

Course Catalog

The Seifer Quality Institute of Long Island

The Benchmark for Corporate Training



**AMERICAN SOCIETY
FOR QUALITY**

LONG ISLAND SECTION
NON-PROFIT ORGANIZATION
<http://www.asqlongisland.org>

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SEIFER QUALITY INSTITUTE OF LONG ISLAND

Objective

The Seifer Quality Institute of Long Island is the educational arm of the American Society for Quality, Long Island Section. Our objective is to teach world class operating methods to the Greater New York Area so that we may successfully compete in national and international marketplaces.

Certification Courses

Certification courses prepare registrants for international ASQ certification examinations in Quality Engineering, Software Quality Engineering, Reliability Engineering, and Quality Auditing. In addition, there are Certification Exam Preparation Courses for Calibration Technician and Manager of Quality/Organizational Excellence.

Training Selections

Select from the wide range of courses and workshops to help you and your staff respond to the increased emphasis on quality and productivity.

Who Should Attend Courses

Quality Assurance, Quality Control, Product Assurance and Total Quality Managers, Supervisors, Administrators, and Engineers. Also Manufacturing Engineers, designers, Service, Testers, Technicians, Inspectors, and Clerks.

Registration

Complete the registration form on course schedule. A Full refund is available if cancellation is received seven days before start date of course or workshop. The fee is tax deductible.

Course Catalog

This catalog provides a detailed description of the body of knowledge (BOK) provided by the courses listed. Some courses in this catalog may not be offered every semester. Please check the course schedule, issued each semester, for courses offered.

*In memory of
Stanley Seifer
whose relentless dedication has
built the Institute into a nationally
acclaimed award winner.*



CERTIFICATION COURSES, PREPARATION REVIEW

CQA-2 (Instructor/Site code: 105/TBD) CERTIFIED QUALITY AUDITOR EXAMINATION PREPARATION (Revised BOK by ASQ in 2004)

Does your company management need assurance that its quality program is effective?
Is your company required to have an Internal Audit Program to comply with ISO standards?
Are you planning to take the ASQ Certified Quality Auditor (CQA) examination?

If the answer to any of the above questions is yes, this course is for you.

Quality audits are performed to analyze the implementation and effectiveness of programs designed to maximize the quality of goods or services delivered to the customer. In this regard, the auditor is an extension of management. This course will teach participants to prepare, perform and report the results of quality audits, as well as administration of an audit program. Students will be required to use what they learn to prepare for and perform an actual quality audit in their own companies.

This course will satisfy the ISO requirement for the training of Internal Auditors. In addition, the course is designed to prepare students to take the ASQ Certified Quality Auditor (CQA) examination.

Note: Although *not* a prerequisite for this course, if you intend to take the ASQ CQA examination, knowledge of Statistical Process Control (SPC), Sampling, and Quality tools/techniques (e.g., SQC-1) is recommended. **The following has been excerpted from the ASQ.org website.** See www.asq.org for additional information about the 2004 CQA BOK

Revised BOK in 2004

Examinations based on the 2004 BOK will contain a number of case studies. Additional time will be needed to process all elements of the case studies, and, therefore, the length of examination time will be increased from 4 hours to 5 hours.

Body of Knowledge

- Auditing fundamentals
- Audit process
- Auditor competencies
- Audit program and business applications
- Quality tools and techniques
- Six levels of cognition based on bloom's taxonomy (revised)
- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create

CQE-1 (Instructor/Site code: 117/A) CERTIFIED QUALITY ENGINEER EXAMINATION PREPARATION

This refresher course will assist the quality professional in preparing for the American Society for Quality (ASQ) examination for certification as a Quality Engineer.

This course will cover multiple-choice questions. During the course participants will review several topics of the body of knowledge, and past examination questions.

Certain education and / or experience requirements must be satisfied in order to take the ASQ-CQE Examination.

Body of Knowledge

- Management and Leadership in Quality Engineering
- Quality Systems Development, Implementation, and Verification
- Planning, Controlling, and Assuring Product and Process Quality
- Reliability and Risk Management
- Problem Solving and Quality Improvement
- Quantitative Methods

CMQ/OE-1 (Instructor/Site code: 117/A) CERTIFIED MANAGER OF QUALITY/ORGANIZATIONAL EXCELLENCE EXAMINATION PREPARATION

The Certified Manager of Quality/Organizational Excellence is a professional who leads and champions process-improvement initiatives—everywhere from small businesses to multinational corporations—that can have regional or global focus in a variety of service and industrial settings.

