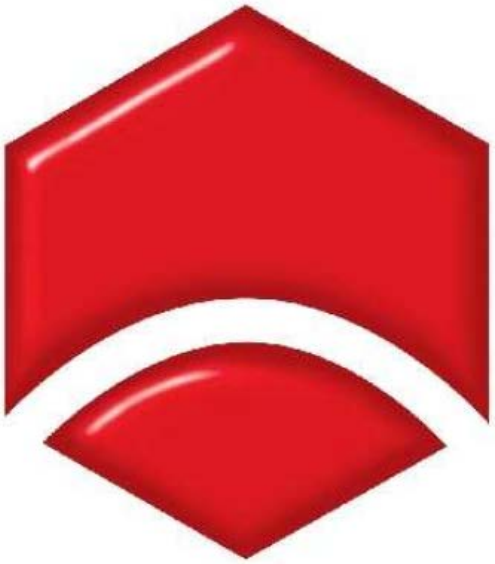


ENGINEERS
AUSTRALIA

# MIGRATION SKILLS ASSESSMENT

FOR RECOGNITION OF PERSONS INTENDING TO APPLY FOR SKILLED MIGRATION TO AUSTRALIA WITHIN THE ENGINEERING PROFESSION

**November 2014**

Migration Skills Assessment
Professional Standards and Practice
Engineers Australia
11 National Circuit
BARTON ACT 2600
AUSTRALIA
**www.engineersaustralia.org.au**

# Contents

# SECTION A
# Introduction and Background

# Introduction

This booklet has been developed by Engineers Australia to assist you in preparing your submission for an engineering qualifications assessment.
This section provides you with an introduction to the assessment of qualifications in engineering for migration purposes. You should read this booklet carefully before proceeding.

## 1. Assessment for Migration Purposes

Engineers Australia is the designated assessing authority for most engineering occupations.
You should first check the 'Skilled Occupation Lists (SOL)' to determine that your skilled occupation is listed as being assessable by Engineers Australia, as there are some engineering occupations which are assessed elsewhere. The reference SOL documents, which list occupations and contact details of the designated assessing authorities, are available from the Department of Immigration website www.immi.gov.au/skilled/sol/.
Applicants seeking assessment for migration purposes should first get a copy of the latest 'General Skilled Migration Booklet **(6) - Form 1119'** and the SkillSellect booklet (11) form 1406 from the Department of Immigration (www.immi.gov.au). These booklets will help applicants understand the requirements for General Skilled Migration to Australia.
Applicants should refer to the Australian Skills Recognition Information (ASRI) site at www.immi.gov.au/asri. This site helps you to find out how to get an assessment of your occupational qualifications and skills. It also contains information on state specific registration and licensing requirements.
Applicants should also refer to the Australian and New Zealand Standard Classification of Occupations (ANZSCO) at www.abs.gov.au. This reference provides the definition and tasks involved in a particular occupation.

## 2. Occupational Categories in Engineering

Engineers Australia recognises three occupational categories within the engineering team in Australia:

- Professional Engineer
- Engineering Technologist
- Engineering Associate

For migration purposes, an additional category of Engineering Manager is also recognised.
See the Appendix of this booklet for the list of occupations and respective categories.
Shown below is a description of the pre-requisite engineering qualifications and the workplace role for each occupational category.

**Professional Engineer**
Academic qualification is an Australian four year Bachelor of Engineering degree following twelve years of schooling, or equivalent.
The Professional Engineer:

- Focuses on overall systems
- Develops and applies new engineering practices
- Applies leadership & management skills
- Pursues engineering opportunities in an holistic way, taking environmental, community & social issues into account
- Solves diverse problems.

**Engineering Technologist**
Academic qualification is an Australian three year Bachelor of Engineering Technology degree following twelve years of schooling, or equivalent.
The Engineering Technologist:

- Focuses on interactions within the system
- Modifies and adapts established engineering practices
- Advances engineering technology.

**Engineering Associate**
Academic qualification is an Australian two year Advanced Diploma of engineering following twelve years of schooling, or equivalent.
The Engineering Associate:

- Focuses on specific elements of the system
- Works within codes and applies established practices and procedures.

**Engineering Manager**
An engineering or engineering-related academic qualification must be held - normally at Bachelor degree level or higher.
Engineering Manager:

- is a high level position involving the formulation of engineering strategies, policies and plans and the direction, administration and review of engineering operations for an organization
- must have a record of senior management over a period of three years or more. Letters of reference and organisational charts must be provided
- must have persons reporting to him/her who are also at a management level.

Applicants should note that this occupation is not an engineering occupation, but rather belongs to the Managers and Administrators' category. Consequently, a positive outcome will not allow automatic membership of Engineers Australia.

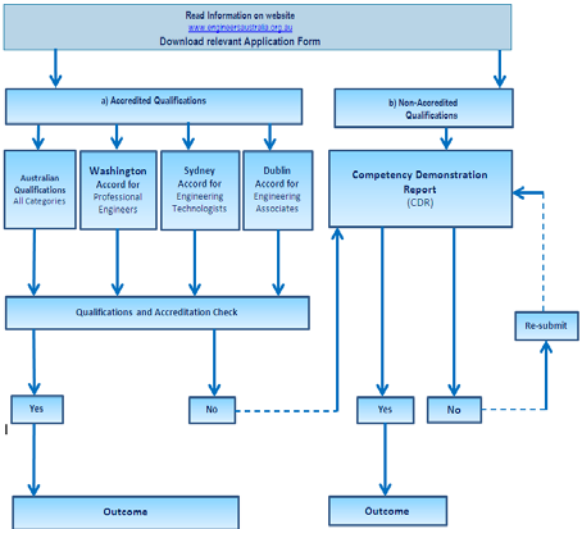
Further details on the general role descriptions for each occupational category are presented in the Appendix.

## 3. Pathways to Recognition

There are two pathways to recognition of your qualifications:

- through recognised (accredited) Engineering Qualifications
- through a Competency Demonstration Report (CDR) for non-accredited qualifications.

The pathways to recognition are shown schematically below:




Refer to Sections B and C for instructions associated with each pathway.

The assessment is primarily focused on the basic tertiary (post-secondary) engineering qualification. Any application for assessment of a postgraduate qualification must have an underpinning undergraduate qualification.

## 4. Online Application

The easiest way to apply for the Migration Skills Assessment is to use our online application system.

New applicants (including agents) will need:

1- To register for an EA ID Number through EA MyPortal,

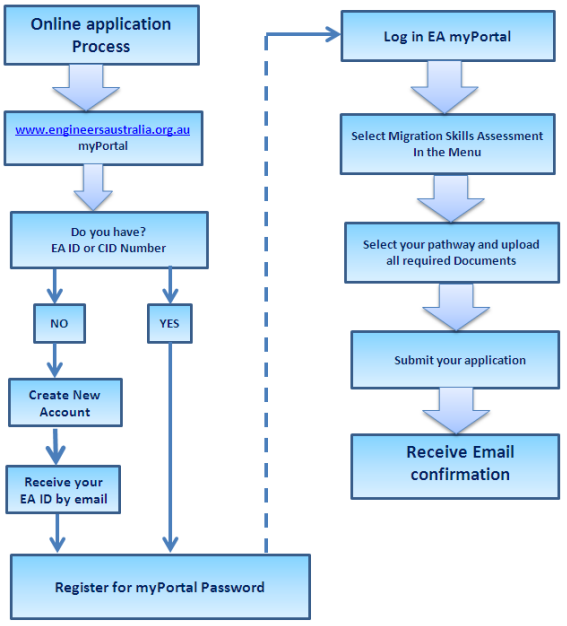
2- To use an EA ID or CID to Register for MyPortal password

3- To login MyPortal to access the migration skills assessment system (Members of Engineers Australia should use their membership number to register for MyPortal password and then to log in.)

You will need to upload colour scans of original academic and employment documents. Passport Style photograph, pdf, word as well as digital documents (each document should have good resolution of at least 300 dpi).

Where documents are not in the English language, you must upload colour scans of the original-language documents and English language translations. All translations must be carried out by an authorised translator. The signature, name, status and contact details of the translator must be provided on the English language version. If the document is sealed, please scan and upload all the pages of the document.

Please note that your case officer may request that original documents be submitted.




## 5. Papers Based Application

We strongly recommend that you submit **your application online**. However, lodging a paper based application remains possible should you have no access to the technology allowing you to apply online.

You must provide certified true copies of your original degree / diploma testamur (degree certificate) and any other subsequent engineering qualifications together with their associated academic transcripts (list of subjects studied and results obtained). Do not send the course syllabus.

**Certified copies are to be produced direct from the original documents, which the Certifier must sight**. An original document is usually different from a photocopy or other reproduction. An original may often contain an official logo, seal, stamp or watermark, or may include a handwritten signature. The certified copies bearing the Certifier's actual signature must be sent as hardcopy by post (or courier).

Where documents are not in the English language, you must provide certified copies of both the original-language document and an English language translation which has been made from the original document. All translations must be carried out by an authorised translator. In general translators are not authorised to certify copies of original documents. The signature, date, name, status and contact details of the translator must be provided on the English language version.

All submitted documents which are copies of original documents must be certified.

Many applications for a skills assessment are delayed because documents are not properly certified. The assessors will contact you by letter or e-mail if there are any omissions in regard to certification. Please make sure your e-mail and contact addresses are up to date.

Applicants submitting Paper Based Application should note the following points concerning certification of documents:

1. Certified copies of previously certified copies will not be accepted. You must provide a properly certified copy of the **ORIGINAL** document.

2. Proper certification should appear on **each page** to be certified, and should show:

- the **signature** of the person certifying the document and the **date of signing**
- the **name** of the person certifying the document. This should be clearly printed or evident in the official stamp
- the **contact details** of the person certifying the document. This MUST be provided and may be a business address, telephone number or e-mail address, and
- where possible, an official stamp indicating the **status** of the person certifying the document, ie. Justice of the Peace, Commissioner for Oaths, Notary Public
- a statement "I certify this to be an identical copy of the original document, which I have sighted", or similar wording
- Where the name, status and contact details are in a foreign language, an English language translation of these three details needs to be provided.

3. The following classes of persons acting within their relevant jurisdiction in the country of certification are authorised to certify copies of documents:

- An authorised Notary Public
- An authorised Commissioner for Oaths / Declarations
- An authorised Lawyer, Solicitor, Barrister or Judge
- An authorised Justice of the Peace
- An officer of an Australian Diplomatic Post
- A current financial member of the Engineers Australia other than at the grades of student (membership number must be shown)
- A staff member of Engineers Australia

4. If you employ the services of a legal firm, the solicitor must sign each page. It will not be satisfactory for the name of the law firm to appear in lieu of the actual name and signature of the solicitor certifying your documents. Collective responsibility implied in the use of "we", accompanied by the name of the law firm, is not acceptable.

5. Documents are to be certified either in the country of applicant's residence or in the country of origin

6. Each assessment pathway has its own application form. Make sure you download and complete the application form for the pathway you have selected. Application forms may be downloaded from the website www.engineersaustralia.org.au/migration_skills

## 6. English Language Requirements

All applicants applying to have their skills assessed by Engineers Australia are required to provide evidence of their English language competency. Applicants are required to have achieved a **minimum score of 6.0 in each of the four modules** of speaking, listening, reading and writing in either the 'General Training' or 'Academic' version of the International English Language Testing System (IELTS) www.ielts.org.
The test result form must be no older than 2 years at the date of reception of the application.

Details of locations where IELTS assessments are conducted may be found on the IELTS website www.ielts.org.
The following applicants may be exempt from the requirement to provide an IELTS assessment result:

- Applicants who are native English speakers;
- Applicants who have completed an **Australian undergraduate** engineering qualification;
- Applicants who have completed a 2 year Masters degree or PhD program at an **Australian university**.

