



Objectives Sheet

CMQ 261 - Reliability Analysis

Course Learning/Performance Objectives followed by enabling learning objectives

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| CMQ 261.U01.01 | Given descriptions of product and process failures, recognize Reliability Analysis techniques such as Failure Mode and Effects Analysis (FMEA), Failure Mode, Effects, and Criticality Analysis (FMECA) and Fault Tree Analysis (FTA). |
| CMQ 261.U01.01.01 | Identify Reliability Analysis |
| CMQ 261.U01.01.02 | Identify Reliability Analysis tools |
| CMQ 261.U01.01.03 | Identify Reliability Analysis techniques |
| CMQ 261.U01.01.04 | Recognize Failure Mode and Effects Analysis (FMEA) techniques |
| CMQ 261.U01.01.05 | Identify the purpose and benefits of Failure Mode and Effects Analysis (FMEA) techniques |
| CMQ 261.U01.01.06 | Identify the purpose and uses of Failure Mode, Effects, and Criticality Analysis (FMECA) techniques |
| CMQ 261.U01.01.07 | Recognize Failure Mode, Effects, and Criticality Analysis (FMECA) Probability of Occurrence |
| CMQ 261.U01.01.08 | Identify Failure Mode, Effects, and Criticality Analysis (FMECA) Severity Levels/Classes |
| CMQ 261.U01.01.09 | Differentiate between Failure Mode and Effects Analysis (FMEA) and Failure Mode, Effects, and Criticality Analysis (FMECA) |
| CMQ 261.U01.01.10 | Identify Process Failure Mode and Effects Analysis (PFMEA) |
| CMQ 261.U01.01.11 | Recognize the purpose of Process Failure Mode and Effects Analysis (PFMEA) |
| CMQ 261.U01.01.12 | Identify the steps of Process Failure Mode and Effects Analysis (PFMEA) team review |
| CMQ 261.U01.01.13 | Recognize Fault Tree Analysis (FTA) |
| CMQ 261.U01.01.14 | Identify the purpose and benefits of Fault Tree Analysis (FTA) |
| CMQ 261.U01.01.15 | Recognize FTA structure, elements and symbols |
| CMQ 261.U01.01.16 | Differentiate between Fault Tree Analysis (FTA) and Failure Mode, Effects, and Criticality Analysis (FMECA) |
| CMQ 261.U01.01.17 | Identify Failure Reporting, Analysis and Corrective Action System (FRACAS) |
| CMQ 261.U01.01.18 | Recognize the purpose of Failure Reporting, Analysis and Corrective Action System (FRACAS) |
| CMQ 261.U01.01.19 | Recognize the benefits of Failure Reporting, Analysis and Corrective Action System (FRACAS) |
| CMQ 261.U02.01 | Given a scenario involving a product, examine a failure to determine the Failure Mode, Effects, and Criticality Analysis (FMECA) probability of occurrence, severity and its criticality. |
| CMQ 261.U02.01.01 | Recognize Failure Mode, Effects, and Criticality Analysis (FMECA) probability of occurrence |
| CMQ 261.U02.01.02 | Given a sample product, identify failure mechanisms that lead to Failure Mode, Effects, and Criticality Analysis (FMECA) probability of occurrence |
| CMQ 261.U02.01.03 | Given a sample product, examine a failure to determine the Failure Mode, Effects, and Criticality Analysis (FMECA) probability of occurrence |
| CMQ 261.U02.01.04 | Identify Failure Mode, Effects, and Criticality Analysis (FMECA) Severity Categories/Levels/Classes |
| CMQ 261.U02.01.05 | Identify the steps to rank a failure to determine the Failure Mode, Effects, and Criticality Analysis (FMECA) Severity Categories/Levels/Classes |
| CMQ 261.U02.01.06 | Recognize Failure Detection Methods |
| CMQ 261.U02.01.07 | Identify Failure Mode, Effects, and Criticality Analysis (FMECA) criticality |
| CMQ 261.U02.01.08 | Recognize how the Failure Mode, Effects, and Criticality Analysis (FMECA) criticality is calculated |
| CMQ 261.U02.01.09 | Define Risk Priority Numbers (RPN) |
| CMQ 261.U02.01.10 | Recognize Priority Numbers (RPN) Standards |
| CMQ 261.U03.01 | Given applicable military and industry procedures, examine risk mitigation for a product with identified risks using risk mitigation techniques. |
| CMQ 261.U03.01.01 | Identify supplier risk mitigation techniques |
| CMQ 261.U03.01.02 | Identify risk control types |
| CMQ 261.U03.01.03 | Recognize Risk Assessment Matrix |
| CMQ 261.U03.01.04 | Identify System Safety |
| CMQ 261.U03.01.05 | Recognize the purpose of the System Safety Analysis (SSA) process |