ENGINEERS
AUSTRALIA

Migration Skills Assessment Booklet

October 2016

Migration Skills Assessment Unit
Professional Standards and Practice
Engineers Australia
11 National Circuit
BARTON ACT 2600
AUSTRALIA

engineersaustralia.org.au

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Section A

Introduction

Introduction

Engineers Australia is the designated assessing authority for most engineering occupations.

1. Occupational Categories in Engineering

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

- Professional Engineer
- Engineering Technologist
- Engineering Associate

For migration purposes, the additional category of **Engineering Manager** is also recognised.

Professional Engineer

The required academic qualification is an Australian 4 year bachelor degree in engineering at a University following 12 years of schooling or equivalent.

The Professional Engineer:

- Focuses on overall systems
- Pursues engineering opportunities in a holistic way, taking environmental, community & social issues into account
- Applies systematic approaches to the conduct and management of engineering projects
- Applies systematic engineering synthesis and design processes
- Applies established engineering methods to complex engineering problems
- Applies leadership & management skills

(Please refer to Appendix page 33 for more information)

Engineering Technologist

The required academic qualification is an Australian 3 year bachelor of technology degree in engineering following 12 years of schooling or equivalent.

The Engineering Technologist:

- Focuses on interactions within the system
- Applies established engineering methods, techniques, tools and resources within the technology domain
- Advances engineering technology

(Please refer to Appendix page 37 for more information)

Engineering Associate

The required academic qualification is an Australian 2 year Advanced Diploma or Associate Degree in engineering following 12 years of schooling or equivalent.

The Engineering Associate:

- Focuses on specific elements of the system
- Operates within codes and applies established practices and procedures
- Provides technical support to construction managers and engineering professionals in research, design, manufacture, assembly, construction, operation and maintenance of machines and equipment, facilities, distribution systems and installations
- Assists in resource estimation and site inspection
- Prepares, interprets, inspects and revises drawings, plans, diagrams, designs, maps and charts

(Please refer to Appendix page 42 for more information)

Engineering Manager

The required academic qualification is generally a bachelor degree or higher in engineering or in an engineering related field following 12 years of schooling or equivalent.

The Engineering Manager:

- Formulates engineering strategies, policies and plans and their direction
- Administrates and reviews engineering operations for an organisation.

Applicants should note that this occupation is not an engineering occupation, but rather belongs to the Managers ANZSCO group. Consequently, a positive outcome will not allow automatic membership with Engineers Australia.

(Please refer to Appendix page 47 for more information)

2. English Language Requirements

All applicants applying to have their skills assessed by Engineers Australia are required to provide evidence of their English language competency through either of the following tests:

IELTS
Applicants who provide an IELTS test result must have a **minimum score of 6.0 in each of the four modules** of speaking, listening, reading and writing. Engineers Australia accepts **both** the General and Academic versions of the test.

TOEFL iBT®
From the 1st January 2016, Engineers Australia will be accepting the TOEFL iBT® as an alternative English language test to address the English language competency element of the Skills Assessment. Applicants will need a TOEFL iBT® result with the following minimal scores for each module:

Listening: 12 Reading: 13 Writing: 21 Speaking: 18

Applicants will need to upload their test results as well as enter their reference number.

IELTS and TOEFL iBT® results must not be more than 2 years old at the time your application is submitted.

The following applicants may be exempt from the requirement to provide an English language test:

- Applicants who have completed an **Australian undergraduate** engineering qualification or a 2 year Masters degree or PhD program at an **Australian university**. Documentary evidence of successful completion of the Australian qualification is required for exemption on this basis;
- Applicants who are native English speakers.

A native English speaker is a person who lived and was educated (primary, secondary and tertiary education) in the country where the official language is English: Australia, New Zealand, the United States of America, the United Kingdom, Ireland and Canada (excluding Quebec).

- Applicants under the Accord pathway that hold a minimum academic level of a Bachelor degree from any of the above listed countries may also be eligible for exemption.

Please note, exemptions are determined on a case by case basis and Engineers Australia reserves the right to request an English language test result at any stage of the assessment.