For the above exemption, documentary evidence is required of successful completion of the Australian degree program.
Please note that the above IELTS exemptions are determined on a case by case basis and Engineers Australia reserves the right to require an IELTS assessment result if it is deemed necessary.

**Please Note:**
Certified copies may be included in your Paper Based Application. Use the address on the application form - see also page 25. For an IELTS Test Report Form to be valid, it must not be more than 2 years old at the date of receipt of the assessment application in this office.

## 7. Steps in the Assessment Application Process

This section of the booklet assists you in the preparation and submission of your assessment applications.

When your current name is not the same as that on your academic documents, you must provide official evidence of your name change, such as newspaper or Gazette publication, official name change letter issued by registry etc.

If you are lodging **a Washington Accord, a Sydney Accord, a Dublin Accord or an Australian Engineering Qualification** assessment application, then full details of what to send us are on the relevant application form for Paper Based Application or follow the prompt in our Online Application System.
Go to Section B for details on preparing an application for assessment of an accredited qualification.

**Compilation of a Competency Demonstration Report (CDR):**
If you have non-accredited qualifications, you will need to submit a Competency Demonstration Report (CDR). When applying for a CDR assessment, you should specify the

**occupational category and field of engineering** for which you are seeking an occupational outcome. You may wish to refer to the Australian and New Zealand Standard Classification of Occupations (ANZSCO) dictionary on www.abs.gov.au for the definition of the occupations.

**Section C** of this booklet provides you with guidelines for a description of your personal engineering practice and an identification of your engineering competencies.
The Competency Demonstration Report or CDR is the substantial component of your application which provides the basis for Engineers Australia's assessment of your competencies. Apart from your engineering qualification, the success of your application will depend on your career episodes and your demonstration of the relevant set of competency elements.
You should follow the guidelines in Section C carefully when compiling your CDR.

**Additional assessment services:**
If you require an opinion on a comparability of Overseas PhD to AQF Doctorate, or your relevant skilled employment for the purpose of claiming points from the department of immigration, then go to **Section D** for application details.

Note that the standard assessment will include an opinion on the comparable AQF Australian qualification level used in support of the assessment outcome. This will enable the relevant points for such to be claimed from the department of immigration.

**Checklist of documentation and dispatch for Paper Based Application**
**Section E** of this booklet provides you with checklists of the required material and dispatch address. The current assessment fees are specified on the relevant application form and are available on our webpage

## 8. Use of an Agent

For an **Online Application**, your migration agent will first register in MyPortal for EA ID and Password, then login Engineers Australia MyPortal to upload your application online using your EA ID
You will need to upload a scanned copy of the "Authorisation of a person to act as an agent" form, which may be downloaded from the website
www.engineersaustralia.org.au/migration_skills
If you employ an agent, Engineers Australia will communicate **only** with your agent regarding your assessment. You cannot independently contact Engineers Australia. If you do so you will be referred to your agent.

For **Paper Based Application** you can still appoint a person to act as your agent but you must complete the authorisation form, which may be downloaded from the website www.engineersaustralia.org.au/migration_skills under 'Migration Skills Assessment'. If you are appointing an Agent, a hard-copy version of this form, complete with your original signature, must accompany your assessment application.

## 9. The Assessment Process

We strongly recommend that you use **the online** Migration Skills Assessment System.

Please log in Engineers Australia's MyPortal to access the online services, and select the Migration Skills Assessment from the menu. You then be able to start, save and resume your application.

A notification including your EA ID number and your application number will be sent to you by email to confirm the submission of your application. Your submission will enter the processing queue upon payment of the fee. If you are using a credit card, the fee will be processed immediately and a receipt will be sent to you by email. If you are paying on invoice, a receipt will be sent to you upon reception of the payment.

You will be able to check the status of your application online by logging into Engineers Australia's MyPortal. Should your assessor need you to address shortcomings in your submission, a notification will be sent to you by email informing you that you have a task to complete in the system. You will need to log into Engineers Australia's MyPortal for the detail of the shortcomings and to submit additional documentation.

When your assessment is completed, you will receive your assessment outcome letter by email.

If the assessment is successful, you will receive an assessment outcome letter suitable for migration purposes. Please note that the assessment letter has no expiry date from Engineers Australia's point of view.
You will be able to verify the validity of your letter issued electronically by using the verification interface available on our website.

Assessment turnaround time can vary and regular updates are to be found at
www.engineersaustralia.org.au/migration_skills

Please do not telephone Engineers Australia within this time-frame as this will cause delays to processing.

Assessment outcome letters that cannot be issued electronically will be sent by ordinary post, you may be charged a fee for this service. If you wish to use a courier you must organise that yourself. Please advise Engineers Australia if you intend to use a courier and you will be advised by e-mail when the letter is available for pick-up.

**Please Note:**
Once your assessment is under process, you may receive a request for further information. Such requests must **be actioned within 6 months** from the date of request to avoid expiration of your application. If your application has expired, you will be required to resubmit a new application and pay associated fees.

## 10. Appealing the Assessment Outcome

If you are not satisfied with the assessment outcome you should first contact your case officer and discuss your concerns. The case officer may refer your case to the National Manager Migration Skills Assessment for consideration.

- A Review or Appeal can only be made **within 3 months** of the date of the original assessment outcome letter
- If you have already used the assessment outcome letter for Migration purposes, then the assessment process is regarded as finished and no Appeal can be made.

**Preliminary (Informal) Review:**
On receipt of request for a preliminary review, the Manager will refer your file to another assessor for an assessment that is independent of the first. Preliminary Reviews are done at no charge. You will be advised of the outcome by email. If you are still not satisfied with the outcome you may apply for a formal Appeal.

**Formal Appeal:**
To lodge a formal appeal you must submit the form "Application for Formal Appeal of Assessment Outcome", downloadable from
www.engineersaustralia.org.au/migration_skills
You may include reasons as to why you believe the outcome is not appropriate in your case. You cannot however present any new information/evidence. If you wish to add new material to your submission you must make a new application.
You must include the current formal Appeal Fee. This fee is refundable if you receive the outcome you are seeking. It is not refundable if the outcome remains as originally assessed.

All documents on your file will be photocopied and forwarded to an external Committee of engineers for re-assessment. Under Australian Privacy Legislation your permission will be required to forward copies of documents to the Committee. When requesting an Appeal, your signature will denote your consent to dissemination of the file documents.

Appeals take about three months to process. The outcome of an Appeal is FINAL.'

## 11. Fraud

Applications will be rejected where there is evidence of fraud, plagiarism, forged or misleading documents. We refer applicants to the Engineers Australia Code of Ethics, in particular the demonstration of integrity, available on the website www.engineersaustralia.org.au
The sanctions regarding fraudulent applications include notification to the Department of Immigration and up to 12 months disqualification from applying with Engineers Australia.

**Please Note:**
For Paper Based Applications, **o**nly one original letter of recognition will be issued. Provision of an additional letter will require a Statutory Declaration explaining the reason for the additional letter together with an administration fee

# Section B
# Assessment of Recognised Qualifications

# Accredited Qualifications

Accredited qualifications refer to Australian and overseas engineering qualifications which are recognised through formal international agreements.

Engineers Australia is a signatory to three international agreements regarding mutual recognition in respect of tertiary-level qualifications in engineering – **the Washington Accord, the Sydney Accord and the Dublin Accord.**

The assessment of Australian and Accord accredited qualifications is primarily concerned with undergraduate qualifications. However, some postgraduate (Masters) qualifications have been independently accredited for recognition as standalone qualifications. If your qualification is not accredited independently, you will need to submit a Competency Demonstration Report (CDR) for assessment.

The minimum academic requirement for assessment with Engineers Australia is an Australian Advanced Diploma or equivalent. Persons who hold Australian engineering qualifications at the Trade or Technician level must not apply to Engineers Australia for assessment. Details of the relevant assessing authority for these occupations can be found in the Skilled Occupation Listing (SOL) available from the Department of Immigration and Citizenship www.immi.gov.au

**Checklist for Application for Assessment of Accredited Qualifications:**

- ☐ Current Passport style photograph
- ☐ Copy of passport bio-data page
- ☐ Copy of academic testamur (degree certificate/award)
- ☐ Copy of complete and official academic transcript. If your accredited qualification has been granted with recognition of prior learning/advanced standing from another tertiary institution, you will need to provide visibility of all relevant transcripts.
- ☐ Brief Curriculum Vitae/Resume

**Occupational Classifications:**

The occupational classification in which you will be recognised will generally reflect the title and/or content of your degree. If you have completed a dual major, the outcome will reflect the predominant major. Only one occupational classification is given per assessment. If you wish to seek classification in an occupation which varies from the title of your degree, you will need to submit a CDR for assessment.

**IELTS Exemptions for Accredited Qualifications Assessment:**

Applicants with qualifications from Australia, New Zealand, the United States of America, the United Kingdom, Ireland and Canada (excluding Quebec) are eligible for an exemption from providing IELTS results. All other applicants, including those with Australian engineering qualifications obtained offshore, are required to provide IELTS results at a minimum of Level 6 in each of the four categories of Reading, Writing, Speaking and Listening. IELTS results must not be more than two years old at the date of application.

## 1. Australian Qualifications

Graduates of accredited Australian engineering programs are eligible for migration skills assessment via the Australian Engineering Qualifications application pathway.

Current listings of accredited programs at the level of Professional Engineer, Engineering Technologist and Engineering Associate are available at http://www.engineersaustralia.org.au/about-us/program-accreditation

The year shown after each program is the year in which that particular program was first accredited by Engineers Australia. Students are deemed to have graduated from an accredited program provided that they have commenced their studies within the period that ongoing, **full** accreditation applies. On the published website listing, **provisional** accreditation is denoted by **(P)** after the commencement date and indicates that full accreditation is expected but not guaranteed. Applicants with provisionally accredited qualifications will be required to submit a Competency Demonstration Report for assessment.

Engineers Australia has accredited several engineering programs implemented by Australian universities in offshore locations, where the resulting degree is an award from the Australian University. Please refer to our published list of accredited Australian qualifications for information pertaining to the accreditation of offshore programs.

## 2. The Washington Accord

http://www.ieagreements.org/Washington-Accord/

The Washington Accord, signed in 1989, is an international agreement among the bodies responsible for accrediting engineering degree programs. It recognises the substantial equivalency of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatories be recognised by the others as having met the academic requirements for entry to practice as a Professional Engineer.

Only qualifications publicly listed as accredited by the relevant signatory body will be considered for recognition via the Washington Accord. The title of your qualification must directly correlate with the title on the published list of accredited qualifications for the relevant signatory body.

Accreditation applies for qualifications completed in or after the year in which the relevant body gained full signatory status to the Washington Accord.
Please refer to http://www.ieagreements.org/Washington-Accord/signatories.cfm for the relevant dates and signatory details. Click on the relevant signatory web link for visibility of the published list of accredited programs for that country.

The minimum academic requirement for an assessment via the Washington Accord are qualifications deemed as broadly comparable to an Australian 4 year bachelor degree in engineering, in accordance with Engineers Australia's Royal Charter and Bylaws.

**Please Note:**
**Qualifications from the United Kingdom**
Applicants with qualifications from the UK will need to pay attention to the Public Notes and determine whether further learning is required for recognition as a Professional Engineer via the Washington Accord. Where further learning is required and has not been obtained the qualification is not accredited via the Washington Accord. For applicants who have not undertaken further learning but have completed an Honours degree, there is a dual Accreditation provision (see http://www.engc.org.uk/courses, under the heading *Honours degrees and IEng (dual accreditation*). All Honours degrees accredited from the intake year of 1999 are eligible for recognition via the Sydney Accord. Applicants with ordinary bachelor degrees and no further learning will be required to submit a Competency Demonstration Report for assessment. The Washington Accord applies only to engineering degrees accredited and delivered within the signatory countries.

