



**Harrisburg Section 503**

# **EDUCATION PROGRAM**

**2009–2010**

**GENERAL COURSE OFFERINGS FOR:  
HARRISBURG - LANCASTER -  
YORK - LEBANON - CARLISLE**

**ASQ CERTIFICATION REFRESHER COURSES**

**INTRODUCTORY & ADVANCED QUALITY  
COURSES**

**ON-SITE COURSE OFFERINGS**

American Society for Quality Inc.  
Harrisburg Section 503  
6312 Auburn Drive  
Mechanicsburg, PA 17050

NONPROFIT ORG  
U.S. POSTAGE  
**PAID**  
HARRISBURG, PA  
PERMIT NO. 418

Enclosed you will find an extensive listing of course offerings by the Harrisburg Section of the American Society for Quality. Course offerings range from an introduction to Quality Assurance/Control activities to more specialized courses in Quality Management, Design of Experiments and preparation classes for ASQ Certification Exams.

All courses offer an exceptional value to participants and are conducted by qualified local quality professionals.

Please follow the enclosed instructions to enroll in a course. Further information and additional copies of the education catalog can be obtained by contacting the Education Chair. Course information and registration is also possible via the Section homepage.

John Sharp  
Education Chair  
717-986-7692 (work)  
717-938-9439 (home)  
jsharp@tycoelectronics.com

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**Welcome to the 2009/2010 ASQ Harrisburg Section Education Program**  
**ASQ Vision — Quality Now More Than Ever!**

In these tough economic times making quality a global priority, an organizational imperative, and a personal ethic, is imperative. The American Society for Quality is the community organization for everyone who seeks quality technology, concepts or tools to improve themselves and their world.

The objective of ASQ and the Harrisburg Section is the advancement of the theory and practice of quality and the allied arts and sciences. Our education committee under the capable leadership of John Sharp, our Education Chair, has once again assembled a program of instruction that supports that vision and mission.

I encourage you to look over this catalog carefully as I am sure that you will discover meaningful opportunities to expand your personal knowledge and skill set as well as opportunities that your organization may wish to take advantage of.

Our purpose is to provide opportunities for improvement that will benefit the community as a whole. Please do not keep this catalog a secret, share it with others in your organization and community who may find benefit from its offerings. All of the offerings herein are available to ASQ members as well as non-members. We can also provide instruction for your organization tailored to fit your specific needs. Please contact John to explore those opportunities.

I, along with the entire Executive Committee of the Harrisburg Section, am committed to fostering the advancement of quality throughout the South Central PA region. Our programs for the coming year are our best efforts to further that end. If we can be of any assistance to you or your organization I hope that you will contact us.

Thank you.

Gregory M. Gurican, R.N.  
Section Chair  
ASQ Harrisburg Section

**Do you or the business you work for have a product or service to offer area quality professionals?**

**Do you want to show your support and dedication to quality to the Greater Susquehanna Valley?**

Advertising is available in the monthly newsletter of the ASQ Harrisburg section. **Quality Currents** is a monthly professionally printed newsletter that reaches over 700 quality professionals every month.

If you have a product or service to offer, consider advertising in Quality Currents. The rates are reasonable and are listed below.

For more information or a copy of a recent newsletter contact:

Jim Pasquali at (717) 761-0225  
[pasquality@att.net](mailto:pasquality@att.net)

**2009–2010 Rate and Fee Schedule for  
 Quality Currents  
 Monthly newsletter for Harrisburg Section ASQ  
 Published September thru June**

Full page	7 ½" x 10"	\$150
Half page	7 ½" x 4 ¾"	\$100
Quarter Page	3 ½" x 4 ¾"	\$60
Eighth page	3 ½" x 2 ½"	\$30

10% Discount on 3 or more insertions, payable in advance.

Full page inserts available by quote.

Sizes other than as noted above will be considered at same rate schedule.

Half page on a two column layout is the same as half price listed above.

Camera ready artwork please, simple layout and scanning at additional cost.

Section members may place advertisements at a reduced rate.

Employment / Placement firms general advertisement at full fee.

Specific openings in regional area at ½ the rate schedule fees.

## ASQ – HARRISBURG MONTHLY MEETINGS

ASQ – Harrisburg meets monthly on the second Wednesday of each month from September through June. Elsewhere in this catalog you will find the calendar for the upcoming year as it stood at the time of publication.

Information regarding meeting topics and location as well as registration information can be found on the ASQ - Harrisburg website, <http://www.asq-harrisburg.org/> no later than the Monday of the week preceding the meeting date. Registration for monthly meetings ends the Friday before the meeting date.

