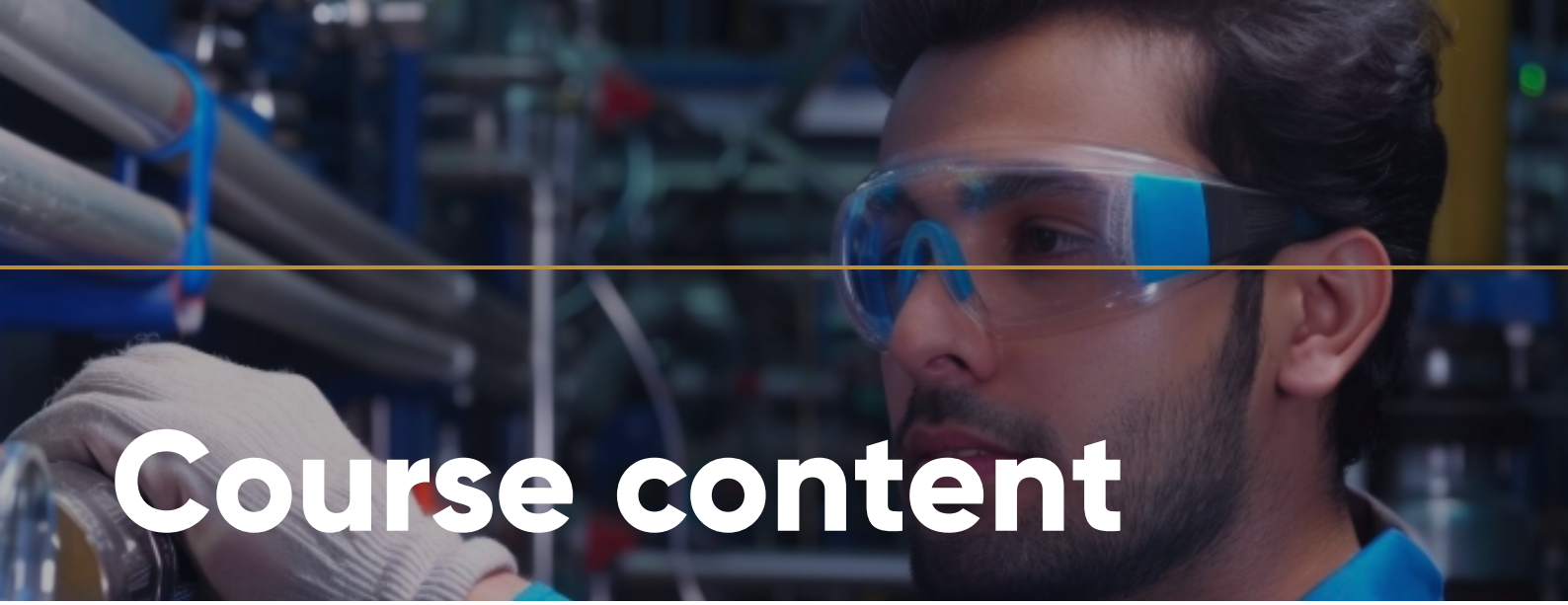
informatech

MAINTENANCE AND ENGINEERING | COURSE

Certificate in Reliability Engineering (CRE)

UK
+44 33 000 111 90
info@informatech.co.uk
https://informatech.uk
63-66 Hatton Garden Hatton Garden
EC1N 8LE , London

NL
+31 85 74 444 46
info@infomatech.nl
https://infomatech.nl
Waarderweg 50 - 2031PB
Haarlem - Netherlands



Course content

Why Attend

Reliability is a cornerstone of any maintenance process. Get it right and you can enjoy good safety performance, low running costs and a sustainably high production level at the right quality.

Reliable plants are usually safer and cite a higher level of morale. Lose control of reliability and operations become less predictable, more chaotic and much more difficult to control.

This is a highly practical course that includes the latest thinking in reliability improvement, how to gain maximum benefit for minimum effort and how to develop bespoke reliability strategies that will integrate effectively with other campaigns.

This will include methods and tools as well as the Carcharodon Model of Excellence to add structure and enable participants to break this complex subject into smaller, more understandable parts.

Reliability is not the responsibility of maintenance alone and outstanding performance can only be achieved with a strategy that includes operations, design, materials and contractors.

This course is based upon our Model of Excellence for bringing all these considerations together as one to achieve pace-setter standards.

