



Australian Government

MSS025019 Report environmental data

Release: 1

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Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to perform scientific calculations, process and interrogate environmental data sets, analyse trends and uncertainty in data, and report results within the required timeframe. The unit requires personnel to solve problems where alternatives are not obvious and where investigations and trials may be required and the implications of various solutions considered.

This unit applies to environmental technicians working in all industry sectors.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS024016 Process and present environmental data

Competency Field

Data

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 Perform scientific calculations | 1.1 | Ensure raw data are consistent with expectations and reasonable ranges |
| | 1.2 | Calculate scientific quantities involving algebraic, power, exponential and logarithmic functions |
| | 1.3 | Ensure calculated quantities are consistent with estimations |

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| | | 1.4 | Present results using the appropriate units, uncertainties and number of significant figures |
| 2 | Determine variation or uncertainty in data distributions | 2.1 | Organise raw data into appropriate frequency distributions |
| | | 2.2 | Calculate means, medians, modes, ranges and standard deviations for ungrouped and grouped data |
| | | 2.3 | Interpret frequency distributions to determine the characteristics of the sample or population |
| | | 2.4 | Calculate standard deviations and confidence limits for means and replicates |
| | | 2.5 | Estimate the sampling error or uncertainty in data using statistical analysis |
| | | 2.6 | Determine data acceptability using statistical tests and workplace procedures |
| 3 | Read and interpret data and related statistics | 3.1 | Recognise significant trends in data |
| | | 3.2 | Use standard statistical methods to test for an association or correlation between variables |
| | | 3.3 | Use standard statistical methods to test hypotheses involving the same variable between samples, samples with more than one variable and for paired samples |
| | | 3.4 | Verify data interpretation with supervisor |
| 4 | Check for aberrant data sets | 4.1 | Identify data that cannot be reconciled with sample, data set and documentation, monitoring procedures and expected outcomes |
| | | 4.2 | Determine actions in consultation with supervisor |
| 5 | Report data and analysis | 5.1 | Use charts, tables and graphs to present summarised data and analysis results in the required format |
| | | 5.2 | Verify that entry of data and results are correct |

- 5.3 Clearly identify summary information and any significant trends and problems with data
- 5.4 Write reports in a format and style consistent with their intended use and workplace guidelines
- 5.5 Communicate results within the specified time and in accordance with workplace confidentiality and security guidelines

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025003 Report environmental data.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>