Guests are always welcome at ASQ – Harrisburg meetings.

### ASQ HARRISBURG 2009-10 MEETING SCHEDULE

DATE	SPEAKER	TOPIC	LOCATION
9/9/2009	Tim Donnan	Metrology & Calibration	York
10/14/2009			Harrisburg
11/11/2009	Gil Weiss - Paramount Industries	Advances in Rapid Prototyping & Digital Direct Manufacturing	Lancaster
12/9/2009	Voith Hydro	Plant tour & presentation	York
1/13/2010	JR McGee		Harrisburg
2/10/2010			Lancaster
3/10/2010	Jim Hricak - York Container	Back to the Basics. Facilitating massive results with simple tools	York
4/14/2010			Harrisburg
5/12/2010			Lancaster
6/9/2010			York

## ASQ HARRISBURG 2009-2010 OFFICERS

<u>NAME</u>	<u>OFFICE</u>
Greg Gurican.....	Chair
John Reibson.....	Secretary
Jim Pasquali.....	Treasurer
Jim Pasquali.....	Arrangements
Craig Mosher.....	Auditing Chair
John Sharp.....	Education Chair
Michael Green.....	Examining Chair
Steven Cronkrite.....	Internet Liaison
Michael Vovakes.....	Membership Chair
David Fisher.....	Newsletter Editor
Brian Krady.....	Placement Chair
Fred Hammond.....	Program Chair

## Cancellation and Refunds

If insufficient enrollment necessitates canceling the course, any tuition paid will be refunded. Refunds WILL NOT be granted after the third class session unless the course is cancelled by the Society. It is the Society's intention to complete all scheduled courses; however, if extenuating circumstances force cancellation, refunds will be prorated after the cost of materials has been deducted.

## HOW TO ENROLL IN A COURSE

To enroll in one of the general course offerings, use one of the enrollment forms in the center of this brochure. Complete the form and mail to:

Harrisburg Section ASQ  
Attn: John Sharp  
30 Maplewood Drive  
Etters PA 17319

Course information and enrollment instructions are also located on the Section homepage at:

[www.asq-harrisburg.org](http://www.asq-harrisburg.org)

## PAYMENT OF COURSE FEES

Course fees may be paid by personnel check, company check, or by company purchase order. ***Checks for course fees are due by the third class session unless other arrangements have been made with the Education Chair.*** If payment is to be by purchase order, the purchase order should be made out to and mailed to:

Harrisburg Section ASQ  
Attn: John Sharp  
30 Maplewood Drive  
Etters PA 17319

Please do not process your purchase order or write the check for payment until you have been notified by the instructor that the course will be offered.

## ON-SITE COURSE OFFERINGS

Any of the courses listed in this brochure can be presented on-site at your facility, subject to instructor availability. The only requirement for an on-site offering is a minimum enrollment of eight students. For additional information contact the Harrisburg Section Education Chair.

## ENROLLMENT DEADLINES

The enrollment deadline for the general course offerings are as follows:

Fall 2009 Session — September 12, 2009  
Winter 2010 Session — January 31, 2010

Enrollments must be received by these dates. Fall Session classes will begin by the end of September, Winter Session classes will begin by mid-February.

## MINIMUM ENROLLMENTS

A course will not be offered unless there is a minimum enrollment of five students. For many of the courses we do not know if the minimum enrollment will be met until the actual enrollment deadline or, in some cases, not until a week after the deadline date. If the minimum enrollment is met and the course is to be offered:

### YOU WILL BE CONTACTED BY THE INSTRUCTOR

## COURSE TIMES & LOCATIONS

All courses will be conducted during weekday evening hours (Mon.–Thurs.) unless special arrangements have been made by the instructor. Normal course length is between 2–3 hours per session. Specific classroom sites will be selected by the instructor and students will be notified when their enrollment in the course is confirmed.

## TEXTBOOKS

Numerous course fees include the textbook, while others do not. Textbooks are sold to students at ASQ Harrisburg Section cost.

## SPECIAL COURSES

If a course or topic your organization would like to have offered is not listed in this brochure, please contact the Education Chair. Courses tailored to the specific needs of your organization can be arranged depending on the request and ASQ instructor availability.

## QCE 308

### *Making Sense of Baldrige Criteria*

Pennsylvania is now among the states promoting use of the Malcolm Baldrige Criteria for Performance Excellence to assess and improve work performance via the Keystone Alliance for Performance Excellence (KAPE). Stoner, Inc. in Quarryville won the 2003 Baldrige Award. Other PA business, educational institutions, and healthcare organizations will likely be interested in seeing if using Baldrige Criteria makes sense for them.

