



Australian Government

Assessment Requirements for MSS025003 Report environmental data

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS025003A Report 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:
- storing, retrieving and manipulating environmental data in accordance with workplace procedures and traceability requirements
- performing calculations with or without a calculator/computer software and presenting accurate results in the required format and timeframe
- calculating at least four (4) scientific quantities relevant to their work
- choosing appropriate graphical/statistical methods to analyse given data sets
- preparing frequency distributions for given data, and calculating and interpreting measures of central tendency and dispersion
- analysing data to determine relationships between variables and samples
- seeking advice when issues/problems are beyond scope of competence/responsibility
- maintaining the security and confidentiality of data in accordance with workplace and regulatory requirements

reporting results in the required formats and expected timeframe.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- characteristics of a valid measurement and valid sample
- sources and estimates of uncertainty in measurements
- role of statistics in the interpretation/analysis of environmental data
- relevant terminology, such as variables, dispersion, central tendency, normal distribution, confidence level and replication, inference, causation, association, correlation and hypothesis
- calculations involving evaluation of formulae containing algebraic, power, exponential and/or logarithmic functions, measures of central tendency, sum of squares, variance and standard deviation
- preparation and interpretation on linear and non-linear graphs, and frequency distribution plots
- determination of regression line equations and correlation coefficients
- statistical analysis and significance tests, such as t-test, analysis of variance (ANOVA), chi squared test and data acceptability tests, such as Q, T and Youden
- procedures for ensuring data 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 and databases), statistical analysis, graphs and/or tables prepared by the candidate
 - review of at least one (1) report containing summarised data and analysis results prepared by the candidate
 - feedback from supervisors regarding the candidate's ability to analyse and report data in accordance with workplace procedures and within the agreed timeframe
 - oral and/or written questions to assess the candidate's knowledge of relevant data handling procedures, graphical/statistical methods, trends in data and sources of uncertainty.
- 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/>