometry, and basic and advanced statistical process control techniques.
- Provides basic understanding of Lean Six Sigma concepts of continuous improvement and provides you with the basic skills to apply these principles.
- Provides basic understanding of quality systems used currently in industry. These systems include, ISO 9000, Malcolm Baldrige, and Deming Prize.
- Assist in the planning of quality audits to assure quality systems are working and take corrective action through continuous improvement.

### ADMISSIONS STEPS

- Work with Admissions Specialist to:
  - Submit application and \$30 fee.
  - Complete an assessment for placement (Accuplacer or ACT).
  - Submit official transcripts (high school and other colleges).
- Meet with program advisor/counselor to discuss program details.

### APPROXIMATE COSTS

- \$132 per credit (resident)
- \$198 per credit (out-of-state resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health-related exams, etc.) Visit [gotoltc.edu/payingforcollege](http://gotoltc.edu/payingforcollege) for details.

### PLACEMENT SCORES

Accuplacer/ACT scores will be used to develop your educational plan. Contact your program advisor/counselor for details.

### SPECIAL NOTE

This credential, the Quality Process Improvement technical diploma, is part of the quality assurance career pathway and can serve as a step to the higher credential, the Quality Assurance Technician Associate Degree. The associate degree provides further in-depth training in quality, management, and in “soft” skills.

### CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit [gotoltc.edu/transfer](http://gotoltc.edu/transfer).

### CONTACT

Vicki Stock, Admissions Specialist  
920.693.1143 • [vicki.stock@gotoltc.edu](mailto:vicki.stock@gotoltc.edu)

Catalog No.	Class Title	Credit(s)
<b>Term 1</b>		
10623101	Quality Concepts	3
10623110	Lean Six Sigma - Measure and Analyze	4
10623111	Lean Six Sigma - Improve & Control	4
10809196	Sociology - Introduction to OR	3
	10809122 Introduction to American Government	
		<b>14</b>
<b>Term 2</b>		
10623123	Blueprint Reading, Metrology, and Calibration	3
10623131	Planning for Six Sigma	3
10623112	Lean Six Sigma - Implementation	3
10623193	ISO 9001:2008	3
10801195	Written Communication OR	3
	10801136 English Composition 1	
		<b>15</b>
		<b>TOTAL 29</b>

*Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor/counselor for details.*



**BLUEPRINT READING, METROLOGY AND CALIBRATION**...provides knowledge and skill in the understanding of quality measurement, quality measurement devices and their proper application. Quality measurement topics include precision, accuracy, control of variation, gage R/R, calibration techniques and blueprint/specification reading. The quality measurement devices portion of this course provides hands-on use of common measurement and test equipment. The applications portion shows how measurement and test equipment is used to ensure useful results in practical situations.

**INTRODUCTION TO SOCIOLOGY**...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent

**ISO 9001:2008**...is designed to introduce participants to the QS/ISO 9001: 2008 standards. The course is structured to teach the QS/ISO 9001: 2008 standards, how to document procedures, and how to perform audits. All of the QS automotive standards will be introduced.

**LEAN SIX SIGMA - IMPLEMENTATION**...introduces the student to the implementation of a six sigma project. Students apply the techniques used in prior Lean Six Sigma courses to a real problem in their place of employment. An emphasis is placed on team skills required to successfully implement the project. Skills demonstrated include project initiation, time management, and constraint management. Student final projects demonstrate their mastery of both DMAIC and Lean methodologies. **COREQUISITE:** 10623111 Lean Six Sigma-Improve & Control

**LEAN SIX SIGMA - IMPROVE & CONTROL**...provides the student with the skills and tools to select and implement solutions to solve problems and improve processes. An emphasis is placed on the use of statistical techniques in solution selection including correlation, regression, and statistical process control. Lean manufacturing methods including SMED, POUS, cellular manufacturing, mistake proofing, TPM, 5S and visual management are practiced. Students learn how to create a control plan. MiniTab skill expansion is included.

**LEAN SIX SIGMA - MEASURE AND ANALYZE**...provides the student with skills and tools to collect and analyze data to solve problems and improve processes within an organization. Various techniques for process mapping are explored including SIPOC, FMEA, VSM, standard work sheets, and spaghetti diagrams. Statistical tools are explored including probability, confidence intervals, measurement systems analysis, hypothesis testing, and TAKT time analysis to create and implement a data collection plan. MiniTab introduction is included. **PREREQUISITE:** 10623193 ISO900 or Six Sigma Equivalent

**PLANNING FOR SIX SIGMA**...uses Design for Six Sigma (DFSS) tools and techniques to build high levels of quality into the design of products, services, and processes. The DMADV process is used to identify critical-to-customer requirements and incorporate them into effective specifications, methods and process controls. The techniques for the automotive APQP process and the Stage-Gate qualification system used by industrial, health care and service businesses, are presented and applied to the course materials.

**QUALITY CONCEPTS**...provides an overview of quality systems, methods and analysis using Minitab software. Basic quality philosophies such as Deming's principles, continuous improvement, quality costs, supplier relations and inspection theory will be presented. The components of a basic quality system compatible with ISO9000 and Six Sigma will be explored. Minitab software will be taught and utilized to collect and analyze data. Techniques such as pareto, trend analysis, histograms, cause and effect diagrams and corrective/preventive action techniques will be applied to the data in order to address problems and improve processes.

**WRITTEN COMMUNICATION**...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. **PREREQUISITE:** 10831103 Intro to College Wrtg equivalent and **COREQUISITE:** 10838105 Intro Rdg & Study Skills or equivalent