This course examines the strengths and weaknesses of the Baldrige Criteria and provides an innovative approach to effectively and efficiently using the Criteria to assess performance while building support for change.

#### Who Should Attend:

- Those considering whether or not to apply for the KAPE or Baldrige Awards or who plan to use the KAPE or Baldrige Criteria for assessing and improving organizational performance will benefit from this course.

#### What Participants Will Learn:

- The strengths and weakness of the Baldrige Criteria
- What to consider BEFORE applying for the KAPE or Baldrige Award
- What to consider BEFORE using the Baldrige Criteria to assess performance
- How to use the Baldrige Criteria as part of an ongoing assessment and improvement performance management system.

#### How Participants Will Benefit:

- Determine whether or not using KAPE or Baldrige Criteria makes sense for your organization.
- Gain insights onto how to effectively assess current organizational performance.
- Gain insights in how to make changes that actually result in improvement
- Acquire a set of innovative management practices and tools.

**Length:** 8 hours

**Cost:** \$125

**Instructor:** Harrisburg, Phil Landesberg  
Lancaster, York (717) 545-8649

# QCE 307

## *Organizing for Success*

Many performance problems in businesses and public sector organizations can be traced to faulty, but prevalent, leadership and management practices. Typically, performance problems are blamed on workforce problems (e.g., poor morale, resistance to change) or management shortcomings (e.g., failure to motivate employees).

This highly interactive course provides participants leadership principles and management practices that lead to increased quality and productivity and improved customer and employee satisfaction.

### **Who Should Attend:**

- Business owners, managers, supervisors, team leaders and others involved in planning, directing, assessing and improving work to meet business objectives and customer needs will benefit from this course.

### **What Participants Will Learn:**

- How to effectively plan for a better future.
- How to build enduring relationships with customers, suppliers, and employees.
- How to deal effectively with resistance to change.
- How to assess current performance and predict future results.
- How to make changes that actually result in improvement.

### **How Participants Will Benefit:**

- Gain an understanding of the consequences of common management practices.
- Acquire a new set of leadership principles and management practices.
- Improve your ability to meet employee and customer needs.
- Improve your ability to develop and implement successful plans for improvement.
- Improve your ability to identify and manage risks.

**Length:** 16 hours

**Cost:** \$200

**Instructor:** Harrisburg, Phil Landesberg  
Lancaster, York (717) 545-8649

## WHAT IS CERTIFICATION?

Certification is formal recognition by ASQ that an individual has demonstrated a proficiency within and a comprehension of a specified body of knowledge at a point in time. It is peer recognition and not registration or licensure.

### **Quality Engineer Certification**

Designed for those who understand the principles of product and service quality evaluation and control.

### **Quality Auditor Certification**

Designed for those who understand the standards and principles of auditing and the auditing techniques of examining, questioning, evaluation, and reporting to determine quality system adequacy.

### **Reliability Engineer Certification**

Designed for those who understand the principles of performance evaluation and prediction to improve product/systems safety, reliability, and maintainability.

### **Quality Technician Certification**

Designed for those who can analyze quality problems, prepare inspection plans and instruction, select sampling plan applications, and apply fundamental statistical methods for process control.

### **Manager of Quality and Operational Excellence Certification**

Designed for those who understand quality standards and concepts, implement organizational assessments, and maintain customer satisfaction and focus. Should manage projects supporting strategic objectives and motivate human resources.

### **Software Quality Engineer Certification**

Designed for those who have a comprehensive understanding of software quality development and implementation; have a thorough understanding of software inspection and testing, verification, and validation; and can implement software development and maintenance processes and methods.

## Quality Inspector Certification

Designed for those who, under professional direction, can evaluate hardware documentation, perform laboratory procedures, inspect products, measure process performance, record data, and prepare formal reports.

### WHAT REQUIREMENTS MUST BE MET TO APPLY?

Each requires that you have at least eight years of work experience in one or more areas of the body of knowledge for that particular exam. This includes at least three years in a decision-making technical, professional, or managerial position.

If you have completed a degree, diploma, or certification program beyond high school, you may waive some of the required experience as follows:

Certificate from a technical or trade school	1 year
Associate degree (college or technical school)	2 years
Bachelor's degree	4 years
Master's or doctoral degree	5 years

### EXAM FORMAT

All examinations consist of multiple choice questions that are carefully designed, reviewed for correctness, and computer-scored and analyzed to properly determine the degree of comprehension of the prescribed body of knowledge. The CQMgr exam does have essay questions.

For more information or for applications call ASQ at 1-800-248-1946

Free brochures on each exam are available by calling ASQ customer service at the above number. The brochures cover costs, application process, requirements to sit for the exams, body of knowledge and sample questions.