## 3. The Sydney Accord

http://www.ieagreements.org/sydney/

The Sydney Accord, signed in 2001, is an international agreement among the bodies responsible for accrediting engineering technology degree programs. It recognises the substantial equivalency of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatories be recognised by the others as having met the academic requirements for entry to practice as an Engineering Technologist.
Only qualifications publicly listed as accredited by the relevant signatory body will be considered for recognition via the Sydney Accord. The title of your qualification must directly correlate with the title appearing on the published list of accredited qualifications for the relevant signatory body.

Accreditation applies for qualifications completed in or after the year in which the relevant body gained full signatory status to the Sydney Accord.

Please refer to http://www.ieagreements.org/Sydney/signatories.cfm for the relevant dates and signatory details. Click on the relevant signatory web link for visibility of the published list of accredited programs for that country.

The minimum academic requirement for an assessment via the Sydney Accord are qualifications deemed as broadly comparable to an Australian 3 year bachelor degree in engineering, in accordance with Engineers Australia's Royal Charter and Bylaws.

The Sydney Accord applies only to engineering degrees accredited and delivered within the signatory countries.

## 4. The Dublin Accord

http://www.ieagreements.org/Dublin/

The Dublin Accord, signed in 2013, is an international agreement among the bodies responsible for accrediting engineering degree programs. It recognises the substantial equivalency of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatories be recognised by the others as having met the academic requirements for entry to practice as an Engineering Associate.

Only qualifications publicly listed as accredited by the relevant signatory body will be considered for recognition via the Dublin Accord. The title of your qualification must directly correlate with the title appearing on the published list of accredited qualifications for the relevant signatory body.

Accreditation applies for qualifications completed in or after the year in which the relevant body gained full signatory status to the Dublin Accord.

Please refer to
http://www.ieagreements.org/dublin/signatories.cfm
for the relevant dates and signatory details. Click on the relevant signatory web link for visibility of the published list of accredited programs for that country.

The minimum academic requirement for an assessment via the Dublin Accord are qualifications deemed as broadly comparable to an Australian 2 year Advanced Diploma or Associate Degree in engineering, in accordance with Engineers Australia's Royal Charter and Bylaws.
The Dublin Accord applies only to engineering degrees accredited and delivered within the signatory countries.

**Please Note**
Applicants with qualifications from Australia, New Zealand, the United States of America, the United Kingdom, Ireland and Canada (excluding Quebec) may be eligible for an exemption from providing IELTS results. All other applicants, including those with Australian engineering qualifications obtained offshore, are required to provide IELTS results at a minimum of Level 6 in each of the four categories of Reading, Writing, Speaking and Listening. IELTS results must not be more than two years old at the date of application.

**Please Note:**
All submitted material becomes the property of Engineers Australia. Applicants must keep copies of all documents sent to Engineers Australia. Applicants who request copies of their submitted documents will be charged an administration fee.

# SECTION C
# Assessment of Non-Accredited Qualifications

# Introduction

**This section deals with the compilation of a Competency Demonstration Report (CDR) describing your engineering practice.**

The purpose of the CDR is to demonstrate:

- how you have applied your engineering knowledge and skills;
- that such application meets the competency standards of the relevant occupational category in Australia.

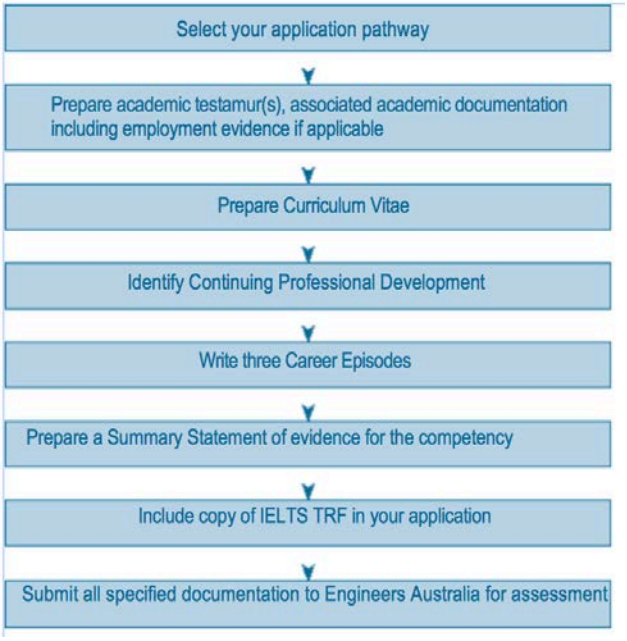
You should be aware that the CDR must be all your own work.
You must carefully follow the instructions provided in preparing your CDR.

The major assessable features of the CDR are your narratives written in English of three career episodes and a Summary Statement of the competency elements you have claimed.
You need to type your CDR using a word processor and keep a copy.

Your CDR will be assessed against the competency standards of the occupational category specified by you. Engineers Australia will not assess your competencies against an occupational category higher than the one you have specified, but may consider assessment against a lower occupational category if you are assessed as not suitable for your nominated category.

## 1. Steps in preparing a CDR

The flow chart below shows the steps you need to take in preparing your CDR




## 2. Components of the CDR

You must first select **your application pathway** (CDR, Washington, Sydney or Dublin Accord) and select any additional service (relevant skilled employment, PhD assessments see **Section D** for instructions.

### 2.1. Personal Details

You have to provide your current passport style photograph, current passport Bio-data page and if your name in the academic documents is different from the name you have in your passport you have to provide official name change documents (See Item 7 of Section A)

### 2.2. Curriculum Vitae (CV)/ Résumé

Engineers Australia requires a full summary of your education and engineering work history to gain a full perspective of your engineering workplace practice.
Your CV must be a complete record of your activities and must not contain significant periods where no activity is recorded.
For each workplace provide:

- organisation name and location including contact details where possible
- dates and duration of employment
- title of position occupied by you
- your defined role (provide a duty or appointment statement where available) and/or a brief description of your activities

Your CV should be no more than three A4 pages.
The CV is to be a chronological listing of employment, not projects.

#### 2.2.1. English Language Competency

Applicants applying to have their skills assessed by Engineers Australia are required to provide evidence of their English language competency. **See Item 6 of Section A** for full details of the English competency requirements

#### 2.2.2. Application Information

You must select your engineering occupation you wish to apply for and provide colour scan of original documents. However, for Paper Based Application, certified true copies of original documents are required.
Registration certificate must be provided if applicable. You can add additional document if you have more than one registration certificate.

### 2.3. Education Details

Copies of the testamur (degree certificate) and transcript are mandatory. For Online application you must provide colour scans of original academic documents (testamur and transcripts). For multiple copies of transcript, please add file in order to upload additional copy of your transcript. If you have more than one qualification you must add additional qualification to provide all documentary evidence

## 2.4. Skilled Employment

If in your CV/ Resume you claim engineering work experience of 12 months or more, you must provide documentary evidence of employment. (Provide the original language document as well as the English translation)
The documentary evidence for standard assessment is to include; company letterhead (including name and location details), date of document, name and status of author, dates and duration of employment, title of position occupied.
If a career episode is based upon engineering work, then you must provide documentary evidence of employment, as above.

This instruction applies to the standard assessment service only. Go to **Section D** for further instructions on the optional assessment service for the identification of periods of the Relevant Skilled Employment. This assessment requires a higher level of evidence

## 2.5. The Report

This section includes the Continuing Professional Development, three career episodes and Summary Statement.

### 2.5.1. Identification of Continuing Professional Development

Continuing Professional Development (CPD) is the means by which you keep up-to-date with developments in your field of engineering after you have gained your undergraduate qualification. A brief summary of CPD you have undertaken must be included in your CDR. This CPD must take the form of a listing (title, date, duration, and venue) of:

- formal post-graduate study;
- conferences at which you have delivered papers or attended.
- short courses, workshops, seminars and discussion groups, conferences, technical inspections and technical meetings you have attended;
- preparation and presentation of material for courses, conferences, seminars and symposia
- service to the engineering profession (volunteer work, board or committee volunteer, mentoring, etc)
- private study (includes books, journals, transactions, manuals, etc)

Your CPD listing needs be no more than one A4 page. There is no necessity to include certificates from each course.

### 2.5.1. Writing your three career episodes

You are required to present an account of your engineering activities on each of three separate career episodes.

A career episode is a documented component of your engineering education and/or work experience which captures a particular period or distinct aspect of your engineering activity. It needs to clearly demonstrate the application of engineering knowledge and skills in the nominated occupation, not the acquisition of knowledge.

It may use material from:

- an engineering task undertaken as part of your educational program;
- a project you have worked on or are currently working on;
- a specific position that you occupied or currently occupy (in this case, the career episode must comprise more than a mere duty statement);
- a particular engineering problem that you were required to solve.

Each career episode must be in your own words and must be written in English.

Do not present large amounts of technical material. It is recommended that each narrative be a minimum of about 1500 words and a maximum of about 2500 words.

The career episode, being written in your own words, will also provide evidence to the assessor of your communication skills.
Each career episode must clearly demonstrate the application of engineering knowledge and skills in the engineering discipline for which the applicant seeks recognition. That is, state "what you did" and describe "how you did it", with emphasis on your own personal actions, eg "I designed...", "I investigated...". Excessive technical detail (photos, calculations, tables) are not required.

Each career episode should emphasise any engineering problems identified and any particular problem solving techniques used by you. The purpose of this is to assess the nature of the contribution which you may have made to the engineering project or task - particularly if that contribution was of a novel nature or critical to the implementation of the task/project.

Please note that it is not sufficient to merely describe work in which you were involved. Your own role in the work must be clearly described by you, and be identifiable in the assessment.

You must number each paragraph in each of your career episodes. The following system is recommended;
Career episode 1 (paragraphs 1.1, 1.2, 1.3 etc)
Career episode 2 (paragraphs 2.1, 2.2, 2.3 etc)
Career episode 3 (paragraphs 3.1, 3.2, 3.3 etc)
This is necessary to construct the Summary Statement

Please Note:
Career Episodes must be written in the first person singular clearly indicating your own personal role in the work described. Remember, it is what 'I did', not what 'we did' or what 'I was involved in' and describe how you did it.

**a) Introduction (approx. 100 words)**
This introduces the reader to the career episode and should include such things as:

- the chronology - the dates and duration of this career episode;
- the geographical location where the experience was gained;
- the name of the organisation;
- the title of the position occupied by you.

**b) Background (200 – 500 words)**

This sets the scene and provides the context in which you were studying / working. It should include such things as:

- the nature of the overall engineering project;
- the objectives of the project;
- the nature of your particular work area;
- a chart of the organisational structure highlighting your position, in relation to the career episode;
- a statement of your duties (provide an official duty statement where available).

**c) Personal Engineering Activity (1000 – 1500 words)**

This is the body of the narrative and the key assessable component. In this section you must describe in detail the actual work performed by you. You should state what you did and then describe how you did it. It is not sufficient to describe the activities performed by a team or group - your own role must be clearly identified. Remember it is your own personal engineering competencies that are being assessed. This section should include such things as:

- how you applied your engineering knowledge and skills;
- the tasks delegated to you and how you went about accomplishing them;
- any particular technical difficulties/problems you encountered and how you solved them;
- strategies devised by you including any original or creative design work;
- how you worked with other team members.

**d) Summary (50 – 100 words)**

This section sums up your impressions of the engineering activity and your role in it. It should include such things as:

- your view of the overall project;
- how the project fared in meeting the goals / requirements;
- how your personal role contributed to the project.

