

# APPLIED RELIABILITY



Quality Tools & Techniques

## Introduction

Reliability - Have you ever wondered how a product could have lasted so long a time and given you such a pleasure to use? On the other hand, the same product could have performed poorly in a different environment and you swore never to use it again! They have a theme in common and that has to do with the Reliability of the product. Whether in new product development, production, maintenance of a system and the warranty of the product, we all deal with reliability in different ways.

This brief course is designed to impart a simple and systematic understanding of reliability engineering with a practical bent to the participant.

## Duration

2 days | 9am – 5pm | 14 hours

## Who should attend

This course is suitable for managers, engineers, engineering assistant from the Production, Process, Quality, Maintenance, Research & Development and Operation areas.

## Entry Requirement

Participants should have basic knowledge of statistics and bring along a scientific calculator.

## Course Fees

Member: S\$475.20

Non-Member: S\$529.20

*Registration Fee of S\$17.28 apply*

*All fees stated are inclusive of 8% GST*

## Award of Certificate

Certificate of Completion will be issued to participants who have attended at least 75% of the course.



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enquiries@sqi.org.sg



www.sqi.org.sg



+65-6467 4225



1 Sophia Road #05-06/07 Peace Centre S(228149)

## Course Contents

- The evolution of Quality and Reliability
- Reliability and its relation to Quality
- What is Reliability? And how it's different from Quality
- How does Quality affect Reliability?
- Definition of Reliability and what does it mean?
- Does it make business sense anymore to have it more "reliable"?
- Perceptions of Reliability. How does one define reliability in quantitative terms?
- MTTF and MTBF
  - Dangers of mis-using MTBF / MTTF. How not to use this term wrongly.
  - Censoring Data; dealing with the lefts and rights of it.
- Failure rates and the Bathtub curve.
  - Decreasing, Increasing and Constant failure rates. What does it all mean?
  - The Weibull in action! An all in one solution?
- Probability Series, Parallel or mixed systems.
  - Building-in redundancy in products.
- Fault Tree Analysis
- Reliability Apportioning or Allocation
- Increasing the reliability of a system. Back to Quality!
- Maintenance and availability.
  - Coming up with a replacement strategy
  - How warranty costs make a lot of business cost sense?
- Reliability - the many facets of engineering and operations.
- Product Reliability Qualification Phases. How it all adds up? E.g. HASS / HALT / ALT
- Reliability in Production - Ongoing Reliability Monitoring or Testing (ORM / ORT)



Please refer to this URL  
<https://www.sqi.org.sg/courses/>  
or QR Code for soft copy  
and updated training schedule

### Membership Application

Register membership online at [www.sqi.org.sg/membership-join/](http://www.sqi.org.sg/membership-join/) or contact us to get the membership application form.

Membership Categories:

- ~ Organisation membership
- ~ Individual membership

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CERT NO: 2012-1-0918  
ISO 9001:2015