## QCE 306

### *Advanced Management Skills and Concepts*

Prevalent American management practices are based on faulty assumptions that have unintended, negative consequences. These practices harm quality & productivity and customer satisfaction, undermine improvement efforts, lead to resistance to change, and contribute to employee stress and dissatisfaction. Management can work more effectively with employees to meet organizational aims and provide products and services that will delight customers by learning and applying the following competencies:

- Systems thinking
- Statistical thinking (understanding the importance of variation and prediction)
- Adult and organizations learning
- Encouraging pride and joy in work through job design, training, and education

This highly interactive course provides knowledge that leads to a better return on investment and improves the ability to make changes that actually result in improvement.

#### Who Should Attend:

- Anyone involved in planning, assessing, measuring and managing work, performance improvement, or re-engineering initiatives will benefit from this course.

#### How You Will Benefit:

- Gain a better understanding of the consequences of current management practices.
- Gain knowledge to help you develop a more effective approach to managing.
- Improve ability to achieve better organizational and program performance results.
- Improve ability to develop and implement strategies for change.

#### What You Will Learn:

- New management skills and concepts and how to apply them effectively.
- How to assess the performance of work processes, systems, and organizations.
- How to integrate planning, process improvement, and performance measurement
- How to make changes that actually result in improvement.

**Length:** 16 hours

**Cost:** \$200

**Instructor:** Phil Landesberg  
(717) 545-8649

## QCE 305

### *Dealing Effectively With Resistance To Change*

Individuals and organizations achieve better results by learning and applying better ways of doing things. However, individuals and organizations often resist implementing the changes that can help them achieve performance excellence. This course will provide participants knowledge of principles and practices they can use to more effectively deal with resistance to change on a personal level and to build support within organizations for changes that result in improvement.

#### **Who Should Attend:**

- Anyone involved in planning and implementing change initiatives benefit from this course.

#### **What You Will Learn:**

- Three principles that help minimize resistance and build support for change.
- Practical management tools and practices to help plan and implement successful changes.
- Why change is resisted (even when it is perceived to be beneficial).
- Better approaches to dealing with resistance to change.

#### **How You Will Benefit:**

- Learn how to effectively use knowledge gained from resistance to change to build support for change.
- Improve your ability to deal with resistance to change—in yourself and others.
- Improve your ability to develop and successfully implement strategies for changes that actually result in improvement

**Length:** 8 hours

**Cost:** \$125

**Instructor:** Phil Landesberg  
(717) 545-8649

## COURSE DESCRIPTIONS FOR 2009/2010

## QCE 100

### *Introduction to Quality Control*

This course is designed for individuals who have not had prior training in the field of Quality control or SPC, and may have had only a limited mathematical background. The course provides a basis for understanding Statistical Process Control.

**Topics:** What is Statistical Quality Control  
Benefits Derived from Statistical Q.C.  
Construction & Interpretation Of X & R Charts  
Frequency Distribution & Normal Curve  
Averages & Individuals  
Introduction to Attribute Charts  
Simulating Processes for Control Charts  
Introduction to Acceptance Sampling  
Mil Std 105E

**Length:** 28 hours

**Cost:** \$275.00 including text

**Instructor:** Harrisburg, Dave Little  
Lancaster, York Work: 810-3741

## **QCE 101**

### ***Statistical Process Control***

This course is designed for Technicians, Engineers, And Managers. Shewhart's Control Charts, their construction, application and interpretation are covered in detail. The student will learn how to determine when a process is in "Statistical Control" and be introduced to Process Capability studies. Visual aids are used to reinforce theory. Analysis of data from students own job is encouraged.

**Prerequisite:** QCE 100 or equivalent experience

**Topics:** Fundamental Statistical concepts: Mean, Range, Standard Deviation, Variance.  
Histogram and Frequency Distributions  
Process Control Techniques  
Control charts—Variables & Attributes.  
Statistical Tolerancing.

**Length:** 28 hours

**Cost:** \$325.00 including text

**Instructor:** Harrisburg, TBD  
Lancaster, York

## **QCE 304**

### ***Striving for Supervisory Excellence***

Supervisors must, to be successful, direct and guide the work of employees to meet business and customer needs. Frequently, supervisors and team leaders have abundant technical skills but lack a comprehensive knowledge of requisite supervisory competencies and practices. This lack of knowledge can lead to problems in the workplace, including resistance to change, poor morale, stress and anxiety, and, as a result, poor work quality and low productivity.

#### **Who Should Attend:**

- This course provides an innovative approach to supervision, and will benefit prospective, new and experienced supervisors.

