

MSS40211 Certificate IV in Environmental Monitoring and Technology

This qualification covers the skills and knowledge required to conduct environmental sampling, testing and monitoring in a variety of industry sectors.

Job roles/employment outcomes

The MSS40211 Certificate IV in Environmental Monitoring and Technology provides technical training across a range of industry sectors, such as:

- environmental monitoring, sampling and field testing (e.g. air, water, soil and rocks)
- geotechnical services
- natural resource management
- water supply and treatment, storm and wastewater management
- solid and hazardous waste management.

Job roles targeted by this qualification include environmental assistants, environmental technicians and similar personnel employed by enterprises and Commonwealth, state/territory/local governments in the sectors listed above. Many of these employees are engaged in the monitoring of environmental impacts at industrial sites. They operate monitoring equipment, collect samples and conduct tests both in the field and at site laboratories. Other employees may collect a range of field data relating to the suitability of land and water use and process and present this data using geographical information systems (GIS) software.

In broad terms, they may:

- plan and conduct site sampling, field testing and measurements (e.g. meteorological)
- plan field work, arrange access to sites, logistics, equipment and supplies
- assemble, test, pack and transport equipment and supplies
- navigate using maps and global positioning systems (GPS)
- collect, process and present spatial/attribute data using GPS and GIS
- conduct field surveys of flora, fauna, water and soils
- calibrate and operate a wide variety of field-based instrumentation
- troubleshoot, repair, maintain and adapt instrumentation
- log and process data using a variety of computer hardware and software
- interpret data to identify significant anomalies and trends
- report results and make logical conclusions
- define and solve problems of limited complexity where the information available is less obvious, but not contradictory, and can be determined by direct reasoning
- work under the direction and regular supervision of environmental officers, environmental site coordinators, site managers, or environmental scientists, engineers and planners
- work in a team and may have responsibility for their own work outputs.

Application

This qualification is typically used to prepare new employees or develop the skills of existing workers performing an environmental assistant role in a variety of industry sectors.

This qualification recognises that the industry sectors listed above employ environmental assistants and technicians who have broad technical knowledge and skills in the area of environmental sampling and testing and some understanding of the industry processes and/or ecosystems that they are working with. These personnel do not have the more substantial knowledge of environmental monitoring; complex instrumentation; data analysis;

environmental impacts and the strategies for minimising these impacts; and remediation/rehabilitation of sites, that is provided by the MSS50211 Diploma of Environmental Monitoring and Technology for environmental officers.

Training programs for this qualification are suitable to be undertaken as part of a formal training contract with an employer under an Australian Traineeship or Apprenticeship arrangement.

Pathways into the qualification

This qualification may be accessed by direct entry. Credit may be granted towards this qualification by those who have completed the MSL20109 Certificate II in Sampling and Measurement. Credit for this qualification may include units contained within relevant Skill Sets.

Pathways from the qualification

Further training pathways from this qualification include MSS50211 Diploma of Environmental Monitoring and Technology.

Additional qualification advice

Because specialisation is a requirement in some industry sectors for the MSS40211 Certificate IV in Environmental Monitoring and Technology, Registered Training Organisations (RTOs) may choose to issue a generic:

- Certificate IV in Environmental Monitoring and Technology

or, where elective units of competency are packaged to suit a particular industry sector or specialisation, RTOs may choose to issue a:

- Certificate IV in Environmental Monitoring and Technology

(specialising in xxxxxxx)

Industry sector/specialisations could include, but are not limited to:

- water
- air
- odour
- soil
- noise.

Licensing considerations

There are no specific licences that relate to this qualification.

Packaging Rules

To be awarded the MSS40211 Certificate IV in Environmental Monitoring and Technology, competency must be achieved in a total of **sixteen (16)** units of competency.

- **eight (8)** core units of competency
- **eight (8)** elective units of competency, as specified below.

Units listed under **core** are considered essential for all environmental assistants. The units listed as **electives** may only apply to some personnel according to the size and scope of the particular enterprise and industry sector.