A Certified Manager of Quality/Organizational Excellence facilitates and leads team efforts to establish and monitor customer/supplier relations, supports strategic planning and deployment initiatives, and helps develop measurement systems to determine organizational improvement.

The Certified Manager of Quality/Organizational Excellence should be able to motivate and evaluate staff, manage projects and human resources, analyze financial situations, determine and evaluate risk and employ knowledge management tools and techniques in resolving organizational challenges.

Body of Knowledge

- Leadership (25 Questions)
- Strategic Plan Development and Deployment (15 Questions)
- Management Elements and Methods (32 Questions)
- Quality Management Tools (28 Questions)
- Customer-Focused Organizations (20 Questions)
- Supply Chain Management (15 Questions)
- Training and Development (15 Questions)

MANAGEMENT AND ENGINEERING COURSES

CSQE-1 (Instructor/Site code: 104/P) Certified Software Quality Engineer (CSQE) Exam Prep.

The CSQE Prep Course is a review to help professionals prepare for the CSQE exam. The prep course provides a review of all sections of the Body of Knowledge (BOK) and many practice questions, similar to those given on the exam. Each class will involve lecture, question & answer on the homework and practice questions reviewed in class. Due to the large amount of material to cover, there will be weekly reading homework, with assigned practice exam questions.

Body of Knowledge

- General Knowledge
- Software Quality Management
- Software Audits
- Software Process
- Program & Project Management
- Software Metrics & Measurements
- Verification & Validation
- Configuration Management

It is suggested that you have a minimum of two years Software Quality responsibility during a portion of your professional career, and that you have taken and passed the SQA-1 course offered by the Seifer Quality Institute, before enrolling in this course.

CCT-1 (Instructor/Site code: 118/TBD) Certified Calibration Technician (CCT) Exam Prep.

The Certified Calibration Technician tests, calibrates, maintains and repairs electrical, mechanical, electromechanical, analytical and electronic measuring, recording and indicating instruments and equipment for conformance to established standards.

Body of Knowledge

- General Metrology (30 Questions)
- Measurement Systems (25 Questions)
- Calibration Systems (25 Questions)
- Applied Mathematics and Statistics (20 Questions)
- Quality Systems and Standards (15 Questions)
- Uncertainty (10 Questions)

New addition to the Seifer Quality Institute

Ten Week Course consisting of

Six to Seven Weeks – Body of Knowledge

Three to Four Weeks – Certification Exam Preparation

PJM-1 (Instructor/Site code: 111/TBD) PROJECT MANAGEMENT

Project management is the application of knowledge, skill, tools, and techniques to manage activities in order to meet or exceed stakeholder needs and expectations from a project.

Meeting or exceeding needs and expectations involves balancing the following demands: Scope, time, cost, and schedule, stakeholders with differing needs and expectations, as well as identified and unidentified requirements.

This course will describe the processes and necessary requirements to for project success.

Body of Knowledge

- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management

SIG-1 (Instructor/Site code: 105/TBD) INTRODUCTION TO SIX SIGMA PROCESS IMPROVEMENT

This course is designed to provide students with an understanding of how six sigma is used to help companies increase market share, reduce costs, and improve profitability.

Body of Knowledge

- Why Six Sigma
- Changing what companies measure
- The Breakthrough Strategy
- Measuring Performance on the Sigma Scale
- The Implementation and Deployment Strategy
- Sigma Players
- Six Sigma Black Belts
- Six Sigma and the Service Sector
- Preparing an Organization for Six Sigma

AUD-1 INTRODUCTION TO AUDITING

(Instructor/Site code: 105/TBD)

This course is designed to provide students with an understanding of the basics of Auditing.

Body of Knowledge

- The Audit Process
- Product, Process and System Audits
- First, Second and Third Party Audits
- Preparation, Performance, Reporting, and Closure Phases
- Corrective Action and Follow-up
- Audit Program Administration
- Auditor Qualifications and Training
- Audit Ethics

IPC-A-610-1 (Instructor/Site code: 102/TBD) Worker Proficiency certificate Training of Acceptability criteria of electronic assemblies as defined in the IPC-A-610D standard

The course covers workmanship standards for classes 1, 2 and 3 of the IPC-A-610D document. Assemblers, inspectors and supervisors will be able to identify the quality or grade of an electronic assembly as defined in the IPC-A-610D Standard. Students who successfully complete the Worker Proficiency Certification Training Program have demonstrated their ability to navigate and understand the IPC-A-610D document. Certification is valid for two years.