#### **How Participants Will Benefit:**

- Develop an effective approach to supervising employees.
- Improve your ability to work with employees to improve organizational performance.
- Develop an individualized basis for further learning about supervisory skills and practices.

#### **What Participants Will Learn:**

- How to effectively direct employees towards meeting business objectives.
- How to encourage the best efforts of employees in performing work tasks.
- How to increase customer and employee satisfaction.
- How to plan and implement changes that actually result in improvement.

**Length:** 12 hours

**Cost:** \$160

**Instructor:** Harrisburg, Phil Landesberg  
Lancaster, York (717) 545-8649

## QCE 203

### *Geometric Dimensioning and Tolerancing*

This course focuses on the interpretation of engineering drawings which utilize geometric dimensioning and tolerancing according to the latest revision of the standard which is ANSI Y14.5M 1994. It is a comprehensive course applicable to the needs of the Engineer/Designer, inspector and those persons who must read or interpret drawings to this standard. The course reviews the additions modifications and clarifications to the previous revision, Y14.5M 1982, and serves as an entry level course as well as a refresher review of all changes to the previous standard.

**Prerequisite:** QCE 202 or the ability to read blueprints

**Topics:** Datums  
Limits of Size  
Position Tolerancing  
Form Tolerancing  
Runout and Profile  
Virtual Size

**Length:** 24 hours

**Cost:** \$275.00 including text

**Instructor:** Harrisburg, Edward Hoehn  
Lancaster, York Home: 299-1524

## QCE 102

### *Probability and Sampling*

This course is designed to provide the student with an understanding of the laws of probability, sampling theory and sampling plans for in-plant and supplier control.

**Prerequisite:** QCE 101 or equivalent

**Topics:** Quality Costs  
Probability  
Sampling Practice  
Hypergeometric Distributions  
Operating Characteristics Curve  
Binomial and Poisson Distributions  
Mil Std 105E (Attributes)  
Mil Std 414 (Variables)  
Other Sampling Plans

**Length:** 28 hours

**Cost:** \$350.00 including text

**Instructor:** Harrisburg TBD

## QCE 103

### *An Introduction to ISO 9001:2000 Quality Systems*

This course is designed to introduce participants to the ISO 9000 standards. It provides an understanding of the ISO 9000 standards, explains when compliance or registration to ISO is required or desirable, and describes how to document and implement a quality system. Participants receive a detailed analysis of the standards, as well as a comparison to help them understand the relationship among the ISO standards.

QS 9000 Standard will also be covered in this class as it applies to the automotive industry.

**Prerequisite:** None

**Topics:** What ISO 9000 Means to Your Industry  
What Companies are Getting Registered and Why  
Third-party Audit Concept  
ISO 9000 Registration Process  
Do's and Don'ts of Registration

**Length:** 15 hours

**Cost:** \$225.00 including text

**Instructor:** Harrisburg, Jim Pasquali  
Lancaster Home: 691-0225

## QCE 202

### *Blueprint Reading*

This course is designed to develop the student's ability to read engineering drawings and shop prints for required dimensions, tolerances, shape description, machining and other essential data. This type of knowledge may be used by the worker or technician for layout, fabrication, construction and assembly by the Quality Control technician or inspector in inspecting and test of single parts or an assembly of many parts.

**Topics:** Three View Projection  
Dimensioning—Linear and Angular  
Decimal, Fractional & Angular  
Tolerances  
One and Two View Drawings  
Taper, Screw Threads, Finish, Sections  
Drilling, Tapping, Countersinks, Counterboring  
Assembly Drawings

**Length:** 22 hours

**Cost:** \$250.00 including text

**Instructor:** Harrisburg, Ed Hoehn  
Lancaster, York Home: 299-1524

# **QCE 201**

## ***Inspection and Gaging***

This course is designed to provide inspection personnel with an understanding of their role in the quality function and the tools and equipment they have at their disposal.

**Topics:** Needs and Functions  
Specifications, Standards, Tolerances and Language  
100% and Process Inspections  
Basic Principles and Techniques of Measurement  
Attribute Gages  
Surface Texture  
Gage Blocks  
Mechanical Indicating Equipment  
Screw Threads  
Gage Control Systems  
Surface Plate Methods  
Air Gaging  
Optical Gaging Equipment

**Length:** 28 hours

**Cost:** \$275.00 including text

**Instructor:** Harrisburg, Ed Hoehn  
Lancaster, York Home: 299-1524

*NOTE: This is a Review Course. Individuals registering for this course are responsible for verifying that they have the prerequisite knowledge and experience. The course is fast paced and rigorous. This is not the class to take if you have no previous knowledge or experience in the topics to be covered.*

# **QCE 104**

## ***Principles of Quality Engineering***

This course is designed as a review course for individuals already having a background in the various quality disciplines. The course is demanding and is open to those who are interested in preparing for the Certified Quality Engineering Exam. The individual taking this course should have completed QCE 101, 102, and 107; or their equivalent.