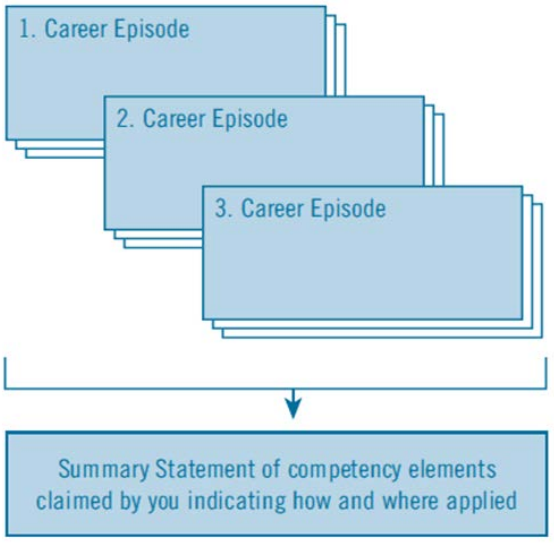
**Please Note:**
**Assessment of your application will not proceed** if you submit copies of documents where the class of person certifying the copy is not one of those listed above or where the requirements in this booklet are not complied with.

### 2.5.2. Preparation of the Summary Statement

Complete the three career episodes, then analyse them for the presence of ALL of the competency elements for the occupational category you have chosen.

The elements for each occupational category are listed in the following pages. The Appendix gives a detailed description of each competency element for each category.
The results of your analysis are to be reported in the form of a Summary Statement of competency elements claimed. The Summary Statement cross-references the relevant set of competency elements with the particular paragraph in your Career Episode where each element occurs. To do this, you will need to number the paragraphs in your career episodes.

The process is represented schematically below:




You must download and complete the appropriate summary statement for your nominated occupational category.
The summary statement templates are available at www.engineersaustralia.org.au/migration_skills

These are guides only. Do not attempt to restrict your Summary Statement to one page only. Applicants may prepare their own summary table, but must include the complete set of competency elements for their nominated engineering category. You do not need to cover all the indicators within each competency element.
Please note, one Summary Statement only is to be provided covering all three career episodes combined.

## 2.6. For Paper Based Application

We strongly recommend that you use our online assessment system. However, should you not be able to use the online system it is still possible to lodge a paper based application taking note of the following instructions:

1. Application form with your current photograph with your original signature must be submitted
2. Signed the Statutory Declaration, with your original signature
3. Submit certified true copies of your academic documents, Bio-data page of your passport, employment documents (Section A for Certification)
4. Submit your CV, CPD, three career episodes and Summary Statement
5. CDR Application Form. This is available from www.engineersaustralia.org.au/ migration_skills
6. Declaration Page

Your Competency Demonstration Report must include the following declaration:

**Declaration:**
The following declaration must be signed and presented as part of your CDR submission:

"All statements of fact in this report are true and correct and I have made claims of acquired competencies in good faith. The report is all my own work and is a true representation of my personal competence in written English. I confirm that I understand that members of the engineering team in Australia are required to display a commitment to exercising professional and ethical responsibility in all aspects of their work. I also understand that documentation submitted in support of my application may be referred to the Department of Immigration for integrity checking."

**Printed Name:**

**Signature:**

**Date:**

This Declaration Form is on page 3 of the CDR Application Form, which may be downloaded from the Engineers Australia website www.engineersaustralia.org.au/migration_skills

# PROFESSIONAL ENGINEER
# Summary Statement

These are the competency Units and Elements. These elements must be addressed in the Summary Statement (see Section C). If you are applying for assessment as a Professional Engineer, you will need to download this page, complete it and lodge it with your application. For details, refer to the Appendix, Pages 33-36.

| Competency Element | A brief summary of how you have applied the element | Paragraph in the career episode(s) where the element is addressed |
|---|---|---|
| **PE1 KNOWLEDGE AND SKILL BASE** | | |
| **PE1.1** Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. | | |
| **PE1.2** Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. | | |
| **PE1.3** In-depth understanding of specialist bodies of knowledge within the engineering discipline. | | |
| **PE1.4** Discernment of knowledge development and research directions within the engineering discipline. | | |
| **PE1.5** Knowledge of contextual factors impacting the engineering discipline. | | |
| **PE1.6** Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline. | | |
| **PE2 ENGINEERING APPLICATION ABILITY** | | |
| **PE2.1** Application of established engineering methods to complex engineering problem solving. | | |
| **PE2.2** Fluent application of engineering techniques, tools and resources. | | |
| **PE2.3** Application of systematic engineering synthesis and design processes. | | |
| **PE2.4** Application of systematic approaches to the conduct and management of engineering projects. | | |
| **PE3 PROFESSIONAL AND PERSONAL ATTRIBUTES** | | |
| **PE3.1** Ethical conduct and professional Accountability. | | |
| **PE3.2** Effective oral and written communication in professional and lay domains. | | |
| **PE3.3** Creative, innovative and pro-active demeanour. | | |
| **PE3.4** Professional use and management of information. | | |
| **PE3.5** Orderly management of self, and professional conduct. | | |
| **PE3.6** Effective team membership and team leadership. | | |

# ENGINEERING TECHNOLOGIST
# Summary Statement

These are the competency Units and Elements. These elements must be addressed in the Summary Statement (see Section C). If you are applying for assessment as an Engineering Technologist, you will need to download this page, complete it, and lodge it with your application. For details, refer to the Appendix, Pages 38-41.

| Competency Element | A brief summary of how you have applied the element | Paragraph in the career episode(s) where the element is addressed |
|---|---|---|
| **ET1 KNOWLEDGE AND SKILL BASE** | | |
| **ET1.1** Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain | | |
| **ET1.2** Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. | | |
| **ET1.3** In-depth understanding of specialist bodies of knowledge within the technology domain. | | |
| **ET1.4** Discernment of knowledge development within the technology domain. | | |
| **ET1.5** Knowledge of contextual factors impacting the technology domain. | | |
| **ET1.6** Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the technology domain. | | |
| **ET2 ENGINEERING APPLICATION ABILITY** | | |
| **ET2.1** Application of established engineering methods to broadly-defined problem solving within the | | |
| **ET2.2** Application of engineering techniques, tools and resources within the technology domain. | | |
| **ET2.3** Application of systematic synthesis and design processes within the technology domain. | | |
| **ET2.4** Application of systematic approaches to the conduct and management of projects within the technology domain. | | |
| **ET3 PROFESSIONAL AND PERSONAL ATTRIBUTES** | | |
| **ET3.1** Ethical conduct and professional accountability. | | |
| **ET3.2** Effective oral and written communication in professional and lay domains. | | |
| **ET3.3** Creative, innovative and pro-active demeanour. | | |
| **ET3.4** Professional use and management of information. | | |
| **ET3.5** Orderly management of self, and professional conduct. | | |
| **ET3.6** Effective team membership and team leadership. | | |

# ENGINEERING ASSOCIATE
# Summary Statement

These are the competency Units and Elements. These elements must be addressed in the Summary Statement (see Section C). If you are applying for assessment as an Engineering Associate, you will need to download this page, complete it, and lodge it with your application. For details, refer to the Appendix, Pages 43-45.

| Competency Element | A brief summary of how you have applied the element | Paragraph in the career episode(s) where the element is addressed |
|---|---|---|
| **EA1 KNOWLEDGE AND SKILL BASE** | | |
| **EA1.1** Descriptive, formula-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the practice area. | | |
| **EA1.2** Procedural-level understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the practice area. | | |
| **EA1.3** In-depth practical knowledge and skills within specialist sub-disciplines of the practice area. | | |
| **EA1.4** Discernment of engineering developments within the practice area. | | |
| **EA1.5** Knowledge of contextual factors impacting the practice area. | | |
| **EA1.6** Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the area of practice. | | |
| **EA2 ENGINEERING APPLICATION ABILITY** | | |
| **EA2.1**Application of established technical and practical methods to the solution of well-defined engineering problems. | | |
| **EA2.2** Application of technical and practical techniques, tools and resources to well-defined engineering problems. | | |
| **EA2.3** Application of systematic design processes to well-defined engineering problems. | | |
| **EA2.4** Application of systematic project management processes. | | |
| **EA3 PROFESSIONAL AND PERSONAL ATTRIBUTES** | | |
| **EA3.1** Ethical conduct and professional accountability. | | |
| **EA3.2** Effective oral and written communication in professional and lay domains. | | |
| **EA3.3** Creative, innovative and pro-active demeanour. | | |
| **EA3.4** Professional use and management of information. | | |
| **EA3.5** Orderly management of self, and professional conduct. | | |
| **EA3.6** Effective team membership and team leadership. | | |

# ENGINEERING MANAGER
# Summary Statement

These are the competency Elements. These elements must be addressed in the Summary Statement (see Section C).
If you are applying for assessment as an Engineering Manager, you will need to download this page, complete it, and lodge it with your application. For details, refer to the Appendix, Page 47.

| Competency Element | A brief summary of how you have applied the element | Paragraph in the career episode(s) where the element is addressed |
|---|---|---|
| **EM 1.1** Contributes to engineering business strategies | | |
| **EM 1.2** Develops client relationships | | |
| **EM 1.3** Manages the implementation of engineering plans within the business | | |
| **EM 1.4** Manages resources | | |
| **EM 1.5** Manages people | | |
| **EM 1.6** Manages suppliers | | |
| **EM 1.7** Manages business information | | |
| **EM 1.8** Monitors engineering business performance | | |

# SECTION D
# Additional Assessment Services

# Optional Assessment Services

**Identification of:**

- Relevant Overseas Doctorate

and / or

- Relevant Skilled Employment for the purpose of claiming migration points

## 1. Introduction

As part of the introduction of the New Points Test for certain skilled migration visas on 1 July 2011, DIAC has advised applicants that they may request an opinion from their relevant assessing authority in two areas:

- identification of highest educational qualification, relevant to the nominated occupation
- identification of relevant skills employment of at least 20hrs/week, both overseas and in Australia

See http://www.immi.gov.au/skilled/general-skilled-migration/pdf/points-test.pdf

Generally, the higher the level of qualification and the longer the period of relevant work experience, the greater the number of points claimable under the points test.

Engineers Australia can offer opinions in the two areas above, as necessary, on receipt of an application for the additional services (with evidence) over and above the standard assessment. It should be noted that from 1 July 2011, the standard assessment WILL INCLUDE an opinion on the comparable relevant Australian level qualification to the client's overseas qualification used in support of the assessed outcome. However, where a client holds an engineering PhD degree for example, which may not necessarily need to be considered in the assessment process to provide the nominated outcome, then this additional assessing service may be employed to identify the overseas PhD as comparable to an Australian PhD.

## 2. Online Application

Please upload **colour scans of original documents** pertaining to the relevant skilled employment and/or PhD online. We will not accept documents with poor resolution (should be at least 300idp). Certified documents are not accepted for online applications

## 3. Paper Based Application

Relevant documentary evidence must be duly certified (see Section A for instructions) and submitted by post

## 4. Applicability of additional services

It should be noted that not all clients will require these additional assessing services. Such services are anticipated to be ONLY of interest to the following clients:

- those who hold a higher-level qualification than may be strictly necessary to provide the nominated outcome; and / or
- those who have at least 1 year Australian work experience, and / or at least 3 years Overseas work experience in their nominated occupation or a closely-related occupation.

Either or both of these services may be applied for if the client wishes to claim the points in a visa application.

## 5. Assessment of Overseas PhD in engineering

The standard assessment WILL INCLUDE an opinion on the comparable relevant Australian level qualification to the client's overseas qualification used in support of the assessed outcome. However, where a client holds a PhD degree for example, which may not necessarily need to be considered in the assessment process to provide the nominated outcome, then this additional assessing service may be employed to identify the overseas PhD as comparable to an Australian PhD.
Applicants who require this service will need to provide:

- a completed application form, with relevant fee payment
- copies of all original academic documentation (testamurs and transcripts, as applicable) which shows that the client unconditionally holds the qualification claimed
- a listing of doctoral examiners and details
- a listing of publications made during and after the doctoral program
- thesis abstract.

