

Training Content:

► Reliability Management

Reliability process | Reliability targets – system view/
component view | Reliability monitoring | Reliability growth
management

► Repairable Systems and RAM/LCC

Availability and maintenance | Modeling and simulation of
system parameters | Composition and optimization of
maintenance plans | RAM/LCC

► Life-stress Models - Physics of Failure

Degradation modeling | Monte-Carlo simulation | Life-stress
models of various technologies | Multi-parameter damage
accumulation

► Design of Experiments DoE

Fractional and full factorial experimental designs | Test for
non-linearity | Main effects and interactions | Robust design -
increasing the robustness of a design by consideration of non-
linearities and interactions | Setting up of system behavior
models from empirical data

► Root Cause Analysis

Simple questioning techniques | Families of variation | Multi-
vari-analysis | Concentration chart | Paired comparisons |
Process search | Components search | Variables search |
Validation techniques

► Reliability of Electronics and Software

Reliability validation of electronic components and systems
| Quality and reliability of software-intensive systems |
Dimensions of software quality | Capability of software
development process

IN-HOUSE:

We also offer all our seminars and trainings as an in-house
event.

COACHING:

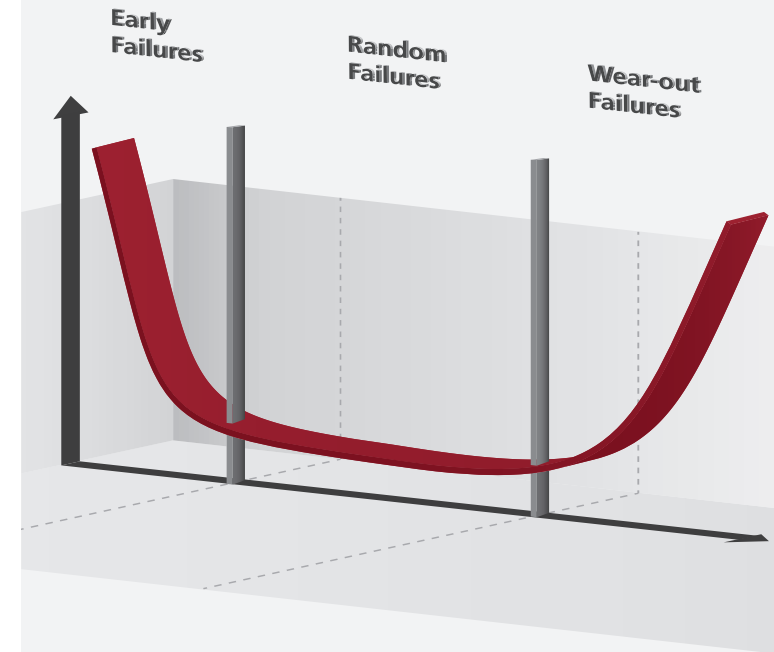
Should you so wish, we can put together a time and con-
tent tailored coaching concept for you after completion of
the training.

CONTACT

Please contact us

Reliability Engineering Academy

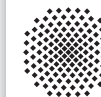
www.reliability-academy.com



RELIABILITY BLACK BELT

Training

Certified by the University of Stuttgart



University of Stuttgart
Germany



RELIABILITY BLACK BELT®

Effective reliability engineering is about knowledge engineering: knowing why you do what you do, knowing that you do it well, and always learning how to do it better. The **Reliability Black Belt®** adds specialist tools that are key to deeper understanding of reliability and causes of failure.

TRAINING PROCEDURE AND GOAL:

The **Reliability Black Belt®** comprises the second module in the qualification as a Reliability Engineer. This module builds upon the structure provided by the Reliability Green Belt®. The Reliability Black Belt® adds specialized tools from the fields of Reliability Management, Root Cause Analysis, Design of Experiments, Durability Modeling, RAM/LCC and Software Quality; that allow development of greater understanding and improved decision-making.

The goal of this module is to train specialists who can independently solve complex problems and work on challenging issues in your organization. The Reliability Black Belt® is thus also able to professionally handle organizational and project-specific interfaces (e.g. Production, Sales and Purchasing).

TARGET GROUP:

Engineers, technicians, specialists, managers and executives from the areas of development, testing, design, research, production and quality assurance who wish to deepen their reliability skill-set.

PREREQUISITES:

Participation in the Reliability Green Belt® training

SOFTWARE REQUIREMENTS:

Each participant must have a laptop with the following software: Microsoft Excel, Adobe Reader and Minitab (Version R15 or above). A demo version of the software Minitab can be downloaded from www.minitab.com.

EXAMINATION / CERTIFICATION:

The training will end in all cases with a certificate of participation. Furthermore, participants may elect to take a written examination for a certified **Reliability Black Belt®** at the end of the course. The certificate will be awarded by the University of Stuttgart and the Institute of Machine Components. The examination is in multiple choice form.

TRAINING DURATION:

5-day training: Mon 09:00 a.m. to 05:30 p.m.
Tue-Thu 08:15 a.m. to 05:30 p.m.
Fri 08:15 a.m. to 01:30 p.m.

Optional

examination: Fri 01:30 p.m. to 03:30 p.m.

TRAINING FEE:

Please refer to our website.

SCOPE OF SERVICES:

- ▶ Training documents in paper form
- ▶ Training documents as pdf document
- ▶ Certificate of participation
- ▶ Catering during the training

EXAMINATION FEE / CERTIFICATION:

Please refer to our website.

DATES / REGISTRATION:

Detailed information is available on our website www.reliability-academy.com