

Training on Reliability Engineering



Organizations around the world are recognizing the value of Reliability Engineering - creating a durable product that delights customers. In **Reliability Engineering**, professionals are trained on different aspects of product development such as designing, prediction analysis, estimation, and performance demonstration of a product throughout its life cycle, for failure-free operation.

What is Reliability Engineering?

The probability of success of one's business is dependent on the reliability of the product that it offers. A company's reputation and trust is directly proportional to the reliability of its products and offerings. Reliable products/offerings increase customer loyalty and build a customer base for repeat business.

Due to technological advancement, businesses require resources that help them to minimize errors in process and establish reliability in the market. Who better than a Reliability Engineer to carry out these roles!

Rim Pacific's Certified Reliability Professional (CRP) certification will help to enable the appropriate technical competencies of engineering professionals. The training familiarizes a professional with the core concepts in Reliability Engineering mathematics and helps them focus on the fundamentals of various reliability techniques and methodologies. As a **Certified Reliability Professional**, they will be able to address and resolve issues in both production and operation domains.

Tools and applications used by a Reliability Engineer

In the Reliability Engineering program professionals will learn:

Reliability tools - FMEA, FTA, RBD & Redundancy, and Boolean Truth Table Method to analyze and interpret various data.

Life data analysis - MLE (Maximum Likelihood Estimator) for exponential distribution and graphical method for Weibull-Normal distributions to predict the life of a product.

Accelerated Life Testing Introduction (**ALT**) and qualitative test methods including Highly Accelerated Life Test (HALT) Highly Accelerated Stress Screen (HASS) to find defects in products by exposing them to various conditions.

How does an organization benefit from Reliability Engineering?

A Reliability Engineering certification through TÜV Rheinland our Certification partner will help the organization to upscale, besides:

- Enhancing its reputation
- Ensuring Customer satisfaction
- Improving the cost-effectiveness of the Product

Nowadays, customers are aware of the advantages of reliability evaluation at an early stage of product design. Reliability Engineering can help minimize the production cost by introducing efficient and effective processes focusing on the manufacturing cost, holding cost and maintenance cost.

How does this program help professionals?

Rim Pacific's Reliability Engineering Program helps participants to -

- Develop their analytical skill
- Enable good understanding of various engineering principles
- Gain knowledge in various RE Techniques and testing methods
- Gain expertise in Life Data Analysis and various reliability calculations

Any individual pursuing a Reliability Engineering Certification will not only help their businesses to minimize errors but also open doors for themselves to enhance their career prospects.

Why should a Professional take up Reliability Engineering Course from Rim Pacific?

With 36 Years of experience in the field of testing, certification, inspection and training, Rim Pacific has the right mix of theory and relevant practical experience to add value to the participants' learning experience.

The training is specifically designed to introduce the concepts of Reliability Engineering in an interactive learning environment and helps to translate theory into best practices through live case studies, quiz, project assignment, Virtual/classroom training, group discussions, test, and evaluation. Attention is given to various challenges faced by organizations and how they can be resolved.

Participants receive a '**Certified Reliability Professional**' **certificate** after the successful completion of the training assessment.

Our Course content is given here:

- Basics of Reliability Engineering, Failure and Failure Analysis (Electronic and Mechanical parts), Statistics and Probability Recap, Failure Rates and MTBF understanding, Lifetime Distributions, Stress – Strength Interference, Q&A.

- Basics of Reliability Prediction, Prediction using MIL-217, Prediction using NSWC, Human Reliability and Software Reliability, FMECA, Q&A.
- Fault Tree Analysis (FTA), Exercises in FTA, Reliability Block Diagram (RBD), Redundancy, RBD Calculations, RBD Boolean Truth Table, RBD Exercise, Project selection, and discussion
- Project presentation and discussions, maintainability and availability, availability calculations for serial and parallel systems, life data analysis, probability plotting exercises for Weibull and normal distributions, MLE estimate calculation for exponential distribution, practical – case study, basics of Highly Accelerated Life Test (HALT), Highly Accelerated Stress Screening (HASS), Q&A, Reliability Qualitative testing methods (OLCT & PRAT), Accelerated Life Test, Recap of the course, Certification Examination.

Agenda - CRP Course	MODULE - 1			MODULE - 2		Break	DAY 4	DAY 5	Online Qualification Exam - Section 3 - Optional Project Submission @ a later date.(Not to exceed 15 Days)
	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5				
SESSION 1	What is Reliability ?	Exponential Distribution Model	Reliability Block Diagram & Redundancy Series - Parallel & Mixed Models Boolean Truth Table Method of Complex RBD	Availability & Maintainability	Qualitative Reliability Testing - HALT & HASS	TEA Break	Life Data Analysis Basics	Quantitative Reliability Testing - OLCT & PRAT	Sequential Test Plans
	Types of Part Failures				Exercise session			Chi-Sq Distribution and Reliability Testing for True MTBF	
	Bathtub Curve	Workshop Session on RBD			Accelerated Life Testing			Project Discussion	
LUNCH Break									
SESSION 2	Recap on Statistics & Probability - Example & Workshop session	Normal & Standard Normal Distribution	FMECA Workshop - GROUP Activity	Parameter Estimation for Weibull Distribution	Feedback Session & Recap of the Course	LUNCH Break	Workshop Session	Certification Exam - Section 1 & Section 2	
		Exercise session						Workshop Session	
TEA Break									
SESSION 3	MTBF/MTTF Understanding	Weibull Distribution	FTA Theory and Practical session	Parameter Estimation for Normal Distribution	Certification Exam - Section 1 & Section 2	TEA Break	Workshop Session	Certification Exam - Section 1 & Section 2	
	Exercise on MTBF/MTTF	Exercises / Workshop session							
	Correlation between -	Mini Project for the Correlation - Prediction - FMEA - FTA & RBD							
SESSION 4	Various Life Time Distributions	Basics of Reliability Prediction	Mini Project for the Correlation - Prediction - FMEA - FTA & RBD	Workshop Session	Certification Exam - Section 1 & Section 2	DAY Closing session - Consolidation	DAY Closing session - Consolidation		
	Life Time Calculation	Prediction of Electronics parts - MIL-217 Prediction of Mechanical							
	Exercise on Life Time Calculations	GROUP Assignment for the Prediction							
DAY Closing session - Consolidation									

The Agenda in detailed structure is given above, For more information, or to contact one of our experts, click below,

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