**Topics:** Quality Management, Organization and Tasks  
Quality Costs  
Quality Motivation  
Basic Concepts of Probability  
Statistical Sampling for Attributes and Variables  
Design of Experiments  
Metrology  
Nondestructive Testing  
Reliability

**Length:** 30 hours

**Cost:** \$350.00 including text

**Instructor:** Harrisburg, Lancaster  
Team Instruction:  
J. Sharp  
Terri Kinsey  
William Foley

Note: this is a Review Course. Individuals registering for this course are responsible for verifying that they have the prerequisite knowledge and experience. The course is fast paced and rigorous. This is not the class to take if you have no previous knowledge or experience in the topics to be covered.

## QCE 105

### ***Certified Quality Inspector Refresher***

This course is designed to prepare the student to pass the Certified Quality Inspector exam. The individual taking this course should have completed QCE 100, 101 and 201, or their equivalent.

**Topics:** Technical Mathematics  
Blueprint Reading  
Inspection Tools and Equipment  
Materials and Processes  
Inspection Planning  
Inspection Technology  
Statistics  
Sampling and Sampling Plans

**Length:** 28 hours

**Cost:** \$325.00 including text

**Instructor:** Harrisburg, York Dave Little  
Work: 810-3741

## QCE 119

### ***Certified Quality Improvement Associate (CQIA)***

The CQIA exam is designed for people who work outside of traditional quality areas. This course is designed to cover basic knowledge of quality tools and their uses by individuals who are involved in quality improvement projects, but do not necessarily come from traditional quality areas.

The pilot exam was given on January 27, 2001. The experience needed to take this exam is two years of general work experience or at least an Associate Degree from a post-secondary school.

**Topics:** Terms, concepts and Principles  
Benefits of Quality  
Teams and Group Dynamics  
Continuous Improvement  
Quality Improvement Tools  
Customer-Supplier Relationships  
Preparing for the Audit  
Performing the Audit  
Follow-up

**Length:** 24 hours

**Cost:** \$300.00 including text

**Instructor:** David Little  
Work: 810-3741

## **QCE 118**

### ***Internal Auditing***

This course will cover the methodology of performing an internal audit for system, process and product. This course is for practitioners of auditing within their organizations. It is not a detailed preparation for the Certified Quality Auditing exam.

**Topics:** Checklists  
Audit Trails  
Report Writing  
Sampling Plans  
Non-compliance  
Notes  
Preparing for the Audit  
Performing the Audit  
Follow-up

**Length:** 24 hours

**Cost:** \$300.00 excluding text

**Instructor:** Harrisburg, Jim Pasquali  
Lancaster, York Home: 691-0225

## **QCE 106**

### ***Total Quality Management***

This course is designed to provide the practicing Quality Engineer or Quality Manager with a better understanding of TQM concepts. Concentration will be on customer satisfaction, continuous improvement and employee involvement techniques/principles.

**Prerequisite:** None

**Topics:** Management Participation and Leadership  
Education and Training  
Goals and Objectives  
Employee Involvement and Recognition  
Customer Emphasis  
Supplier Certification and Partnerships  
Interlock / Closed Loop System  
Quality Function Deployment  
TQM and MIL-Q-9858A / ISO 9000 series

**Length:** 30 hours

**Cost:** \$350.00 including text

**Instructor:** Harrisburg John Sharp  
986-7692

## **QCE 107**

### ***Design of Experiments I***

This course is designed to provide the practicing engineer and technician with tools necessary for evaluating data from controlled and uncontrolled experiments. Students will be encouraged to use actual data from their plant.

**Topics:** Reference Distributions  
Experimentation Techniques  
Experimental Error (Noise)  
Central Limit Theorem  
Normal Probability Plots  
Z, t, F, CHI-Square Tests  
Contingency Test  
One Tail & Two Tail Tests  
Null Hypothesis Test  
Interval Estimate of Variance (Confidence Interval)  
Pooled Variance  
Analysis of Variance (ANOVA)  
Randomized  
Randomized Block Design  
    Two Way  
    Latin Square  
    Graeco-Latin Square  
    Hyper-Graeco-Latin Square

**Study Aids:** Hand calculator with statistics capability (a necessity)  
Statistical computer program (i.e., Minitab, Statgraphics, True Epistat or equivalent. Not required but would be helpful). Minitab 10 will be used as part of the Training Program.