Body of Knowledge

- Terms and Definitions
- Cleanliness
- Related Documents
- Markings
- Handling of Electronics
- Coatings
- Mechanical Assembly
- Laminated Conditions
- Component Installation
- Discrete Wiring
- Solder Characteristics
- Surface Mount Characteristics

IPC-J-STD-001 (Instructor/Site code: 102/TBD) Worker Proficiency Certificate Training of Requirements for Soldered Electrical and Electronic Assemblies.

Adopt the technical requirements of the IPC/EIA J-STD-001D. Learn and refine hand soldering skills, required in today's electronic industry. This course covers the J-STD-001 Requirements for Soldered Electrical and Electronic Assemblies. The certification program allows hands-on application of the standard for industry technology segments such as through-hole and SMT. . Students who successfully complete the Worker Proficiency Certification Training Program have demonstrated their ability to navigate and understand the IPC-J-STD-001 document. Certification is valid for two years.

Body of Knowledge

- **Module 1:** General requirements, materials, components, cleanliness, assembly and soldering processes
- **Module 2:** Wrapping, soldering and inspection of stranded wire connections to various terminals and installation of jumper wires. This module includes hands-on training.
- **Module 3:** Installation, soldering, and inspection of components in plated-through holes. This module includes hands-on training.
- **Module 4:** Mounting, soldering, and inspection requirements for surface mount components. This module includes hands-on training.
- **Module 5:** Inspection criteria of the IPC/EIA J-STD-001D as it relates to all of the subjects

PMM-1 (Instructor/Site code: 103/C) PRECISION MECHANICAL MEASUREMENTS-1

This is an entry-level course in the latest techniques of precision mechanical measurements and gauging using blueprints, drawings and specifications.

This is an excellent course for those who want a basic understanding of the mechanical measurement process and instruction on the proper use of gauges and basic blue print reading.

Body of Knowledge

- Basic Shop Math
- Blue Print Reading
- Micrometers and Verniers
- Fixed gages
- Surface Plate and Accessories
- Identification of Finishes
- Hardness Testing.
- Thread Identification
- Basic Angular Measurements

PMM-2 (Instructor/Site code: 103/C)
PRECISION MECHANICAL MEASUREMENTS-2

This is an intermediate course for inspectors, machinists and product assurance personnel involved in performing inspection, witnessing and auditing the mechanical measurement process.

Learn to use specialized instruments that are capable of measuring less than ten -thousandths of an inch and minimize the common causes of compound measurement errors.

Prerequisites: PMM-1 or prior experience using measurement instruments, blueprint reading and basic knowledge of trigonometry.

Body of Knowledge

- Trigonometry and shop math
- Specialized drawings and symbols
- True position tolerance
- Effects of temperature on measurements
- Optical Flats
- Thread measurements
- Three wire method
- Profilometers
- CMM s

QE-1 (Instructor/Site code: 106/T)
QUALITY ENGINEERING

The course provides basic concepts of a quality program, identifies quality engineering tasks and requirements needed for implementing and maintaining a quality program.

The course is structured to prepare the student with the realities of the quality engineering profession within a factory environment. Completion of the course will fully equip the student with the knowledge and tools necessary to perform the tasks required to satisfy the complex demands of the quality engineering profession.

Homework assignments are derived from questions taken from the course textbook. The course also requires a project for the preparation of a Quality Assurance Program Plan.

Body of Knowledge

- Quality Planning
- Contract Review
- Design Control
- Supplier Control
- Process Control
- Inspection and Manufacturing Support
- Control of Nonconforming Material
- Corrective Action
- Quality Records
- Audits
- Continuons Improvement
- Investigation Techniques and Problem Solving

RCA-1 (Instructor/Site code: 111/TBD)
ROOT CAUSE ANALYSIS

Root Cause Analysis, (RCA) is a very powerful tool used to assist in the continuous improvement process in all company activities and processes. This is accomplished by, identifying the root cause of problems, then analyzing, developing, selecting and optimizing the solution. Finding the true root cause of production, product or process deficiencies is key to corrective actions that truly avoid reoccurrences.

This course teaches the process of identifying Root Cause, which can be applied to Design, Development, Manufacturing or Service Organizations.