**Please Note:**
Engineers Australia does NOT issue the points for migration. This will be done by the Department of Immigration case officer at the time of their review of the overall migration application, subsequent to assessment.

## 6. Relevant Skilled Employment

The Department of Immigration and Border Protection (DIBP) will award points to applicants based on demonstration of a verifiable skilled employment history undertaken in the last 10 years, in Australia or overseas. For the necessary assessment by Engineers Australia, the experience MUST be in an applicant's nominated engineering occupation, or a closely related occupation.

In determining whether an applicant's skilled employment is closely related to their nominated occupation, the assessment by Engineers Australia will take into consideration the occupations within one unit group classified under the ANZSCO Classification of Occupations.

Engineers Australia has been authorised by the Department of Immigration to provide an opinion about an applicant's skilled employment claims as part of the skills assessment. However, the decision to award points for skilled employment remains with the Department of Immigration case officer, who may also need to review claims of relevant employment gained subsequent to the formal assessment.

**Applicants who require this service will need to:**

- apply for additional assessment simultaneously with the Standard Assessment or separately.
- a competed 'Skilled Employment Record' of the work experience being claimed in support of the opinion requested from Engineers Australia. The 'Skilled Employment Record' template is available on www.engineersaustralia.org.au/migration_skills(Paper Based Application only )

For applicants seeking an opinion about their skilled employment claims (as above) from Engineers Australia, we require third party documentary evidence as below:

- scanned copy of an original document (Online Application), or certified true copy of the original in accordance with the MSA Booklet, Section A, Item 5 (Paper Based Application);
- be written on the official letterhead of the company, or government department, providing the documentation;
- indicate clearly the full address of the company and any telephone, fax numbers, email and website addresses;
- be dated;
- include the name and position of the person endorsing the employment document . These should be typed or stamped below that person's signature – a reference with an illegible signature will not be accepted:
- include the direct contact number and official email address of the person endorsing the document;
- indicate:

a) the main five (5) duties undertaken,
b) the job title or positions held (positions should not be described by generic titles (e.g., Engineer) but according to the nature of the duties undertaken (e.g., Assistant Project Engineer – Civil),
c) the exact period of employment (start and finish date, including day/month/year),
d) whether full or part-time (including hours/week).

Other documents you may be invited to submit on the case by case basis are:

- Income Tax / Payroll Tax report, or
- Social Security /Social Insurance report
- a letter of job offer
- a formal employment contract
- letter from a direct supervisor on company letterhead.
- Statutory Declaration /Affidavit from a direct supervisor.
- a Statutory Declaration / Affidavit if the supervisor is no longer with the company.
- Statutory Declaration/Affidavit from a previous Supervisor where the company no longer exists.
- an Annual Performance Review (if it includes duties).
- an official Job Description document
- pay slips

For periods of **self-employment**, the following certified copies or original documents may be acceptable:

- third party confirmation of the period of self-employment, the position held and the individual duties performed (for example, signed by client; or company solicitor accountant. etc.)
- commissions that are signed by each of the clients for each project;
- proof of formal Registration (including duration) as an engineer in the home country;
- receipts issued for projects;
- third party confirmation of the period of self-employment, the position held and the individual duties performed.
- business registration documents
- business tax report

**Please Note:**
Only those documents meeting the above requirements will be considered in the provision of formal written advice by Engineers Australia. No further correspondence will be entered into in addressing shortcomings in the submitted documentation.

## Skilled Employment Record

**Family or Surname:**

**Given Names:**

| Start Date / End Date | Job Title | Employer / Company Name | Street Address | Contact Details<br>Tel / fax / email | Documents<br>Include 5 main duties<br>Yes / No | Hours/week | Total Duration<br>Years / Months | For Engineers Australia Use Only<br>CID Number |
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**Note:** **Please ensure that all columns are completed for each period of employment relevant to your nominated occupation.**

**Employment for which incomplete information is provided will not be considered.**

# SECTION E
# Checklists, Fee payment and Dispatch

# Checklists

**a) for online applications**
Applicant must upload colour scans of original documents online. The prescribed resolution of the scan document is at least 300dpi

**b) for Paper Based Applications**
Before you dispatch your application you should use one of the following checklists to ensure that you have completed all the necessary steps and provided all the required documents. Assemble your submission by placing documents in the order shown below.

**Checklist 1:** for Washington/Sydney /Dublin Accord and Australian Engineering Qualifications Assessment Applications:

- ☐ Completed Application Form (Paper Based Application only)
- ☐ Application fee
- ☐ Current Passport Style Photo
- ☐ Form to appoint person to act as agent [if necessary]
- ☐ Passport bio-data page only (not the complete passport), and English language translation (if not in English) [Where this is not available, a copy of your Birth Certificate and National Identify Card may be acceptable in lieu]
- ☐ Name change document [If necessary]
- ☐ Original English language test result [necessary only if application is based on a qualification from a signatory country where the official language is not English].
- ☐ Academic testamur
- ☐ Academic transcripts
- ☐ Curriculum Vitae (CV) / Résumé
- ☐ Evidence of registration under the relevant licensing authority in the country in which you are practicing [if necessary] e.g. Philippine Regulations Commission
- ☐ English language translations of above, where applicable

**Checklist 2:** for Competency Demonstration Report (CDR) Assessment Applications

- ☐ Completed Application Form (Paper Based Application Only)
- ☐ Application fee
- ☐ Current Passport-style photo
- ☐ Form to appoint person to act as agent [if necessary]
- ☐ Copy of passport bio-data page only (not the complete passport), and English language translation (if not in English) [Where this is not available, a copy of your Birth Certificate and/or National Identify Card may be acceptable in lieu]
- ☐ Copy of name change document [If necessary]
- ☐ English language test result [if necessary].
- ☐ Curriculum Vitae (CV) / Résumé
- ☐ Copy of academic testamur(s)
- ☐ Copies of academic transcript(s)
- ☐ Evidence of registration under the relevant licensing authority in the country in which you are practicing [if necessary] e.g. Philippine Regulations Commission
- ☐ Documentary evidence of employment [must be provided if you have relevant work experience of 12 months or more, or if the work experience provides a basis of a career episode(s)]
- ☐ A listing of Continuing Professional Development (CPD)
- ☐ CDR Declaration Page (Paper Based Application only)
- ☐ Three Career Episodes
- ☐ Summary Statement of evidence for the competency elements
- ☐ English language translations of above, where applicable

# Fee Payment and Dispatch

The assessment fee (as specified at the final stage of online application or check the Application Form available from must accompany your submission.
The assessment fee is not refundable and may be subject to change without notice.
Goods and Service Tax (GST)

- Applicants who are living in Australia MUST pay 10% GST on the application fee
- Applicants living overseas, who lodge their application from overseas, are NOT required to pay the GST
- Applicants living overseas, who lodge an application for assessment through an agent in Australia (Migration Agent, relative or friend living in Australia) are NOT required to pay the GST.

# Assessment Fees

Assessment fees are available on each application form on our website
Note that extra fees are applicable for the additional services if carried out AFTER the Standard Assessment has been issued. In this case, please refer tour website for the applicable fees.
The following methods of payment are acceptable:

- Online credit Card payment (Visa, MasterCard, American Express)
- An international bank draft or cheque made out to 'Engineers Australia' in Australian dollars drawn on an Australian office of a bank operating in Australia
- An international money order made out to 'Engineers Australia' in Australian dollars(Payment on Invoice)
- A credit card authorisation on your Visa, MasterCard or American Express card

**Please Note:**
A cheque/remittance drawn in a currency other than Australian dollars or drawn in Australian currency on a bank outside Australia is **not acceptable**.

For payment made within Australia, the following methods of payment are also acceptable:

- A bank cheque or a personal cheque (payment on invoice)
- An Australian money order (payment on invoice)

Any written correspondence should be directed to:

**Migration Skills Assessment**
**Education and Assessment**
**Engineers Australia**
11 National Circuit
BARTON ACT 2600
AUSTRALIA

**Please Note:**
Assessment Turnaround Time: The turnaround time for processing assessments can vary, depending on numbers of incoming applications. For guidance on current turnaround time, we refer to
**www.engineersaustralia.org.au/migration_skills**
Please DO NOT contact Engineers Australia within this time frame as delays will be caused to the processing time for all applications.

# APPENDIX
# Detailed description of competency elements for each occupational category

# PROFESSIONAL ENGINEER

# GENERAL DESCRIPTION OF ROLE

**Professional Engineers** are required to take responsibility for engineering projects and programs in the most far-reaching sense. This includes the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking. Professional Engineers are responsible for interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed
by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.

**Professional Engineers** are responsible for bringing knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of Professional Engineers is predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline. Alternatively, they may contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.

**Professional Engineers** have a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

**Professional Engineers** may lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

See Summary Statement in Section C
www.engineersaustralia.org.au

# PROFESSIONAL ENGINEER:

# UNITS AND ELEMENTS OF COMPETENCY

## 1. PE1 KNOWLEDGE AND SKILL BASE

### 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.

a) Engages with the engineering discipline at a phenomenological level, applying sciences and engineering fundamentals to systematic investigation, interpretation, analysis and innovative solution of complex problems and broader aspects of engineering practice.

### 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.

a) Develops and fluently applies relevant investigation analysis, interpretation, assessment, characterisation, prediction, evaluation, modelling, decision making, measurement, evaluation, knowledge management and communication tools and techniques pertinent to the engineering discipline.

### 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.

a) Proficiently applies advanced technical knowledge and skills in at least one specialist practice domain of the engineering discipline.

### 1.4. Discernment of knowledge development and research directions within the engineering discipline.

a) Identifies and critically appraises current developments, advanced technologies, emerging issues and interdisciplinary linkages in at least one specialist practice domain of the engineering discipline.
b) Interprets and applies selected research literature to inform engineering application in at least one specialist domain of the engineering discipline.

### 1.5. Knowledge of contextual factors impacting the engineering discipline.

a) Identifies and understands the interactions between engineering systems and people in the social, cultural, environmental, commercial, legal and political contexts in which they operate, including both the positive role of engineering in sustainable development and the potentially adverse impacts of engineering activity in the engineering discipline.
b) Is aware of the founding principles of human factors relevant to the engineering discipline.
c) Is aware of the fundamentals of business and enterprise management.
d) Identifies the structure, roles and capabilities of the engineering workforce.
e) Appreciates the issues associated with international engineering practice and global operating contexts.

### 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline.

a) Applies systematic principles of engineering design relevant to the engineering discipline.
b) Appreciates the basis and relevance of standards and codes of practice, as well as legislative and statutory requirements applicable to the engineering discipline.
c) Appreciates the principles of safety engineering, risk management and the health and safety responsibilities of the professional engineer, including legislative requirements applicable to the engineering discipline.
d) Appreciates the social, environmental and economic principles of sustainable engineering practice.
e) Understands the fundamental principles of engineering project management as a basis for planning, organising and managing resources.
f) Appreciates the formal structures and methodologies of systems engineering as a holistic basis for managing complexity and sustainability in engineering practice.

**Notes:**

1. 'engineering discipline' means the broad branch of engineering (civil, electrical, mechanical, etc.) as typically represented by the Engineers Australia Colleges.

2. 'specialist practice domain' means the specific area of knowledge and practice within an engineering discipline, such as geotechnics, power systems, manufacturing, etc.