This is an interactive course. There will be open question and answer sessions, regular group exercises and activities, videos, case studies and presentations on best practice and the fundamentals of reliability improvement. Participants will have the opportunity to share with the facilitator and other participant on what works well and not so well for them, as well as work on issues from their own organizations.

By the end of the course, participants will be able to:

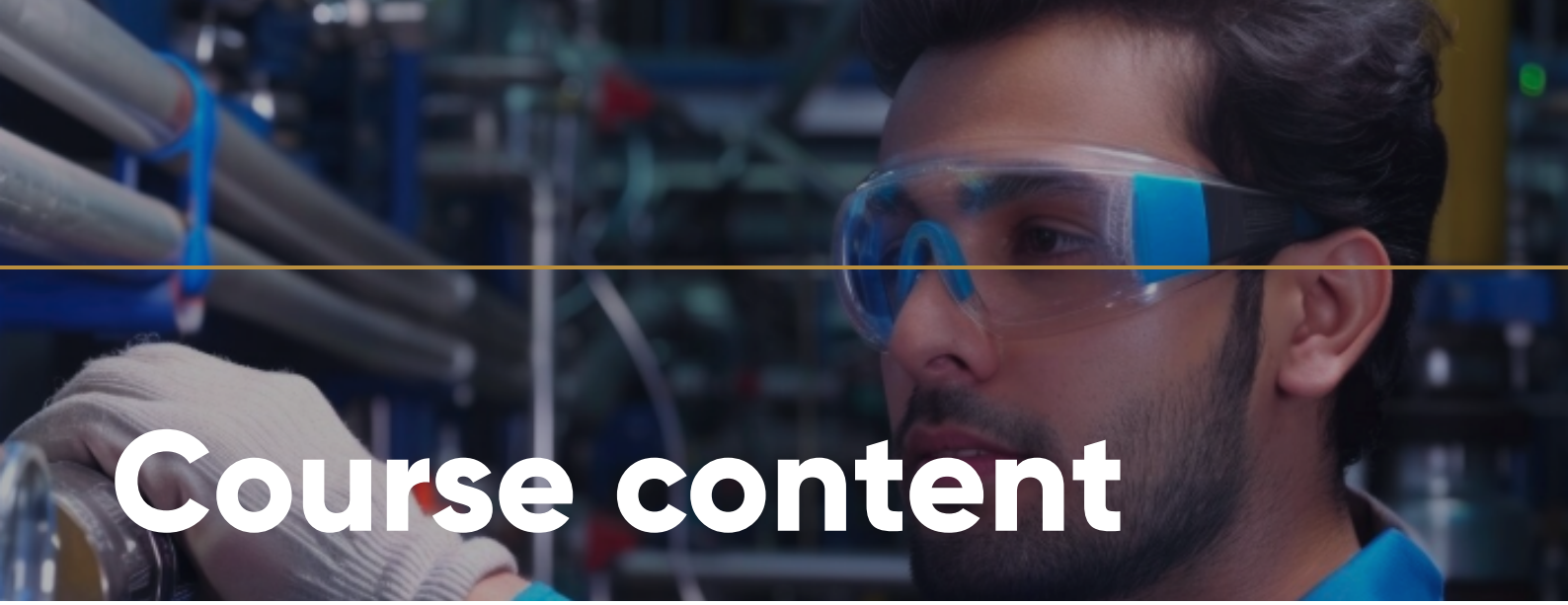
• Explain how pace-setters achieve outstanding reliability performance and how to use the Carcharodon Model of Excellence

• Develop reliability programs that align with the unique needs of their business, asset and maintenance strategies

• Analyze their current performance against best-in-class benchmarks

• Calculate potential fixed and variable cost reductions along with productivity, output, and product quality improvements, that can be delivered through reliability improvement

• Apply key reliability improvement methodologies and tools to improve reliability performance



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Why Attend

• Explain to colleagues the fundamentals of best practice in reliability, including the responsibilities of design and operations as well as maintenance

• Engage colleagues and consider the human factors required to support a high reliability culture

This course is suitable for reliability engineers, maintenance managers, maintenance supervisors, planners, project managers, project engineers, operations managers, shift managers, operations supervisors and people who are in training for these positions.

This course is also designed for contractors who want to contribute to the reliability performance of client assets.