Note : Units with prerequisites are marked with an asterisk. Refer to the unit for details.

Core units of competency

- Complete the following **eight (8)** units of competency.

| Unit code | Unit title | P |
|------------|---|---|
| MSS024001A | Work and communicate effectively as an environmental technician | |
| MSS024002A | Implement environmental management plans and procedures | |
| MSS024003A | Apply an understanding of environmental principles to a site | |
| MSS024004A | Process and present environmental data | |
| MSAENV272B | Participate in environmentally sustainable work practices | |
| MSL943002A | Participate in laboratory/field workplace safety | |
| MSL952001A | Collect routine site samples | |
| MSL974007A | Undertake environmental field-based monitoring | |

Elective units of competency

- Complete **eight (8)** elective units of competency, made up of:
 - a minimum of **five (5)** units from Group A
 - the balance of units, to a maximum of **three (3)** may be selected from:
 - Group A units, not previously selected
 - Group B and C units, listed below.

A maximum of **three (3)** Group B and C electives may be chosen from this Training Package, other endorsed Training Packages and accredited courses, where those units are relevant and available at Certificate IV. This could include relevant units available in AHC10 Agriculture, Horticulture and Conservation and Land Management Training Package.

Group A: Specialist elective units

| Unit code | Unit title | P |
|------------|---|---|
| MSS014006A | Contribute to sustainability related audits | |
| MSS024005A | Collect spatial and discrete environmental data | |
| MSS024006A | Perform sampling and testing of water | |
| MSS024007A | Collect and evaluate meteorological data | |
| MSS024008A | Recognise common geological landforms and samples | |
| MSS024009A | Assist with assessing and monitoring stormwater systems | |
| MSS024010A | Perform environmental biological techniques | |
| MSS024011A | Navigate in urban, regional and remote areas | |
| MSS024012A | Undertake simple environmental project activities | |

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|------------|--|---|
| BSBOHS406C | Use equipment to conduct workplace monitoring | |
| MSAENV472B | Implement and monitor environmentally sustainable work practices | |
| MSL904001A | Perform standard calibrations | |
| MSL924002A | Use laboratory application software | |
| MSL954001A | Obtain representative samples in accordance with sampling plan | |
| MSL974002A | Conduct geotechnical site investigations | * |
| MSL974003A | Perform chemical tests and procedures | |
| MSL974006A | Perform biological procedures | * |
| MSL974009A | Undertake field-based, remote sensing monitoring | |
| PSPRAD703A | Perform basic radiation measurements | |

Group B: Elective units

| Unit code | Unit title | P |
|------------|---|---|
| MSS015001A | Measure and report carbon footprint | |
| MSS015010A | Conduct a sustainability water use audit | |
| MSS015011A | Conduct a sustainability energy audit | |
| MSS015012A | Conduct an emissions audit | |
| MSS015018A | Inform and advise organisation and community representatives on sustainability issues | |
| MSS025001A | Assist with assessing site environmental indicators | * |
| MSS025002A | Assess the environmental risk or impact of a project activity or process | * |
| MSS025003A | Report environmental data | * |
| MSS025004A | Provide environmental information to customers | |
| MSS025005A | Produce site maps | * |
| MSS025006A | Collect and evaluate groundwater data | |
| MSS025007A | Perform sampling and testing of soils | * |
| MSS025008A | Monitor and evaluate noise | |
| MSS025009A | Perform sampling and testing of air | |
| MSS025010A | Assist with odour source assessment | |
| MSS025011A | Assist with odour field assessment | |

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|------------|--|---|
| MSS025012A | Perform environmental microbiological tests | * |
| MSS025013A | Assist with assessing and monitoring wetlands | |
| MSS025014A | Perform sampling and testing of contaminated sites | * |
| MSS025015A | Plan and conduct environmental project work | |
| MSS025016A | Perform sampling and testing of stationary emissions | |
| MSL975011A | Design and supervise complex environmental field surveys | * |
| MSL975017A | Perform laboratory-based ecological techniques | * |
| MSL975023A | Supervise geotechnical site investigations | * |
| PRMWM01B | Plan waste audit | |
| PRMWM02B | Carry out waste audit | |
| PSPRAD707A | Monitor radiation | |