# 2. PE2 ENGINEERING APPLICATION ABILITY

## 2.1. Application of established engineering methods to complex engineering problem solving.

a) Identifies, discerns and characterises salient issues, determines and analyses causes and effects, justifies and applies appropriate simplifying assumptions, predicts performance and behaviour, synthesises solution strategies and develops substantiated conclusions.
b) Ensures that all aspects of an engineering activity are soundly based on fundamental principles - by diagnosing, and taking appropriate action with data, calculations, results, proposals, processes, practices, and documented information that may be ill-founded, illogical, erroneous, unreliable or unrealistic.
c) Competently addresses engineering problems involving uncertainty, ambiguity, imprecise information and wide-ranging and sometimes conflicting technical and non-technical factors.
d) Partitions problems, processes or systems into manageable elements for the purposes of analysis, modelling or design and then re-combines to form a whole, with the integrity and performance of the overall system as the paramount consideration.
e) Conceptualises alternative engineering approaches and evaluates potential outcomes against appropriate criteria to justify an optimal solution choice.
f) Critically reviews and applies relevant standards and codes of practice underpinning the engineering discipline and nominated specialisations.
g) Identifies, quantifies, mitigates and manages technical, health, environmental, safety and other contextual risks associated with engineering application in the designated engineering discipline.
h) Interprets and ensures compliance with relevant legislative and statutory requirements applicable to the engineering discipline.
i) Investigates complex problems using research- based knowledge and research methods.

## 2.2. Fluent application of engineering techniques, tools and resources.

a) Proficiently identifies, selects and applies the materials, components, devices, systems, processes, resources, plant and equipment relevant to the engineering discipline.
b) Constructs or selects and applies from a qualitative description of a phenomenon, process, system, component or device a mathematical, physical or computational model based on fundamental scientific principles and justifiable simplifying assumptions.
c) Determines properties, performance, safe working limits, failure modes, and other inherent parameters of materials, components and systems relevant to the engineering discipline.
d) Applies a wide range of engineering tools for analysis, simulation, visualisation, synthesis and design, including assessing the accuracy and limitations of such tools, and validation of their results.
e) Applies formal systems engineering methods to address the planning and execution of complex, problem solving and engineering projects.
f) Designs and conducts experiments, analyses and interprets result data and formulates reliable conclusions.
g) Analyses sources of error in applied models and experiments; eliminates, minimises or compensates for such errors; quantifies significance of errors to any conclusions drawn.
h) Safely applies laboratory, test and experimental procedures appropriate to the engineering discipline.
i) Understands the need for systematic management of the acquisition, commissioning, operation, upgrade, monitoring and maintenance of engineering plant, facilities, equipment and systems.
j) Understands the role of quality management systems, tools and processes within a culture of continuous improvement.

## 2.3. Application of systematic engineering synthesis and design processes.

a) Proficiently applies technical knowledge and open ended problem solving skills as well as appropriate tools and resources to design components, elements, systems, plant, facilities and/or processes to satisfy user requirements.
b) Addresses broad contextual constraints such as social, cultural, environmental, commercial, legal political and human factors, as well as health, safety and sustainability imperatives as an integral part of the design process.
c) Executes and leads a whole systems design cycle approach including tasks such as:

- determining client requirements and identifying the impact of relevant contextual factors, including business planning and costing targets;
- systematically addressing sustainability criteria;
- working within projected development, production and implementation constraints;
- eliciting, scoping and documenting the required
- outcomes of the design task and defining acceptance criteria;
- identifying assessing and managing technical, health and safety risks integral to the design process;
- writing engineering specifications, that fully satisfy the formal requirements;
- ensuring compliance with essential engineering standards and codes of practice;
- partitioning the design task into appropriate modular, functional elements; that can be separately addressed and subsequently integrated through defined interfaces;
- identifying and analysing possible design approaches and justifying an optimal approach;

- developing and completing the design using appropriate engineering principles, tools, and processes;
- integrating functional elements to form a coherent design solution;
- quantifying the materials, components, systems, equipment, facilities, engineering resources and operating arrangements needed for implementation of the solution;
- checking the design solution for each element and the integrated system against the engineering specifications;
- devising and documenting tests that will verify performance of the elements and the integrated realisation;
- prototyping/implementing the design solution and verifying performance against specification;
- documenting, commissioning and reporting the design outcome.

d) Is aware of the accountabilities of the professional engineer in relation to the 'design authority' role.

### 2.4. Application of systematic approaches to the conduct and management of engineering projects.

a) Contributes to and/or manages complex engineering project activity, as a member and/or as the leader of an engineering team.
b) Seeks out the requirements and associated resources and realistically assesses the scope, dimensions, scale of effort and indicative costs of a complex engineering project.
c) Accommodates relevant contextual issues into all phases of engineering project work, including the fundamentals of business planning and financial management
d) Proficiently applies basic systems engineering and/ or project management tools and processes to the planning and execution of project work, targeting the delivery of a significant outcome to a professional standard.
e) Is aware of the need to plan and quantify performance over the full life-cycle of a project, managing engineering performance within the overall implementation context.
f) Demonstrates commitment to sustainable engineering practices and the achievement of sustainable outcomes in all facets of engineering project work.

## 3. PE3 PROFESSIONAL AND PERSONAL ATTRIBUTES

### 3.1. Ethical conduct and professional accountability.

a) Demonstrates commitment to uphold the Engineers Australia - Code of Ethics, and established norms of professional conduct pertinent to the engineering discipline.
b) Understands the need for 'due-diligence' in certification, compliance and risk management processes.
c) Understands the accountabilities of the professional engineer and the broader engineering team for the safety of other people and for protection of the environment.
d) Is aware of the fundamental principles of intellectual property rights and protection.

### 3.2. Effective oral and written communication in professional and lay domains.

a) Is proficient in listening, speaking, reading and writing English, including:
   - comprehending critically and fairly the viewpoints of others;
   - expressing information effectively and succinctly, issuing instruction, engaging in discussion, presenting arguments and justification, debating and negotiating - to technical and non-technical audiences and using textual, diagrammatic, pictorial and graphical media best suited to the context;
   - representing an engineering position, or the engineering profession at large to the broader community;
   - appreciating the impact of body language, personal behaviour and other non-verbal communication processes, as well as the fundamentals of human social behaviour and their cross-cultural differences.
b) Prepares high quality engineering documents such as progress and project reports, reports of investigations and feasibility studies, proposals, specifications, design records, drawings, technical descriptions and presentations pertinent to the engineering discipline.

### 3.3. Creative, innovative and pro-active demeanour.

a) Applies creative approaches to identify and develop alternative concepts, solutions and procedures, appropriately challenges engineering practices from technical and non-technical viewpoints; identifies new technological opportunities.
b) Seeks out new developments in the engineering discipline and specialisations and applies fundamental knowledge and systematic processes to evaluate and report potential.
c) Is aware of broader fields of science, engineering, technology and commerce from which new ideas and interfaces may be drawn and readily engages with professionals from these fields to exchange ideas.

### 3.4. Professional use and management of information.

a) Is proficient in locating and utilising information - including accessing, systematically searching, analysing, evaluating and referencing relevant published works and data; is proficient in the use of indexes, bibliographic databases and other search facilities.
b) Critically assesses the accuracy, reliability and authenticity of information.
c) Is aware of common document identification, tracking and control procedures.

### 3.5. Orderly management of self, and professional conduct.

a) Demonstrates commitment to critical self-review and performance evaluation against appropriate criteria as a primary means of tracking personal development needs and achievements.
b) Understands the importance of being a member of a professional and intellectual community, learning from its knowledge and standards, and contributing to their maintenance and advancement.
c) Demonstrates commitment to life-long learning and professional development.
d) Manages time and processes effectively, prioritises competing demands to achieve personal, career and organisational goals and objectives.
e) Thinks critically and applies an appropriate balance of logic and intellectual criteria to analysis, judgement and decision making.
f) Presents a professional image in all circumstances, including relations with clients, stakeholders, as well as with professional and technical colleagues across wide ranging disciplines.

### 3.6. Effective team membership and team leadership.

g) Understands the fundamentals of team dynamics and leadership.
h) Functions as an effective member or leader of diverse engineering teams, including those with multi-level, multi-disciplinary and multi-cultural dimensions.
i) Earns the trust and confidence of colleagues through competent and timely completion of tasks.
j) Recognises the value of alternative and diverse viewpoints, scholarly advice and the importance of professional networking.
k) Confidently pursues and discerns expert assistance and professional advice.
l) Takes initiative and fulfils the leadership role whilst respecting the agreed roles of others.

# ENGINEERING TECHNOLOGIST

# GENERAL DESCRIPTION OF ROLE

**Engineering Technologists** normally operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology. Within their specialist field, their expertise may be at a high level, and fully equivalent to that of a Professional Engineer. Engineering Technologists may not however, be expected to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.

**The work of Engineering Technologists** combines the need for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis. The work of Engineering Technologists is most often concerned with applying current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice. They may also contribute to the advancement of technology.

**Engineering Technologists** frequently will take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing the contributions of their specialist work to a broader engineering system or solution. In these roles, Engineering Technologists must focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle. They will have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.

**Engineering Technologists** must ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle. They must understand how new developments relate to their specific field of expertise. They will be often required to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

**Engineering Technologists** may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

See Summary Statement in Section C
Also downloadable at www.engineersaustralia.org.au

# ENGINEERING TECHNOLOGIST:

# UNITS AND ELEMENTS OF COMPETENCY

## 1. ET1 KNOWLEDGE AND SKILL BASE

### 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

a) Engages with the technology domain at a phenomenological level, applying sciences and engineering fundamentals to systematic investigation, interpretation, analysis and innovative solution of *broadly-defined* problems and engineering technology practice.

### 1.2. Conceptual understanding of the, mathematics,numerical analysis, statistics, and computer and information sciences which underpin the technology domain.

a) Fluently applies relevant investigation, analysis, interpretation, assessment, characterisation, prediction, evaluation, modelling, decision making, measurement, evaluation, knowledge management and communication tools and techniques pertinent to the technology domain.

### 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.

a) Proficiently applies advanced technical knowledge and skills to deliver engineering outcomes in specialist area(s) of the technology domain and associated industry, commercial and community sectors.

### 1.4. Discernment of knowledge development within the technology domain.

a) Identifies and critically appraises current developments and emerging issues professionally disseminated in specialist practice area(s) of the technology domain.

### 1.5. Knowledge of contextual factors impacting the technology domain.

a) Identifies and understands the interactions between engineering technologies and people in the social, cultural, environmental, commercial, legal and political contexts in which they operate, including both the positive role of engineering in sustainable development and the potentially adverse impacts of engineering activity in the technology domain.
b) Is aware of the fundamentals of business and enterprise management.
c) Identifies the structure, roles and capabilities of the engineering workforce. Appreciates the issues associated with international engineering practice activities and a global operating context.

### 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the technology domain.

a) Applies systematic principles of engineering design relevant to the technology domain.
b) Understands the standards and codes of practice, as well as the legislative and statutory requirements associated with specialist practice area(s) of the technology domain.
c) Appreciates the principles of safety engineering, risk management and the health and safety responsibilities of the engineering practitioner, applicable to the technology domain.
d) Appreciates the social, environmental and economic principles of sustainable engineering practice.
e) Understands the fundamental principles of engineering project management and systems as a basis for planning, organising and managing resources.

**Notes:**

1. 'technology domain' means the specific technological field (eg geotechnics, power systems, manufacturing, etc.) within a branch of engineering (eg civil, electrical, mechanical, etc) or engineering-related discipline.

2. 'specialist practice area' means the specific area of knowledge and practice within a technology domain, such as slope instability and stabilisation, power systems protection, industrial automation, etc.