• Reliability analysis

• Use of reliability tools

• Risk assessment

• Continuous improvement

• Program management

Course outline

Reliability and its role in the wider business context

• An introduction to reliability

• Calculating the value of cost reduction and increased production

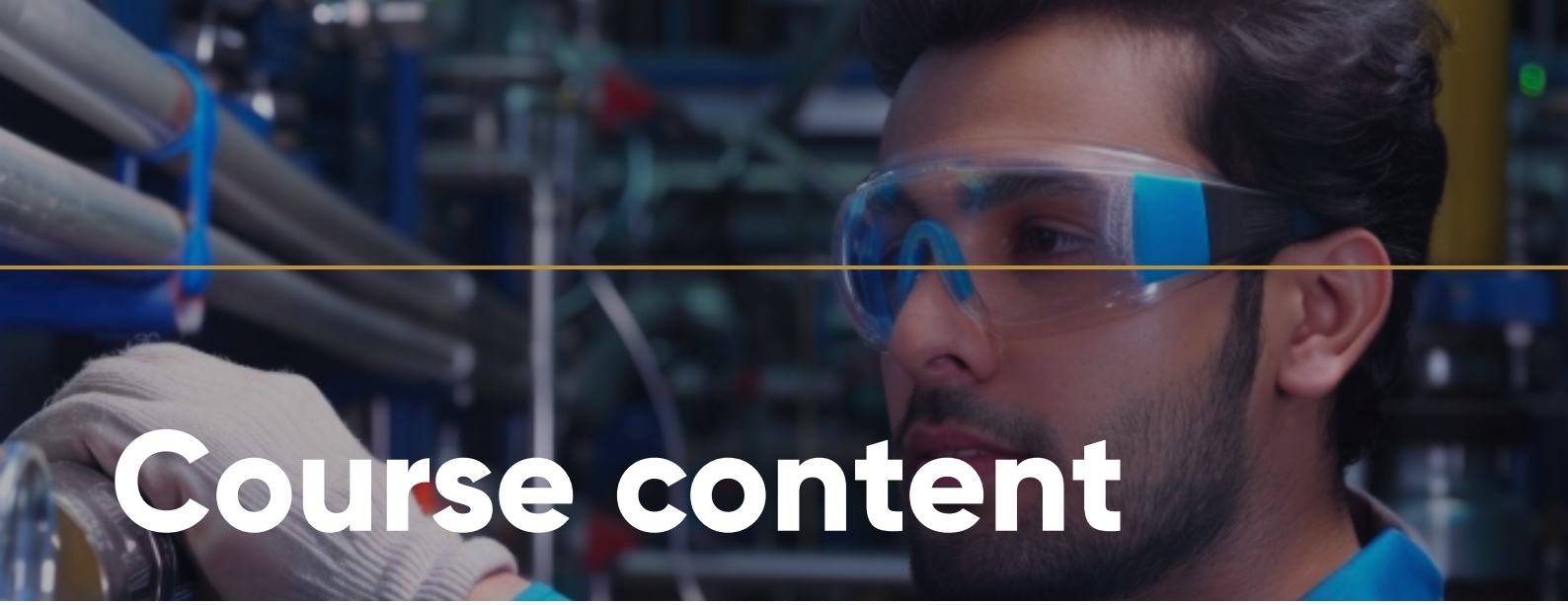
• The impact of reliability on safety, quality and team morale

• Overall Equipment Effectiveness (OEE), an international model for measuring asset performance

• A definition of maintenance

• The move to asset management and the modern maintenance strategy

• Sources of reliability losses and the role of operations, design and procurement



