VICTORIAN BUILDING AUTHORITY
BUILDING CONFIDENCE

PRACTITIONER GUIDE

Engineer Competencies

There are four classes of Engineer in which you can apply to register:

- Civil Engineer - Structural Designs
- Mechanical Engineer - Hydraulics Designs
- Electrical Engineer
- Fire Safety Engineer

Scope of work

Civil Engineer

Civil engineers play a key role in maintaining and improving the standard of buildings. They can work with foundations and footings systems, construction materials and structural systems, and hydraulic supply and waste systems. They help protect the safety and health of people in buildings, promote cost-effective construction and resolve environmental and energy issues.

Electrical Engineer

Electrical engineers play a key role in maintaining and improving the standard of buildings. They can work with electronic data transmission, security and communications systems, heating and lighting systems and control systems for vertical transport, HVAC and fire detection. They help protect the safety and health of people in buildings, promote cost- effective construct ion and resolve environmental and energy issues.

Fire Safety Engineer

Fire safety engineers play a key role in maintaining and improving the standard of buildings. They develop systems to save life, protect property and preserve the built environment from destructive fire, through proper design, construction arrangements and use of building materials. They help protect the safety and health of people in buildings, promote cost- effective construction and resolve environmental and energy issues.

Mechanical Engineer

Mechanical engineers play a key role in maintaining and improving the standard of buildings. They can work with mechanical systems for vertical transport, HVAC and smoke control, thermal and environmental systems and systems to aid the disabled. They help protect the safety and health of people in buildings, promote cost-effective construction and resolve environmental and energy issues.

VICTORIA State Government

Registration

Engineers seeking registration should submit with their application:

- Evidence of an appropriate university degree and relevant experience, or;
- A certificate of registration with the National Professional Engineers Register (NPER)* maintained by Engineers Australia, or;
- Hold a qualification that the VBA considers is, either alone or together with any further certificate, authority, experience or examination equivalent to a prescribed qualification.

Assessment

Applications will be assessed by a VBA member, industry expert or qualified workplace assessor. The assessment may include the following:

- An interview
- Consideration of submitted documentation, including
    - Examples of work carried out
    - A business plan or financial plan

Competencies

The list of competencies is only a guide to the experience required for registration purposes.

Professional Practice

Knowledge of and ability to:

- Present and develop a professional image
- Pursue continuing professional development
- Integrate engineering with other professional input
- Develop engineering solutions
- Identify constraints on potential engineering solutions manage self
- Work effectively with people
- Facilitate and capitalize on change and innovation
- Plan and manage work priorities and resources
- Maintain customer focus and relationships with clients/stakeholders/suppliers/regulators
- Manage information
- Contribute to engineering business strategies develop client relationships
- Manage the implementation of engineering plan within the business
- Manage resources, people and suppliers
- Manage business information
- Manage engineering business performance

Work Practice

Knowledge of and ability to:

- A thorough understanding of the body of engineering knowledge relevant to the class of registration
- The ability to apply this knowledge to problems and situations typical of the responsibilities of practitioners in that category
- The attributes and skills necessary to function as a professional
- The intellectual skills to test and continually extend knowledge through lifelong learning in formal and informal contexts
- Plan operations and systems
- Manage the processes within the operation/system
- Manage the assets within the operation/system
- Manage people
- Measure and document engineering operation/system
- Manage environmental performance.
- Interpret and scope design requirements

- Prepare concept proposal and seek advice on latest technology
- Implement planning and design process
- Review the designs to achieve acceptance
- Prepare and maintain documentation during the design process
- Validate designs.
- Develop project integration
- Scope the project
- Manage people
- Manage the physical resources within the project
- Manage quality, safety, environment and risk
- Manage cost and procurement
- Manage time and progress
- Finalise the project
- Determine engineering requirements
- Design/develop materials/components/systems
- Define processes to prepare materials/components/systems for use in the project/operation
- Manage the uses of materials/components/systems within the project/operation
- Manage the recovery, reuse and disposal of materials/components/systems.
- Determine the existing environmental condition
- Establish stakeholders' expectations
- Review existing environmental conditions against stakeholders' expectations
- Develop and rank strategies to achieve sustainable development
- Implement, monitor and evaluate strategies.

Construction Technology

Knowledge of:
- Construction technology
- Relevant Australian Standards
- Local council requirements
- National Construction Code Series

Legislation

Knowledge of:
- Building Act 1993
- Building Regulations 2018
- Occupational Health and Safety Act 2004
- Essential Services Commissions Regulations 2011
- Environment Protection Act 1970
- Plumbing Regulations 2008

Note: Applicants are to demonstrate knowledge of the legislation if it relates to the registration class concerned.

Your next step

If you think you have the required skills, knowledge and experience in Engineering work, then go to the VBA website to learn how to apply for registration in this work