## 2. ET2 ENGINEERING APPLICATION ABILITY

### 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.

a) Identifies, discerns and characterises salient issues, determines and analyses causes and effects, justifies and applies appropriate simplifying assumptions, predicts performance and behaviour, synthesises solution strategies and develops substantiated conclusions.
b) Ensures that the application of specialist technologies are soundly based on fundamental principles - by diagnosing, and taking appropriate action with data, calculations, results, proposals, processes, practices, and documented information that may be ill-founded, illogical, erroneous, unreliable or unrealistic.
c) Within specialist practice area(s), competently addresses engineering technology problems involving uncertainty, ambiguity, imprecise information and wide-ranging and sometimes conflicting technical and non-technical factors.

d) Recognises problems which have component elements and/or implications beyond the engineering technologist's personal expertise and correctly identifies the need for supplementary professional input.
e) Manages conflicting issues associated with interfacing, integrating and adapting specialist technologies where complex problems, processes or systems that have been partitioned into manageable elements for the purposes of analysis, modelling, design, prototyping, commissioning or testing, are recombined.
f) Critically evaluates alternative implementation approaches using specialist engineering technologies and evaluates potential outcomes against appropriate criteria to justify an optimal solution choice.
g) Interprets, applies and verifies compliance with relevant standards and codes of practice as well as legislative and statutory requirements underpinning specialist practice area(s) of the technology domain.
h) Identifies, quantifies, mitigates and manages technical, health, environmental, safety and other contextual risks associated with engineering application in the technology domain.
i) Accesses appropriate professional knowledge resources as input to systematic problem investigation.

## 2.2. Application of engineering techniques, tools and resources within the technology domain.

a) Proficiently identifies, selects and applies the materials, components, devices, systems,
b) processes, resources, plant and equipment relevant to the technology domain.
c) Understands the principles, limitations and accuracy of mathematical, physical or computational modelling.
d) Selects and applies such models in the representation of phenomenon, processes, systems, components or devices.
e) Determines properties, performance, safe working limits, failure modes, and other inherent
f) parameters of materials, components and systems
g) relevant to specialist area(s) of the technology domain.
h) Applies a wide range of engineering tools for analysis, simulation, visualisation, synthesis and design, assesses accuracy and limitations of such tools, and validates results.
i) Designs and conducts experiments, analyses and interprets result data and formulates reliable conclusions.
j) Analyses sources of error in applied models and experiments; eliminates, minimises or compensates for such errors; quantifies significance of errors to any conclusions drawn.
k) Safely applies laboratory, test and experimental procedures appropriate to the technology domain.
l) Appreciates the need for systematic approaches to acquisition, commissioning, operation, upgrade, monitoring and maintenance of engineering plant, facilities, equipment and systems.
m) Understands the role of quality management systems, tools and processes within a culture of continuous improvement.

## 2.3. Application of systematic synthesis and design processes within the technology domain.

a) Proficiently applies technological knowledge and problem solving skills as well as established tools and procedures to design components, system elements, plant, facilities and/or processes to meet technical specifications and performance criteria.
b) Accommodates contextual factors that impact the technology domain, and in particular to ensure that health, safety and sustainability imperatives are addressed as an integral part of the design process.
c) Engages with a whole systems design cycle, including tasks such as:
   - determining client requirements and identifying the impact of relevant contextual factors, including business planning and costing targets;
   - systematically addressing sustainability criteria;
   - working within projected development, production and implementation constraints;
   - eliciting, scoping and documenting the required outcomes of the design task and defining acceptance criteria;
   - identifying assessing and managing technical, health and safety risks integral to the design process;
   - writing engineering specifications, that fully satisfy the formal requirements;
   - ensuring compliance with essential engineering standards and codes of practice;
   - partitioning the design task into appropriate modular, functional elements; that can be separately addressed and subsequently integrated through defined interfaces;
   - identifying and analysing possible design approaches and justifying an optimal approach;
   - developing and completing the design using appropriate engineering principles, tools, and processes;
   - integrating functional elements to form a coherent design solution;
   - quantifying the materials, components, systems, equipment, facilities, engineering resources and operating arrangements needed for implementation of the solution;
   - checking the design solution for each element and the integrated system against the engineering specifications;
   - devising and documenting tests that will verify performance of the elements and the integrated realisation;
   - Prototyping/implementing the design solution and verifying performance against specification;
   - Documenting, commissioning and reporting the design outcome.
d) Is aware of the accountabilities of the members of the engineering team in relation to the 'design authority' role.

### 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

a) Contributes to and/or manages *broadly-defined* technological project activity, as a member of the engineering team and/or as leader of a specialist technological team.
b) Seeks out the requirements and associated resources and realistically assesses the scope, dimensions, scale of effort and indicative costs of a broadly-defined technological project.
c) Accommodates relevant contextual issues into all phases of project work, including the fundamentals of business planning and financial management.
d) Proficiently applies basic systems engineering and/ or project management tools and processes to the planning and execution of project work, targeting the delivery of a significant outcome to a professional standard.
e) Is aware of the need to plan and quantify performance over the full life-cycle of a project, managing performance outcomes within the overall implementation context.
f) Demonstrates commitment to sustainable engineering practices and the achievement of sustainable outcomes in all facets of technological project work.

## 3. ET3 PROFESSIONAL AND PERSONAL ATTRIBUTES

### 3.1. Ethical conduct and professional accountability.

a) Demonstrates commitment to uphold the Engineers Australia - Code of Ethics, and established norms of professional conduct pertinent to the technology domain.
b) Understands the need for 'due-diligence' in certification, compliance and risk management processes.
c) Understands the accountabilities of the engineering technologist and the broader engineering team for the safety of other people and for protection of the environment.
d) Is aware of the fundamental principles of intellectual property rights and protection.

### 3.2. Effective oral and written communication in professional and lay domains.

a) Is proficient in listening, speaking, reading and writing English, including:
   - comprehending critically and fairly the viewpoints of others;
   - expressing information effectively and succinctly, issuing instruction, engaging in discussion, presenting arguments and justification, debating and negotiating - to technical and non-technical audiences and using textual, diagrammatic, pictorial and graphical media best suited to the context;
   - representing an engineering technology position to professional colleagues, or to the broader community;
   - appreciating the impact of body language,
   - personal behaviour and other non-verbal communication processes, as well as the fundamentals of human social behaviour and their cross-cultural differences.

b) Prepares high quality engineering documents such as progress and project reports, reports of investigations and feasibility studies, proposals, specifications, design records, drawings, technical descriptions and presentations pertinent to the technology domain.

### 3.3. Creative, innovative and pro-active demeanour.

a) Applies creative approaches to identify and develop alternative concepts, solutions and procedures, appropriately challenges engineering practices from technical and non-technical viewpoints; identifies new technological opportunities.
b) Seeks out new developments in specialist area(s) of the technology domain and applies fundamental knowledge and systematic processes to evaluate and report potential.\
c) Is aware of broader fields of technology, science, engineering and commerce from which new ideas and interfaces may be drawn and readily engages with professionals from these fields to exchange ideas.

### 3.4. Professional use and management of information.

a) Is proficient in locating and utilising information - including accessing, systematically searching, analysing, evaluating and referencing relevant published materials and data.
b) Critically assesses the accuracy, reliability and authenticity of information.
c) Is aware of common document identification, tracking and control procedures.

### 3.5. Orderly management of self, and professional conduct.

a) Demonstrates commitment to critical self-review and performance evaluation against appropriate criteria as a primary means of tracking personal development needs and achievements.
b) Understands the importance of being a member of a professional and intellectual community, learning from its knowledge and standards, and contributing to their maintenance and advancement.
c) Demonstrates commitment to life-long learning and professional development.
d) Manages time and processes effectively, prioritises competing demands to achieve personal, career and organisational goals and objectives.
e) Thinks critically and applies an appropriate balance of logic and intellectual criteria to analysis, judgement and decision making.

f) Presents a professional image in all circumstances, including relations with clients, stakeholders, as well as with professional and technical colleagues across wide ranging disciplines.

### 3.6. Effective team membership and team leadership.

a) Understands the fundamentals of team dynamics and leadership.
b) Functions as an effective member or leader of diverse engineering teams, including those with multi-level, multi-disciplinary and multi-cultural dimensions.
c) Earns the trust and confidence of colleagues through competent and timely completion of tasks.
d) Recognises the value of alternative and diverse viewpoints, scholarly advice and the importance of professional networking.
e) Confidently pursues and discerns expert assistance and professional advice.
f) Takes initiative and fulfils the leadership role whilst respecting the agreed roles of others.

# ENGINEERING ASSOCIATE

# GENERAL DESCRIPTION OF ROLE

Engineering Associates have a wide range of functions within engineering enterprises and engineering teams. Examples of their roles may include feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component, resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

Engineering Associates are often required to be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations. Many develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.

In other instances, Engineering Associates may develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant,

electrical and electronic equipment, information and communications systems, and so on. Other examples might be in the construction of experimental or prototype equipment. Again, experienced operators in these areas often develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Engineering Associates need a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, Engineering Associates may build further on this through high levels of training in particular contexts and in relation to particular equipment. Aircraft maintenance is an excellent example.

The competencies of Engineering Associates equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

Engineering Associates may lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate. In Australia, the term ‘para-professional' is frequently used to describe the Engineering Associate occupation.

www.engineersaustralia.org.au

# ENGINEERING ASSOCIATE:

# UNITS AND ELEMENTS OF COMPETENCY

## 1. EA1 KNOWLEDGE AND SKILL BASE

### 1.1. Descriptive, formula-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the practice area.

a) Applies science and engineering fundamentals to investigate and address new problems, applications procedures, practices and requirements, extrapolating from a defined and established operating context.

### 1.2. Procedural-level understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the practice area.

a) Rigorously and objectively applies analysis, characterisation, measurement, interpretation, assessment, evaluation, visualisation, simulation, decision making, knowledge management and communication tools and techniques pertinent to specialist sub-disciplines of the practice area.

### 1.3. In-depth practical knowledge and skills within specialist sub-disciplines of the practice area.

a) Proficiently executes advanced tasks, processes, techniques, and procedures in a para-professional support role using plant and equipment, instrumentation, measurement and test facilities, materials, components and systems.

### 1.4. Discernment of engineering developments within the practice area.

a) Maintains a broad understanding of development trends and emerging issues disseminated within specialist sub-disciplines of the practice area.

### 1.5. Knowledge of contextual factors impacting the practice area.

a) Identifies and understands the interactions between engineering practice and people in the social, cultural, environmental, commercial, legal and political contexts in which they operate, including both the positive role of engineering in sustainable development and the potentially adverse impacts of engineering activity in the practice area.
b) Is aware of the fundamentals of business and enterprise management.
c) Identifies the structure, roles and capabilities of the engineering workforce.
d) Appreciates the issues associated with international engineering practice in the practice area.

### 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the area of practice.

a) Applies engineering design principles of a standardised nature, relevant to the area of practice and specialist sub-disciplines.
b) Understands the standards and codes of practice, as well as the legislative and statutory requirements which underpin practical and technical work in subdiscipline(s) specialisations of the practice area.
c) Appreciates the principles of safety and risk management and the health and safety responsibilities of the engineering team operating within the practice area.
d) Appreciates the broad principles and implications of sustainable engineering practice.
e) Understands the role of engineering project management tools and procedures as a basis for planning, organising and managing resources.

Notes:
*1.* 'practice area' means the broad area of engineering such as aviation, mechanical, civil, telecommunications, etc.

*2.* 'specialised sub-discipline' means the specific domain of technical practice within a practice area such as aviation maintenance, mechanical design, foundation design, communications equipment installation, etc.