**Length:** 26 hours

**Cost:** \$375.00 including text

**Instructor:** Harrisburg, York   TBD  
Lancaster           Harlan Zimmerman  
                          684-5916

## **QCE 117**

### ***Certified Quality Technician Course***

This course will cover the body of knowledge, as described by ASQ, for the CQT certification exam. Structure of the exam will be reviewed. The course is designed to supplement attendees prior quality practices/principles educational and work experience background. Recommended textbooks to be reviewed prior to sitting for the exam will be discussed.

**Topics:** ASQ Body of Knowledge for CQT  
Measurement Methods/Techniques  
Sampling Plans  
Elementary SPC Methods  
Quality Standards  
Quality Management  
Quality Costs  
Basic Auditing Techniques

**Length:** 24 hours

**Cost:** \$325.00 including text

**Instructor:** Harrisburg,           Ed Hoehn  
Lancaster, York       Work: 299-1524

## QCE 116

### *Certified Quality Manager Refresher Course*

This course will cover the body of knowledge, as described by ASQ, for the new CQMgr certification exam. Structure of the exam and sample essay questions will be reviewed. The course is designed to supplement an attendees prior quality practices/principles educational and work experience background. Recommended textbooks to be reviewed prior to sitting for the exam will be discussed.

**Topics:** ASQ Body of Knowledge for CQMgr  
Quality Standards  
Organizations and Their Functions  
Quality Needs and Overall Strategic Plans  
Customer Satisfaction and Focus  
Project Management  
Continuous Improvement  
Human Resource Management  
Training and Education

**Length:** 30 hours

**Cost:** \$375.00 including text

**Instructor:** Harrisburg      John Sharp  
Work: 986-7692

## QCE 108

### *Design of Experiments II*

This course is a continuation of QCE-107 and is designed to further the skills of the practicing engineer to evaluate data from experiments.

**Topics:** Review of Analysis of Variance (ANOVA)  
Balanced Incomplete Block Design Exp  
(Youden Square)  
Components of Variances  
Two Level Factorials  
Two to the Three Factorial Design  
Two to the Four Factorial Design  
Fractional Factorial Design  
Correlation and Regression  
Planar and Non-Planar Response Surface  
Methodology  
Survey of Taguchi Methods

**Study Aids:** Hand calculator with statistics capability (a necessity)  
Statistical computer program (i.e., Minitab, Statgraphics,  
True Epistat or equivalent. Not required but would be  
helpful).  
Minitab 10 will be used as part of the Training Program.

**Length:** 26 hours

**Cost:** \$275.00 (same text as for QCE 107)

**Instructor:** Harrisburg, York      TBD  
Lancaster      Harlan Zimmerman  
684-5916

## **QCE 109**

### ***Principles of Quality Auditing***

This course is designed to provide participants with skills and knowledge in Quality Auditing. Various types of audits will be discussed, as well as how to develop supplier certification partnerships. The course is designed for Quality Auditors, Auditor Trainers, Supplier Quality Engineers, and anyone experienced in and involved with auditing and vendor certification programs. For those participants with previous experience and knowledge, this course will serve as a review for anyone planning to take the ASQ Certified Quality Auditor examination.

**Prerequisite:** None. (If taking the course as a CQA review, experience with auditing or vendor certification is a prerequisite).

**Topics:** ISO-9000 Requirements  
Basic auditing techniques  
Dos and don'ts of auditing  
Methods of performing audits  
Internal and external audits  
Types of audits:  
    Systems  
    Process  
    Product  
Auditor characteristics  
Developing supplier certification partnerships  
Documenting the audit  
Reporting audit results and findings  
Follow-up of audits  
Preparation for ASQ CQA exam

**Length:** 30 hours

**Cost:** \$350.00 including text

**Instructors:** Harrisburg, Terri Kinsey  
Lancaster, York Work: 810-3726

## **QCE 115**

### ***Failure Modes and Effect Analysis (FMEA)***

This course is designed to provide the student with a working knowledge of the FMEA process as it is applied to product, process, or system. References will be made to ISO-9001, and QS-9000 standards. Failure Modes and Effect Analysis is a critical step in the development of a new product or in the modification of existing products. The purpose of the FMEA is to identify potential modes of failure and their relationship to product design or manufacturing process and their effects, if known, on the end use of the product.

**Prerequisite:** None required

**Topics:** This systematic approach parallels, formalizes and documents the mental disciplines that an engineer normally goes through in any design process. Discussions on FMEA history, methods, types, responsibilities, documentation, implementation and software will be reviewed and presented.

