



Australian Government

PSPSCI013 Initiate and conduct scientific/technological research

Release: 1

PSPSCI013 Initiate and conduct scientific/technological research

Modification History

Release	Comments
1	This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to PSPSCI603A Initiate and conduct scientific/technological research. • Unit code updated • Content and formatting updated to comply with new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to conduct scientific and/or technological research at a level meriting national recognition where superior initiative and judgment are used within strategically important areas. It includes formulating the research question, devising the research methodology, conducting and managing the research, and publishing and presenting the research results.

This unit applies to those working in scientific and/or technological research at a high level.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work autonomously with supervisory responsibilities, while performing sophisticated tasks in a range of contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Government Science and Technology

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe	Performance criteria describe the performance needed to demonstrate

the essential outcomes	achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Formulate research question	1.1 Identify issues for investigation through ongoing professional development and networking with industry, external funding bodies and professional networks. 1.2 Formulate innovate research questions using industry experience and analysis. 1.3 Formulate a research question that dissects key elements of the issue to be investigated. 1.4 Demonstrate how the research question will be of strategic importance to the industry and to the organisation's objectives and timeframes. 1.5 Identify and exploit issues relating to intellectual property. 1.6 Contribute to and use research and professional networks to access current information relevant to the research question, and assess both current and published information and extract relevant information.
2. Devise research methodology	2.1 Monitor innovations in research methods, and adjust objectives and/or the formulation of a hypothesis to enhance the conduct of the research. 2.2 Determine a hypothesis that is testable, relevant and of benefit, and develop research methods appropriate to the hypothesis. 2.3 Identify and specify risk management strategies and resource needs. 2.4 Prepare and submit funding applications as required. 2.5 Complete documentation.
3. Conduct and manage research	3.1 Seek and manage external funding. 3.2 Provide leadership and manage the research team to meet research objectives. 3.3 Monitor performance and outputs and instigate change/s in direction. 3.4 Facilitate collaboration across locations and organisations to meet research objectives and timeframes. 3.5 Analyse, document and report research results. 3.6 Adapt communication style to write for both scientific and lay audiences and to translate results to applied situations.
4. Publish and present research results	4.1 Publish research papers and disseminate results widely both internally and externally to the organisation. 4.2 Present research at seminars and scientific conferences, nationally or internationally. 4.3 Protect intellectual property. 4.4 Build national reputation through publication and presentation of

	research papers and networking nationally or internationally.
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Foundation Skills

Foundation skills are embedded within the elements and performance criteria of this unit.

Unit Mapping Information

This unit supersedes and is equivalent to PSPSCI603A Initiate and conduct scientific/technological research.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623>

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Assessment Requirements for PSPSCI013 Initiate and conduct scientific/technological research

Modification History

Release	Comments
1	These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages. • Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- using problem solving techniques
- using communication styles to suit different audiences and purposes
- using technology for data input, analysis and preparation of reports
- interpreting and preparing reports containing scientific research information using communication styles to suit different audiences and purposes
- presenting research results tailored to different audiences

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- research methodologies
- scientific process
- statistics
- the use of sophisticated statistical models
- specialist area of expertise
- national networks
- external funding sources
- reporting requirements for scientific research, requiring precision of expression
- work health and safety, environmental protection and other public sector legislation, public sector standards and organisational code of practice as they relate to work in a scientific research/technological environment

Assessment Conditions

This unit contains no specific industry-mandated assessment conditions. Guidance on suggested and recommended conditions and methods can be found in the Implementation Guide.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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