

## Workshop: FMEA Analysis

**Date:** 2014-10-  
**Venue:** Espoo

The goal of the course is to introduce the most widely used reliability method FMEA (=Failure Modes and Effects Analysis). Product designs can be improved with Functional FMEA and Component FMEA. Furthermore, the Quality standards describes the methods Design FMEA, including Process FMEA for manufacturing system improvements. The students will learn how to complete a successful FMEA-project, including effective FMEA documenting tools and practices. Bring a scientific calculator with you.

<b>FMEA Analysis</b>	
<b>8:00</b>	<i>WELCOME and introduction to course program + coffee</i>
<b>8:30</b>	<b>1. FMEA and Reliability</b> <ul style="list-style-type: none"> <li>- Reliability terms and concepts: failure definitions</li> <li>- Selecting methods, ensuring sufficient risk detection</li> </ul>
<b>10:15</b>	<i>COFFEE break</i>
	<b>2. Performing FMEA</b> <ul style="list-style-type: none"> <li>- Generic FMEA, steps to perform FMEA</li> <li>- Risk classification, RPN</li> </ul>
	- Exercises: Understanding failures
<b>12:00</b>	<i>LUNCH</i>
<b>13:00</b>	- Exercises/ team work: Failure severity ranking using Risk Priority Number (RPN)
<b>14:15</b>	<b>3. Different FMEA types</b> <ul style="list-style-type: none"> <li>- Functional FMEA, Component FMEA</li> <li>- D-FMEA, P-FMEA, SW-FMEA.</li> </ul>
	<i>COFFEE break</i>
	- Exercises / team work: System Analysis, a.Functional FMEA, b.Component FMEA
	<b>4. FMEA Organisation</b> <ul style="list-style-type: none"> <li>- Analysis team, design support, typical mistakes</li> <li>- Tools</li> </ul>
<b>16:30</b>	<b>5. Summary</b> <ul style="list-style-type: none"> <li>- FMEA possibilities in system improvement</li> <li>- Application examples</li> </ul>
	<i>CONCLUSIONS, discussion</i>

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