**Length:** 12 hours

**Cost:** \$175.00 including text

**Instructor:** Harrisburg, David Little  
Lancaster Work: 810-3741  
Home: 665-9340

# QCE 114

## *Lean Manufacturing*

(A Systematic Approach to Waste Reduction)

This course is designed to provide an introduction to the concepts of JIT, TQM, TEI, and TPM. The student will leave the course with a basic understanding of the tools used by manufacturing and service industries that have successfully achieved continuous improvement within their organizations.

**Prerequisite:** None

**Topics:** Total Productive Maintenance: a tool used by operators to perform preventative maintenance of equipment to ensure defect-free production and zero breakdowns of machines. Just-In Time: a system to deliver products exactly when needed through the elimination of work-in-process inventories. Total Quality Management: an analysis of all facets of an organization's processes that relate to the design, production, sale, delivery, and service for its customers. Total Employee Involvement: an emphasis on the involvement of all of the employees that make up an organization in regard to decision making, internal activity participation, and communication of information.

**Note:** A brief overview of topics relating to re-engineering, team building, and workplace organization will also be covered in this course.

**Length:** 30 hours

**Cost:** \$300.00 including text

**Instructor:** Harrisburg            TBD

# QCE 111

## *Introduction To Reliability Engineering*

This course is designed to be a elementary review of various Reliability Engineering and Management disciplines. The course is open to those who are preparing for the Reliability Engineering Certification Examination and to others who are interested in a thorough review in the various reliability disciplines.

**Prerequisite:** QCE 101 or equivalent

**Topics:** Reliability Concepts, Probability  
Normal, Lognormal, Binomial, Poisson and  
Weibull Distributions  
Reliability Data Analysis  
Reliability Program Requirements  
Reliability of Design  
Maintainability and Availability

**Length:** 28 hours

**Cost:** \$350.00 including text

**Instructor:** Harrisburg            TBD  
Lancaster                            TBD

## QCE 112

### *Root Cause Analysis—Getting Started*

Root causes can be uncovered and analyzed by using a number of approaches, techniques, and tools that help the problem-solver get to the heart of the problem. This course is intended to apply various known tools; using case studies to demonstrate application of methods to determine root cause.

**Prerequisite:** None

**Topics:** Practical Problem Solving  
Root Cause Analysis  
Tools for Problem Understanding  
Tools for Possible Cause Generation and Consensus Reaching  
Tools for Possible Cause and Data Collection  
Tools for Possible Cause Analysis  
Tools for Cause and Effect Analysis  
How to Select the Right Tool

**Length:** 16 hours

**Cost:** \$150.00 per part

**Instructor:** Harrisburg      Dave Little  
Work: 810-3741  
Home: 665-9240

## QCE 113

### *Self-Assessments Based on Baldrige Criteria*

This course is intended to familiarize the student with the Malcolm Baldrige Award application criteria guidelines and through review of published case studies provide guidance as to how to use for self-assessments. Collaborative assessment process uses a combination of synergism, consensus, collaboration, humor and candor to get to the “truth” about the performance. See how fun and friendly the Baldrige process can be!

**Prerequisite:** None

**Topics:** Leadership of the Quality Process  
Management of Quality Data  
Quality Planning  
Employee Involvement, Training, Recognition and Measurement  
Design, Processing and Supplier Improvement  
Benchmarking  
Quality Improvement Reporting  
Change Agent Process

**Length:** 15 hours

**Cost:** \$150.00

**Instructor:** Harrisburg      Don Parrish  
Home: 751-0991



**ENROLLMENT FORM  
ASQ HARRISBURG SECTION 0503  
GENERAL COURSE OFFERINGS  
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GENERAL COURSE OFFERINGS  
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QCE 109—	HARRISBURG	LANCASTER	YORK
QCE 111—	HARRISBURG		
QCE 112—Part 1 & 2	HARRISBURG		YORK
QCE 113—	HARRISBURG		
QCE 114—	HARRISBURG	LANCASTER	
QCE 115—	HARRISBURG		
QCE 116—	HARRISBURG		
QCE 117—	HARRISBURG	LANCASTER	
QCE 118—	HARRISBURG	LANCASTER	YORK
QCE 119—	HARRISBURG	LANCASTER	YORK
QCE 201—	HARRISBURG	LANCASTER	YORK
QCE 202—	HARRISBURG	LANCASTER	YORK
QCE 203—	HARRISBURG	LANCASTER	YORK
QCE 304—	HARRISBURG		
QCE 305—	HARRISBURG		
QCE 306—	HARRISBURG		
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