



Objectives Sheet

CMQ 140 - Drawing Interpretation/GD&T Fundamentals

Course Learning/Performance Objectives followed by enabling learning objectives

CMQ 140.U01.01	Given a series of geometric, engineering, and/or technical drawings, identify its type and purpose.
CMQ 140.U01.01.01	Identify the various types of detail and assembly drawings most commonly encountered by the Quality Assurance Specialist during surveillance.
CMQ 140.U01.02	Given a series of geometric, engineering, and/or technical drawings, identify its characteristics, including drawing type, line type, lettering symbols and arrowhead forms, orthographic views, and drawing identification blocks.
CMQ 140.U01.02.01	Identify the characteristics of geometric, engineering, and/or technical drawings, including drawing type, line type, lettering symbols and arrowhead forms, orthographic views, and drawing identification blocks.
CMQ 140.U02.01	Given a series of situational scenarios, identify reasons for which the Quality Assurance Specialist (QAS) may use Geometric Dimensioning and Tolerancing (GD&T) while conducting contractor surveillance.
CMQ 140.U02.01.01	Associate general Geometric Dimensioning and Tolerancing (GD&T) terms with the governance of GD&T.
CMQ 140.U02.01.02	Identify the reasons for which the Quality Assurance Specialist (QAS) may use Geometric Dimensioning and Tolerancing (GD&T) while conducting contractor surveillance.
CMQ 140.U03.01	Given a sampling of Datum features and Datum Reference Planes, match each Datum feature with its description and placement of a work part.
CMQ 140.U03.01.01	Match various Datum features with its description, including planes, target points, and axes.
CMQ 140.U03.01.02	Using a Datum Reference Plane, validate the correct placement of a work part on a plane.
CMQ 140.U04.01	Given a series of technological drawings, identify tolerance zones and Feature Control Frames (FCFs).
CMQ 140.U04.01.01	Match the tolerance zone with its display characteristic, including unilateral and bilateral tolerancing, and plus or minus dimensioning.
CMQ 140.U04.01.02	Match the translation of the Feature Control Frame (FCF) with its characteristics, including correct ordering and translation.
CMQ 140.U05.01	Given limit tolerances, determine the Maximum and Least Material Conditions of both external and internal work pieces.
CMQ 140.U05.01.01	Recall the definition of Maximum Material Condition, Least Material Condition and Regardless of Future Size.
CMQ 140.U05.01.02	Compare Maximum Material Condition and Least Material Condition between internal and external work parts.
CMQ 140.U05.01.03	Compare Maximum Material Condition and Least Material Condition between internal and external work parts.
CMQ 140.U06.01	Given a series of technical drawings, identify the geometric tolerances of each, including form, orientation, profile, runout, and position tolerances.
CMQ 140.U06.01.01	Given a technical drawing, select the controls applicable to Form Tolerances.
CMQ 140.U06.01.02	Given a technical drawing, select the controls applicable to Orientation Tolerances
CMQ 140.U06.01.03	Given a technical drawing, select the controls applicable to Profile Tolerances.
CMQ 140.U06.01.04	Given a technical drawing, select the controls applicable to Runout Tolerances
CMQ 140.U06.01.05	Given a technical drawing, select the controls applicable to Position Tolerances.
CMQ 140.U07.01	Given a series of technical drawings, identify the geometric tolerances of each, including form, orientation, profile, runout, and position tolerances.
CMQ 140.U07.01.01	Recognize the Datum Feature Shift as it applies to pins and holes.
CMQ 140.U07.01.02	Identify when Maximum Material Boundary is applied.
CMQ 140.U07.01.03	Recognize the accuracy of a hole position to within the Applied Tolerance Zone.