Group C: Elective units

| Unit code | Unit title | P |
|------------|--|---|
| CUVPHI05B | Use a 35mm SLR camera or digital equivalent | |
| HLTFA301B | Apply first aid | |
| MSL935004A | Maintain instruments and equipment | |
| MSL973001A | Perform basic tests | |
| MSL973002A | Prepare working solutions | |
| MSL973004A | Perform aseptic techniques | |
| MSL973007A | Perform microscopic examination | |
| MSL973012A | Assist with geotechnical site investigations | |
| PRMWM01B | Plan waste audit | |
| PRMWM02B | Carry out waste audit | |
| PSPRAD707A | Monitor radiation | |
| PUAWER009B | Participate as a member of a workplace emergency initial response team | |
| TAEDEL301A | Provide work skill instruction | |

Employability Skills for MSS40211 Certificate IV in Environmental Monitoring and Technology

The following table contains a summary of the employability skills for this qualification. This table should be interpreted in conjunction with the detailed requirements of each unit of competency packaged in this qualification. The outcomes described here are broad industry requirements that may vary depending on the packaging options.

| Employability Skill | Industry/enterprise requirements for this qualification include: |
|----------------------------------|---|
| Communication | <ul style="list-style-type: none"> • Receive and pass on written and oral messages, provide relevant information in response to requests and demonstrate effective interpersonal skills, including negotiation and conflict resolution • Record and store data, perform basic calculations of scientific quantities and present information in tables and graphs • Report using verbal responses, data entry into enterprise information management system and brief written reports • Communicate with team members, supervisors and customers, other site personnel and members of the public • Interpret enterprise procedures and material safety data sheets (MSDS) |
| Teamwork | <ul style="list-style-type: none"> • Work effectively with other people who may have diverse work styles and cultures • Promote cooperation and good relations in the team |
| Problem solving | <ul style="list-style-type: none"> • Deal with inquiries and requests for information in accordance with enterprise customer service requirements • Rectify simple equipment faults and errors in data using enterprise procedures • Recognise and report non-conformances or problems to appropriate personnel |
| Initiative and enterprise | <ul style="list-style-type: none"> • Access and provide relevant information within scope of responsibility and in accordance with enterprise procedures, including confidentiality requirements • Recognise potential incidents and take appropriate corrective action • Identify and report opportunities for improvements in procedures, processes, quality and equipment • Identify hazards associated with sites, samples, preparation methods, reagents and equipment and implement enterprise control measures |
| Planning and organising | <ul style="list-style-type: none"> • Plan and organise daily work activities to ensure the timely completion of tasks • Modify work plans to suit changing conditions and priorities • Assemble, check and organise specified equipment and materials |
| Self management | <ul style="list-style-type: none"> • Follow enterprise procedures that reflect equal opportunity, anti-discrimination and non-harassment legislative |

requirements

- Maintain enterprise standards of personal hygiene
- Conduct work based on ethical values and principles and ensure quality and integrity of own work
- Review own strengths, weaknesses and work practices for opportunities to continuously improve performance
- Maintain security and confidentiality of all client/enterprise data and information
- Use appropriate personal protective equipment to ensure personal safety when collecting, processing, testing, transferring or disposing of samples or conducting survey work

Learning

- Clarify instructions with supervisors to ensure a complete understanding of the task
- Update knowledge and skills and take advantage of skill development opportunities
- Coach others in participating in occupational health and safety (OHS) and environmental management issues

Technology

- Use communication, emergency, data recording, sampling and testing equipment, monitoring instruments and calibration standards
- Use computers, software and enterprise information management systems to collect, process and report information