



Australian Government

Assessment Requirements for MSS024004 Process and present environmental data

Release: 1

Assessment Requirements for MSS024004 Process and present environmental data

Modification History

Release 1. Supersedes and is equivalent to MSS024004A Process and present environmental data

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- retrieving, coding, recording and checking data
 - calculating scientific and statistical quantities with or without a calculator/computer software, including at least eight (8) of the following items:
 - converting units involving multiples and submultiples
 - scientific notation, significant figures, round off, estimate and approximate
 - transposing and evaluating formulae
 - fractions, decimals, proportions and percentages
 - percentage and absolute uncertainties in measurements and test results
 - statistical values of data, including mean, median, mode and standard deviation
 - perimeters, angles, areas (m²) and volumes (mL, L, m³) of regular shapes
 - dose (mg), average mass, mass percentage, density, specific gravity, moisture, relative and absolute humidity, viscosity and permeability
 - ratios, such as mass to mass, mass to volume and volume to volume percentages
 - concentration, such as molarity, g/100mL, mg/L, mg/L, ppm, ppb, dilution mL/L
 - average count, colonies per swab surface and cell counts, such as live and dead/total
 - variables, such as pressure, gauge pressure, velocity and flow rates
 - biological oxygen demand (BOD), chemical oxygen demand (COD) and total organic carbons (TOC)
 - % content of moisture, sulphur dioxide and trace metals, such as calcium or zinc
- presenting accurate results in the required format (e.g. significant figures, uncertainty, units)
- preparing and presenting data in forms, such as:
 - tables, graphs, histograms, pie charts, bar charts
 - maps
- recognising significant data points and anomalies
- comparing data with reference values and interpreting variations and trends in data (e.g. seasonal, diurnal, location and non-conformance)
- maintaining the confidentiality of data in accordance with workplace and regulatory requirements
- keeping accurate records that are up-to-date and secure
- seeking advice when issues/problems are beyond scope of competence/responsibility.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific and technical terminology relevant to job role
- procedures for coding, entering, storing, retrieving and communicating data
- international system of units (SI)
- concepts of metrology, including:
 - all measurements are estimates
 - repeated measurements belong to a sample of the measured parameter
 - repeatability, precision, accuracy, significant figures
 - sources of error, uncertainty associated with measurement steps
 - traceability
- procedures for verifying data and rectifying mistakes
- procedures for maintaining and filing records, and maintaining security of data.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately. Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
 - review of data worksheets, calculations, computer files (such as spreadsheets, databases and statistical analysis), graphs, tables, charts and/or simple maps prepared by the candidate
 - review of records transcribed, maintained or stored by the candidate
 - feedback from supervisors about the candidate's ability to present accurate, reliable data within the agreed timeframe
 - oral and/or written questions to assess the candidate's understanding of calculations, relevant procedures and their interpretation of data.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit, including, but not limited to:
 - calculator, computer and relevant software or laboratory information system
 - environmental data sets and records
 - documentation, including user manuals; workplace procedures for recording, processing, storing and reporting environmental data; and test/survey methods.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience.
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>