RCA will be illustrated as part of a company wide Corrective Action System, students participate by providing company problems relating to production, process or services and initiate corrective actions upon identifying root cause.

Body of Knowledge

- Determination Matrix
- Failure Mode Analysis
- Flow Chart
- Tree Analysis
- MORT
- Corrective and Preventive Action
- Root Cause Analysis

SQA-1 (Instructor/Site code: 104/P)
SOFTWARE QUALITY ASSURANCE

Learn the fundamentals of software quality assurance, software development and software project management.

This course also covers system requirements, product maintenance and software configuration management. In addition to introducing the student to the latest software standards and specifications, Software Engineering Institute's, (SEI) Capability Maturity Model, (CMM), ISO 9001, as well as commercial and military standards.

This course provides valuable information on the ASQ's Software Quality Engineering Certification.

Body of Knowledge

- Benefits of SQA
- Software Development Lifecycles
- Software Project Documentation
- Requirements Management
- Software Configuration Management
- Implementing an Effective SQA Program
- Software Project Planning
- Tracking and Oversight
- Software Quality Engineering Certification
- Software Metrics
- Peer Reviews, Inspections, Walkthroughs, and Management Reviews

SQC-1 (Instructor/Site code: TBD/TBD)
FUNDAMENTALS OF STATISTICAL CONTROL

Statistical Measurements are the basic assessment tools used in effective and efficient evaluations of processes such as auditing, administrative procedures, manufacturing operations, inspection, test, maintenance, customer satisfaction and warranty costs.

This course presents a hands-on practical introduction to sampling, normal and non-normal distributions, process capability studies, control charts, measurements and tolerances.

Those individuals who pursue ASQ professional certification, an understanding of these techniques is essential.

Body of Knowledge

- Normal distribution
- SPC application in industry
- Control charts, which works best
- Probability and its application to QC
- Tolerances, how to set them
- Sampling practices, how to pick the best
- Quality standards

TKW-1 (Instructor/Site code: 106/T)
TECHNICAL WRITING

Good writing skills are important for business as well as for career growth. This informally conducted course teaches the mechanics of clear, and concise writing.

Participants will learn useful methods of creating crisp sentences, effective punctuation, word usage, organized memo, and editing techniques.

The course draws much of its material from real life quality documents, and students are encouraged to contribute their own writing problems for class analysis.

The workshop approach helps students learn from the writing strengths of each other.

Body of Knowledge

- Organizing ideas
- Constructing sentences
- Word usage
- Punctuation
- Active/passive voice
- How to avoid writing clichés
- Practical examples: Failure Analysis and Corrective Action Reports, Quality analysis reports, procedure format for ISO 9000, memos, business letters, technical presentations

FIL-1 (Instructor/Site code: 119/TBD)
INTRODUCTION TO FILTRATION

This course is designed to provide attendees with a basic understanding of Biotech/Pharmaceutical filtration. Course will be designed to paint broad overview of the industry as it pertains to the bulk process and laboratory sectors.

Body of Knowledge

Week 1

- Filtration basics;
- Relevant terminology;
- Applications;

Week 2

- Retention ratings and pore size;
- What is sterilizing grade?;
- Retention mechanisms;

Week 3

- Types of filters;
- Filtration parameters to consider;
- Laboratory filtration;

Week 4

- Integrity testing. Why and when?;
- Types of integrity tests;
- Sterilization;

Week 5

- Filter qualification;
- Validation;
- Regulations and Guidelines;

ISO 17025-1 (Instructor/Site code: 120/TBD)
ISO 17025:2005 LABORATORY QUALITY MANAGEMENT SYSTEM

Overview of ISO 17025 (1 day)

This course covers the 25 elements of the new ISO 17025:2005 Laboratory Quality Management System. Each element is explained as to what it means and what is expected of the Lab. It is intended for those who are involved with the Standard and those who want a refresher in it.

In-Depth Analysis of ISO 17025 (3 days, optional written exam)

This course is an in-depth analysis of the 25 elements of the new ISO 17025:2005 Laboratory Quality Management System. Each element is discussed in detail, and includes a) the purpose of each element, b) what the requirement is, c) what is expected of the Lab, d) techniques for implementation, e) difficult issues that may arise, f) examples from actual Laboratories, and g) discussion points on each topic. It is intended for those who are directly involved with implementing or working with the Standard. Although not specifically an internal auditor course, the course will be very useful to those who do internal auditing.