



Surveying Associate

Competency Frameworks

Surveyors Act 2003 s 39

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Introduction

This document describes the Competency Framework for registration as a Surveying Associate as prescribed under section 39 of the Surveyors Act 2003

The competency framework describes the competency Units, Elements and Descriptors that are required to be met for registration as a Surveying Associate. The competency framework describes the performance that the candidate is required to display. Competency is developed through the appropriate combination of qualifications, skills, knowledge and experience

Definitions

Unit of Competency (Unit): A major segment of the overall competency of a profession, typically representing a major function, role or field of activity.

Element of Competency (Element): A subdivision of a unit of competency into an observable function or activity.

Performance Criteria (Descriptors): An indicative list of the aspects of professional performance that would be regarded as evidence of competent professional performance in the work place in an element of competency.

With Guidance: The performance of the descriptor is achieved by the applicant under the direction of a competent supervisor. The applicant need not be able to perform the activity without requesting help in planning and execution.

Under Supervision: The performance of the descriptor is achieved by the applicant without direct supervision of each step; however the result of the activity cannot be used unless it has been checked by a competent supervisor.

Interpretation of the Framework

The competencies for Surveying Associates will be demonstrated by field surveyors practising in any sector of the market. A Surveying Associate will work under the direct supervision of an experienced professional Surveyor.

They will have developed sound technical skills during their years of education, training and work experience and will demonstrate increasing ability to apply these technical skills in the workplace.

Competency Requirements for Surveying Associate

An Applicant will need to demonstrate competency in the following Units:

- Unit 1: Professional Practice
- Unit 2: Collection of Data and Information
- Unit 3: Management of Data and Information
- Unit 4: Presentation of Information
- Unit 5: Quality Assurance Programs
- Unit 6: Communications
- Unit 9: Controlling the Location of Developments

Competency Table for Surveying Associate

Unit 1: Professional Practice

Under the guidance of a Registered Surveyor, a Surveying Associate will recognize that they work in a professional field and there is a need to work in a professional manner.

Element	Descriptors
1.1. Advance the science of surveying and the image of surveyors	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Conduct themselves in a manner that enhances the profession ii. Seek appropriate reward through merit and quality of performance iii. Can explain role of technology in improving service
1.2 Fulfil community service obligations	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can explain why surveyors have professional responsibilities to government and the community. ii. Can explain the need for impartiality and objectivity in decision making. iii. Can explain the need to pursue fair and equitable solutions that rank community interests appropriately with client and personal interests. iv. Can explain why the welfare and safety of the community is above sectional interests. v. Understand and can explain the Surveyors Board of Queensland's <i>Code of Practice for Surveyors</i>
1.3 Follow an accepted code of professional conduct and ethics	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can explain the role of the profession's code of ethics. ii. Can explain a surveyor's professional responsibilities. iii. Apply a high code of personal conduct.
1.4 Undertake a program for personal professional development and continuing education	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Attend professional development events. ii. Can explain the need for continuing improvement in performance. iii. Seek out and read literature relevant to surveying practice.
1.5 Understand and apply sustainable development and environmental principles	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can explain the profession's stated environmental policy. ii. Can explain the profession's role in environmental matters. <p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> iii. Seek advice from senior colleagues on environmental issues encountered in regular practice.
1.6 Accept responsibility for professional activities	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Anticipate and manage potential risks and liabilities ii. Provide services commensurate with personal skills and expertise and seek professional advice and support when appropriate

Unit 2: Collection of Data and Information

Surveying Associates will be competent to participate in the collection of information and data under guidance of a Professional Surveyor.

Element	Descriptors
2.1 Collect data by measurement	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can use the various measuring techniques available. ii. Can collect data by indirect methods. iii. Can explain the need for legal traceability.
2.2 Search and acquire existing data	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can extract required information from geographic and land information records, survey data bases, and general information depositories. ii. Can explain the importance of historical records. <p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> iii. Acquire information in an orderly and systematic manner.
2.3 Use modern surveying technologies to collect data	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Explain coordinates systems likely to be encountered by GNSS users and calculate GNSS coordinates ii. Discuss the principles of GNSS observations iii. Make observations using a GNSS receiver iv. Explain GNSS observations techniques, and calculate and evaluate levels of accuracy associated with GPS observations v. Identify error sources in GNSS observations, and explain the uses and critical factors of differential GNSS techniques vi. Output GNSS observations in existing local co-ordinate systems including ground based systems

Unit 3: Management of Data and Information

Surveying Associates will be competent in managing data and information under the guidance of a Professional Surveyor.