## 2. EA2 ENGINEERING APPLICATION ABILITY

### 2.1. Application of established technical and practical methods to the solution of well-defined engineering problems.

a) Provides practical input to the analysis of key issues, applies established diagnostic processes to investigate causes and effects, applies codified methods for characterisation and analysis as well as performance and behaviour evaluation, fluently applies standardised solution methodologies and formulates substantiated conclusions.
b) Uses systematic and rigorous processes to reliably judge the appropriateness and/or practical validity of tasks, processes, practices, data, results and documented information that may be ambiguous, ill founded, illogical or subject to uncertainty.
c) Proficiently selects and combines available components or elements to create a system, documents outcomes and systematically verifies performance against specifications and overall requirements of the system.
d) Thoroughly evaluates alternative practical approaches to the solution of technical problems in the practice area.

e) Critically observes, assesses and systematically reports in accordance with procedural requirements and codes of practice.
f) Reliably interprets, applies and verifies compliance with standards and codes in the conduct of standardised engineering tasks relevant to specialist sub-disciplines in the practice area.
g) Contributes responsibly and appropriately to the identification, quantification, mitigation and management of technical, health, environmental, safety and other contextual risks associated with practical engineering application in the practice area.
h) Appreciates the need to ensure compliance with legislative and statutory requirements applicable to specialist sub-disciplines in the practice area.
i) Accesses appropriate knowledge resources as input to investigatory work and practical problem solving.

## 2.2. Application of technical and practical techniques, tools and resources to well-defined engineering problems.

a) Proficiently identifies, selects and applies the materials, components, devices, systems, processes, resources, physical tools, plant and equipment relevant to the area of practice.
b) Proficiently applies computer based engineering tools and resources specific to specialist subdiscipline(s) of the area of practice, and recognises the limitations and accuracy of such tools.
c) Proficiently and safely implements laboratory test and measurement outcomes including experimental procedures, calibration and operation of equipment and facilities, interpretation of result data and the formulation of reliable conclusions.
d) Understands the application, capabilities, working limitations and performance expectations of the physical tools, plant and equipment as well as instrumentation and test facilities that support the underlying trades and specialist work within the practice area.
e) Recognises common sources of error and eliminates or compensates for them, and quantifies their significance to any conclusions drawn.
f) Appreciates the need for systematic approaches to the acquisition, commissioning, operation, upgrade, monitoring, maintenance and management of engineering plant, facilities, equipment and systems.
g) Understands the role of quality management systems, tools and processes within a culture of continuous improvement.

## 2.3. Application of systematic design processes to well- defined engineering problems.

a) Proficiently applies technical and practical knowledge and problem solving skills as well as established tools and standardised procedures to design components, system elements, plant, tools, facilities and/or resources to meet clearly specified user requirements.
b) Accommodates contextual factors that impact the practice area, and in particular ensures that health, safety and sustainability imperatives are addressed as an integral part of the design process.
c) Engages with technical and practical elements of a whole systems design cycle, including tasks such as:
   - interpreting and negotiating specified user requirements and acceptance criteria;
   - systematically addressing sustainability criteria;
   - ensuring that health, safety and technical risks are adequately addressed;
   - ensuring compliance with essential engineering standards and codes of practice;
   - consideration of alternative approaches and justifying an optimal approach;
   - developing and completing the design using standardised tools and processes;
   - implementing the design using standard presentation/development/prototyping/fabrication/ construction techniques;
   - checking the design outcome and/or verifying performance against specified user requirements using standard audit processes, acceptance testing and/or evaluation procedures;
   - documenting and reporting the design outcome.
d) Is aware of the accountabilities of the members of the engineering team in relation to the 'design authority' role.

## 2.4. Application of systematic project management processes.

a) Engages with basic project management tools and practices in the execution of well-defined technical project work.
b) Supports a project development cycle through the application of standardised processes, methodologies, tools and resources within a complex, but clearly partitioned engineering environment.
d) Contributes to well-defined and technical project activity as a member of the engineering team and/or through leadership of technical and trades personnel. Identifies the requirements and resources, and realistically assesses the scope, dimensions, scale of effort and indicative costs of well-defined practical and technical project activity.
e) Is aware of the need to accommodate relevant contextual issues into practical and technical project work, including the fundamentals of costing and financial control.
f) Is aware of the need to plan and quantify performance over the full life-cycle of an engineering project, managing practical and technical outcomes within the overall implementation context.
g) Is able to implement sustainable practices to achieve sustainable outcomes in all facets of practical and technical project work.

# 3. EA3 PROFESSIONAL AND PERSONAL ATTRIBUTES

## 3.1. Ethical conduct and professional accountability.

a) Demonstrates commitment to uphold the Engineers Australia - Code of Ethics, and established norms of professional conduct pertinent to the practice area.
b) Understands the need for 'due-diligence' in certification, compliance and risk management processes.
c) Understands the accountabilities of the engineering team for the safety of other people and for protection of the environment.
d) Is aware of the need to recognise and protect intellectual property rights.

## 3.2. Effective oral and written communication in professional and lay domains.

a) Is proficient in listening, speaking, reading and writing English, including:
   - comprehending critically and fairly the viewpoints of others;
   - expressing information effectively and succinctly, issuing instruction, engaging in discussion, presenting justification, and negotiating - to technical and non-technical audiences and using textual, diagrammatic, pictorial and graphical media best suited to the context;
   - representing a technical position to professional engineering colleagues or to the to the broader community;
   - appreciating the impact of body language, personal behaviour and other non-verbal communication processes, as well as the fundamentals of human social behaviour and their cross-cultural differences.
b) Prepares high quality engineering documents such as sketches, charts, diagrams, plans, drawings, spreadsheets, databases, presentations, reports, technical instructions and manuals.

## 3.3. Creative, innovative and pro-active demeanour.

a) Applies creative approaches and procedures to the solution of well-defined problems, appropriately challenges existing engineering practices and identifies practical opportunities for improvement and innovation.
b) Seeks out new developments and practical approaches and considers their application within specialist sub-discipline(s) of the practice area.

## 3.4. Professional use and management of information.

a) Is proficient in locating and utilising professionally published knowledge, information and data.
b) Critically assesses the accuracy, reliability and authenticity of information.
c) Is aware of common document tracking and control procedures.

## 3.5. Orderly management of self, and professional conduct.

a) Demonstrates commitment to critical self-review and performance evaluation against appropriate criteria as a primary means of tracking personal development needs and achievements.
b) Understands the importance of being a member of an engineering community, learning from its knowledge and standards.
c) Demonstrates commitment to life-long learning and development.
d) Manages time and processes effectively, prioritises competing demands to achieve personal, career and organisational goals and objectives.
e) Presents a professional image in all circumstances, including relations with clients, stakeholders, as well as with colleagues across wide ranging disciplines.

## 3.6. Effective team membership and team leadership.

a) Understands the fundamentals of team dynamics and leadership.
b) Functions as an effective member of the engineering team, including those with multicultural dimensions, and as a leader of a technical and/or trades team within the area of practice.
c) Earns the trust and confidence of colleagues through competent and timely completion of tasks.
d) Recognises the value of alternative and diverse viewpoints, scholarly advice and the importance of networking with other para-professional and professional colleagues.
e) Confidently pursues and discerns expert assistance and professional advice.
f) Takes initiative and fulfils the leadership role whilst respecting the agreed roles of others.

# ENGINEERING MANAGER

# GENERAL DESCRIPTION OF ROLE

This is a high level position involving engineering strategic policy and planning for an organisation. Engineering Managers are expected to have a bachelor degree or higher qualification and at least three years of experience operating at this level.
Experience needs to be demonstrated through letters of reference and organisational charts showing the applicant's position.
Engineering Managers plan, organise, direct, control and coordinate the engineering and technical operations of organisations.
Tasks include:

- implementing and monitoring engineering strategies, policies and plans
- interpreting plans, drawings and specifications, and providing advice on engineering methods and procedures to achieve construction and production requirements
- establishing project schedules and budgets
- ensuring conformity with specifications and plans, and with laws, regulations and safety standards
- ensuring engineering standards of quality, cost, safety, timeliness and performance are observed
- overseeing maintenance requirements to optimise efficiency
- liaising with marketing, research and manufacturing managers regarding engineering aspects of new construction and product design
- contributing to research and development projects. (ANZSCO First Edition 2006)

See Summary Statement in Section C
www.engineersaustralia.org.au

# ENGINEERING MANAGER: ELEMENTS OF COMPETENCY

## 1. EM 1.1 Contributes to engineering business strategies

- Provides engineering analysis to contribute to the development of strategic plans and sustainability
- Integrates engineering objectives into business planning
- Seeks emergent business opportunities based upon engineering initiatives to create opportunities
- Works with others to develop engineering performance targets and financial plans
- Provides advice on engineering related costs and risks
- Implements processes to monitor and adjust team performance within the organisation's continuous improvement policies
- Undertakes risk assessment within organisational guidelines
- Develops quality plans for engineering operations
- Applies whole of life costing

## 2. EM 1.2 Develops client relationships

- Plans to meet internal and external clients' engineering requirements
- Ensures delivery of quality engineering products and services
- Seeks client feedback on the delivery of engineering products and services
- Monitors adjusts and reports on the client service received
- Assists customers to identify sustainable options and implications

## 3. EM 1.3 Manages the implementation of engineering plans within the business

- Allocates roles and responsibilities to staff to achieve engineering plans
- Provides engineering leadership
- Manages performance and standards
- Contributes to the solution of engineering problems
- Monitors strategic engineering plans, goals and targets
- Manages costs
- Manages safety and quality
- Manages environmental issues
- Manages risks and contingencies

## 4. EM1.4 Manages resources

- Implements resource management plans
- Procures resources
- Manages asset maintenance
- Manages disposal, waste management and recycling plans
- Provides advice on engineering costs
- Contributes to the innovative management of resources

## 5. EM1.5 Manages people

- Implements people management plan
- Monitors team and individual performance targets
- Participates in the selection of staff
- Ensures the provision of skills and competencies requested to meet business targets
- Manages the workplace culture so that staff work in a continual learning environment
- Ensures the adherence to ethical, OH&S and quality standards
- Provides performance feedback

## 6. EM1.6 Manages suppliers

- Participates in supplier selection
- Prepares documents for engagement of suppliers
- Plans and implements monitoring of suppliers

## 7. EM1.7 Manages business information

- Identifies and complies with all statutory reporting requirements
- Uses management information systems effectively to store and retrieve data for decision making
- Prepares and presents business plans / budgets in accordance with the organisation's guidelines and requirements

## 8. EM1.8 Monitors engineering business performance

- Establishes monitoring processes and feedback systems to ensure agreed targets are met
- Establishes monitoring and reporting processes to ensure statutory requirements are met
- Establishes and monitors processes so that continuous improvement is achieved at all levels of the business

# ANZSCO OCCUPATIONS DESIGNATED TO ENGINEERS AUSTRALIA

## Professional Engineer Category (Skill Level 1)

Aeronautical Engineer (233911) including specializations
Agricultural Engineer (233911) including alternative title
Biomedical Engineer (233913) including specializations
Civil Engineer (233211) including specializations
Chemical Engineer (233111)
Electronics Engineers (233411) including specialization
Electrical Engineer (233311) including specializations
Environmental Engineer (233915)
Geotechnical Engineer (233212)
Industrial Engineer (233511) including specialization
Materials Engineer (233112)
Mechanical Engineer (233512) including specializations
Mining Engineer (233611) including specialization
Naval Architect (233916)
Petroleum Engineer (233612) including specializations
Production or Plant Engineer (233513) including specialization
Structural Engineer (233214)
Telecommunications Engineer (263311) including specialization
Telecommunications Network Engineer (263312) including alternative titles
Transport Engineer (233215)
Engineering Professional nec (233999)

## Engineering Technologist Category (Skill Level 1)

Engineering Technologist (233914) including specializations

## Engineering Associate Category (Skill Level 2)

Civil Engineering Draftsperson (312211) including specializations
Electrical Engineering Draftsperson (312311) including specializations
Electronics Engineering Draftsperson (312411) including specializations
Mechanical Engineering Draftsperson (312511) including specializations
Telecommunication Field Engineer (313212)
Telecommunications Network Planner (313213)
Telecommunications Technical Officer or Technologist (313214)
Building & Engineering Technicians nec (312999)

## Managers and Administrators Category (Skill Level 1)

Engineering Manager (133211)