



Process Improvement & Quality Fundamentals

Starts April 9, 2021

In Partnership with the VT Section of ASQ

© Copyright 2020 Vermont ASQ; All Rights Reserved

Introductions



- Name & Company
- Experience in quality systems and/or process improvement
- Your interest in the course
- What you hope to better understand from today's session

Course Orientation

- Virtual pilot class ran in 2021
- It is a joint effort between VMEC and the Vermont Section of ASQ
- 5 Sessions; three hours each (April 9 – May 14)
- Covers the content used for the CQIA certification exam
 - Plus: more on QA (risk prevention and QC (sampling inspection
- Doing a project is highly encouraged and supported; using the A3 tool; on-site sponsor is involved & updated
- VMEC's MXVT site for class documents & weekly discussions
- Project & MXVT discussion between sessions

ASQ Certification:



ASQ is the global organization for quality-based certifications:

- www.asq.org
- The CQIA focuses on quality and process improvement fundamentals; the BoK is in your book
- This certification does not require renewal
- Success rate is 90%+ (all who took it passed!)
- Exam: 110 questions; multiple choice: Proctored; open “book”; 3 hrs. 18 min.; Oct or Dec.; must register 30 days prior!



We start with the **Big Picture** of Quality

Session 1: Quality management systems, terms and philosophies

- Course orientation, logistics, projects & certification option
- The history of quality and the pioneers that helped chart the course
 - The quality gurus & philosophies
- Quality term: reference glossary in book; pgs. 217-251
- Benefits to key stakeholders
- QA vs. QC vs. QI
- ISO 9001 and other quality system fundamentals: recent changes and new areas of emphasis

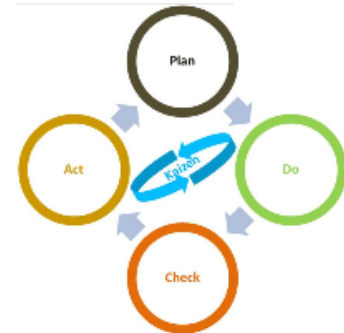


Page references back to the
CQIA Handbook

Then we cover **Quality Improvement methodology** (*kai-zen*)

Session 2: Process improvement (QI) planning

- Process fundamentals 101: 6Ms, SIPOC & Turtle Diagram
- Identifying and evaluation the merit of a QI project
- Forming and chartering a QI team; types of QI teams
- Identifying key project stakeholders: stakeholder & RACI tools
- Running effective meetings; team development (forming, storming, norming & performing.
- Champions, sponsor and coaches for QI teams



Session 3: Process improvement steps, tools and templates

- Lean & six-sigma tools
- Value analysis: muda dot tool
- QI roadmaps (basic PDCA model and the six-sigma DMAIC model)
- Quality improvement tools review: purpose; use; tips for success

Quality Assurance- the tools & culture of prevention

Session 4: Fundamentals of quality assurance

- Customer & supplier relations
- Process variation statistical concepts
- Planning for quality & process capability
- Risk analysis & FMEA tool
- Customer & supplier requirements capture
- Measuring COPQ (the cost of poor quality) as a key measure of quality system performance
- Process elements & mapping tools



We End With: Quality Control- Detection & CAPA

Session 5: Fundamentals of quality control (internally and supplier) and corrective action

- In-process quality control and the 1-10-100 cost multiplier rule
- 100% inspection vs. sampling inspection
- Control on nonconforming product
- Effective corrective action steps & tools.



And of course- Celebration!





Class Projects

One way to get a return on the investment is to improve some aspect of a process while participants do the class:

1. Keep it simple: quick win
2. Goal: apply the methods & tools learned
3. Instructor will offer guidance as needed
4. Sponsor: someone who can support you back at work (we will give updates to sponsors after each class)
5. Project A3s and lessons learned shared with rest of class & sponsors at a post-course session

A Taste of the Projects

1. They complete a Project Charter
2. They begin their A3 journey
3. Check-ins at start of Sessions 3, 4 & 5
4. Post class presentations: all invited
5. Sample of projects:
 1. **Implementing a process for change management**
 2. **Documenting incoming inspection**
 3. **Recovering process yield post-Covid**
 4. **Creating & implementing a process SOP**