Element	Descriptors
3.1 Process data to accepted standards and for specific requirements	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Verify the integrity of the base data under supervision. ii. Process the data to achieve specific outcomes under supervision. iii. Store data in appropriate data bases under supervision. iv. Verify the integrity of the processed data under supervision.
3.2 Record data in electronic and physical databases	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Record, retrieve and update information in databases.

3.3 Analyse, evaluate and interpret data	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Analyse data under supervision. ii. Assess the accuracy and reliability of data under supervision. iii. Collate data logically under supervision.
3.4 Process data to create information	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Solve problems using appropriate maths processes such as trigonometry

Unit 4: Presentation of Information

Surveying Associates will be able to present data in a useable form for further processing by a Professional Surveyor.

Element	Descriptors
4.1 Assemble data into specific data or information sets	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Assemble data into useful information
4.2 Compile and produce maps, plans, charts and photographs	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Use a computer aided drafting package
4.3 Provide digital spatial information	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can correctly evaluate the accuracy and reliability of data with guidance. <p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> ii. Transfer spatial data files between formats with guidance. iii. Integrate spatial data with other information with guidance.
4.4 Produce models	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Create digital models of physical surfaces under supervision ii. Attach attribute information to digital models iii. Transfer model files between various formats with guidance.
4.5 Certify data	<p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Apply effective validation procedures for certification by another. ii. Effectively identify and manage risk associated with certification under supervision

Unit 5: Quality Assurance Programs

Surveying Associates will be competent to participate in applying quality assurance principles under the guidance of experienced professional surveyors. They will be responsible for accurately reporting outcomes of all work personally carried out to senior colleagues.

Element	Descriptors
5.1 Apply quality assurance principles	Applicants will need to demonstrate that they are able to : <ol style="list-style-type: none"> i. Comply with an accepted quality assurance program. ii. Rectify non-compliance with quality standards. iii. Suggest improvements to quality assurance procedures

Unit 6: Communications

Surveying Associates will be able to communicate the results of surveys to other surveyors.

Element	Descriptors
6.1 Communicate effectively	Applicants will need to demonstrate that they are able to : <ol style="list-style-type: none"> i. Communicate effectively, orally and in writing. ii. Compile, interpret and present information under supervision. iii. Interpret briefs and instructions with guidance. iv. Exchange data and information through electronic communications under supervision. v. Give clear, accurate reports to superiors.
6.2 Prepare and comprehend surveying documents	Applicants will need to demonstrate that they are able to : <ol style="list-style-type: none"> i. Interpret surveying reports with guidance. ii. Interpret specifications and standards with guidance. iii. Prepare documents on measurement and data acquisition under supervision.
6.3 Comprehend, report on and discuss relevant legal matters	Applicants will need to demonstrate that they are able to : <ol style="list-style-type: none"> i. Operate in accordance with government Acts, Regulations or instructions

Unit 7: Not Applicable

Unit 8: Not Applicable

Unit 9: Controlling the Location of Developments

Surveying Associates under direct supervision will be able to collect survey results to enable a Professional Surveyor to control the location of developments.

<p>9.1 Control and locate engineering works, development projects, and the building or installation of structures and machines.</p>	<p>Applicants need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> i. Read and use detailed design and construction plans. ii. Explain the roles of other professionals, technicians and trades persons. iii. Establish appropriate reference systems under supervision. iv. Select and use appropriate technology for site operations under supervision. v. Set out works under supervision.
<p>9.2 Control and measure the extraction of minerals and other materials.</p>	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can explain the measuring and monitoring techniques available for the safe, cost effective extraction of materials. <p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> ii. Establish appropriate reference systems under supervision. iii. Select and use appropriate technology with guidance.
<p>9.3 Monitor the position, shape and size of structures, land forms and sea beds.</p>	<p>Applicants will need to demonstrate that they :</p> <ul style="list-style-type: none"> i. Can explain the roles of other professionals, technicians and trades persons. <p>Applicants will need to demonstrate that they are able to :</p> <ul style="list-style-type: none"> ii. Read design and detail plans, and under supervision, determine required accuracies. iii. Establish appropriate reference systems under supervision.

Unit 10: Not Applicable

Unit 11: Not Applicable