Course content

Course outline

• Contractors, materials and equipment

• The reliability pyramid

Sources of best practice and models of excellence

• Reliability benchmarks

• The link between performance and reliability practices

• Where to look for best practice

• Case studies of pace setter methodologies

• A Model of Excellence for reliability

• Building a reliability focused supply chain

• Customer focused reliability

Building a unique reliability strategy for your plant

• Baselining plant performance

• How to project the potential level of improvement

• Calculating the benefits case

• How to focus on the most valuable priorities for any business

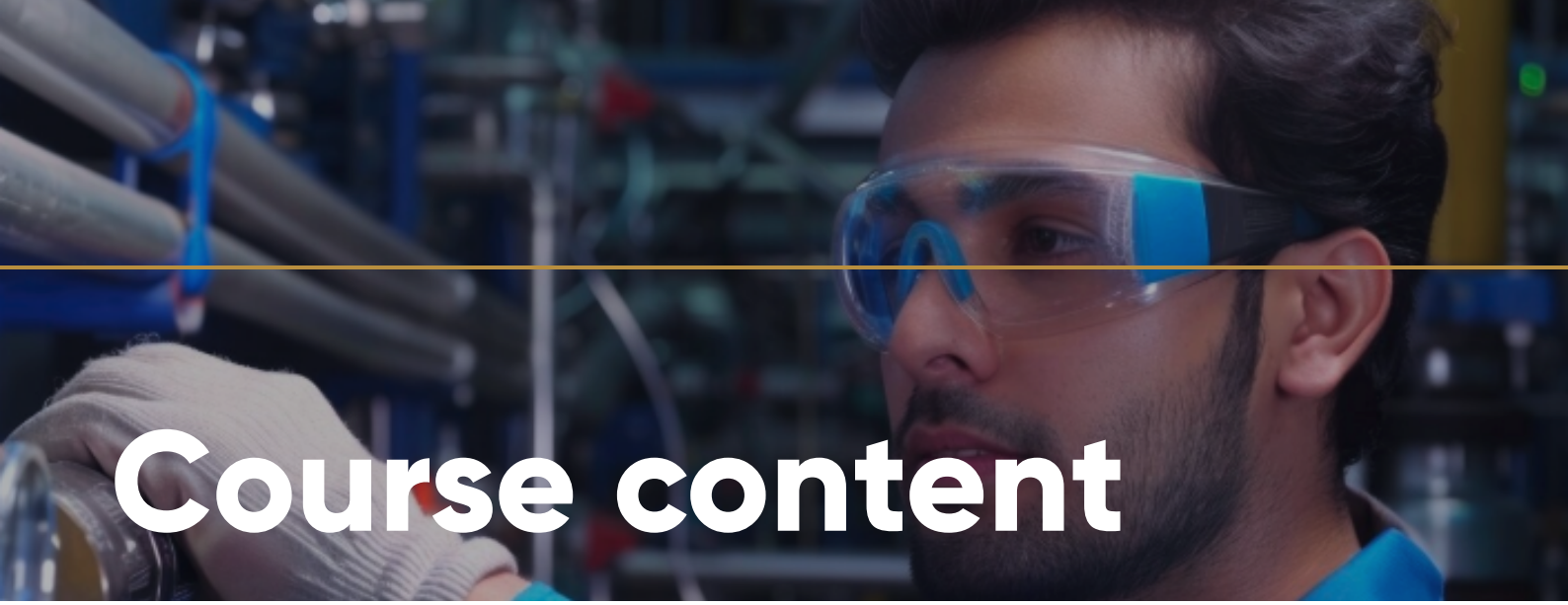
• Using the Define, Measure, Analyze, Improve and Control (DMAIC) methodology for structured performance improvement

• An end to end process for reliability improvement and asset life extension

Reliability improvement tools

• Key principles of reliability centered maintenance, Total Productive Maintenance (TPM) and Six Sigma

• Using Root Cause Analysis to address historic failures



Course content

Course outline

- Criticality analysis to prioritize reliability efforts
- Proactively avoiding future failures using Failure Mode Effect Analysis
- Reliability by design
- The 5S process for improving ergonomics and identifying issues
- An introduction to the Single-Minute Exchange of Die (SMED) process for reducing downtime to repair
- When to consider advanced software models
- Reliability focused shutdowns and turnarounds

Human factors to consider

- The impact of human factors on reliability performance
- Gaining buy in beyond just the maintenance team
- How to get people to own reliability
- Developing a reliability culture

Sustaining improvements and tracking performance

- The importance of data in performance improvement
- Reliability metrics
- Use of Pareto analysis
- Loss accounting and failure reporting
- Reliability roles and organizing for success

Seminar dates

Available seminar dates

Live dates and pricing for Certificate in Reliability Engineering (CRE) generated from the course details page.

Date	Location	Format	Fee
20 - 24 July 2026	Rome - Italy	Classroom	**€4,250.-**
3 - 7 August 2026	Kuala lumpur - Malaysia	Classroom	**€2,250.-**
7 - 11 September 2026	Barcelona - Spain	Classroom	**€3,850.-**
12 - 16 October 2026	London - U.K	Classroom	**€4,200.-**
9 - 13 November 2026	Munich - Germany	Classroom	**€3,450.-**
14 - 18 December 2026	Rome - Italy	Classroom	**€4,250.-**

Live online option	Online delivery is available at €1,850.-.