For further information on English language tests, please refer to the following websites:

IELTS

TOEFL

3. Pathways to Migration Skills

There are five application pathways for migration skills assessment:

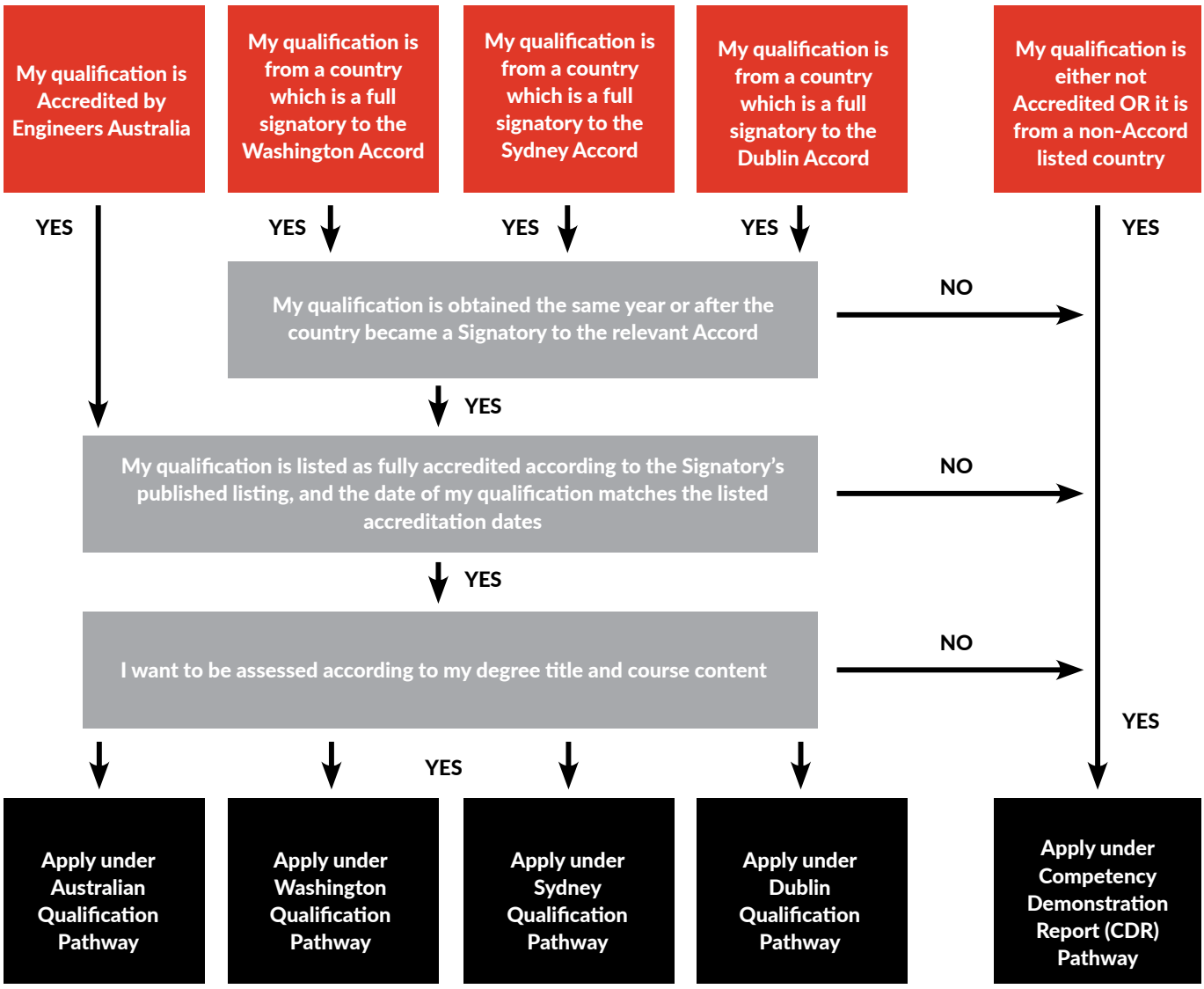
a. **Accredited** qualifications (refer to **Section B**)

1. Australian Qualifications
2. Washington Accord Qualifications
3. Sydney Accord Qualifications
4. Dublin Accord Qualifications

b. **Non-Accredited** qualifications/ **Engineering Manager** (refer to **Section C**)

5. Competency Demonstration Report (CDR)

The pathways to recognition are shown in the diagram below.



4. Applying Online

Applicants are required to submit an online application. Please refer to the MSA Online Application User's Guide to ensure applications are submitted correctly. If you are unable to apply online, please contact us.

To initiate an online application you must have an individual EA ID number. Note that your EA ID number is the same as your CID number or your membership number.

If you do not have an EA ID/CID/Membership number, you will need to **register for an EA ID number** through myPortal. If you already have an EA ID/CID/Membership number you will need to **register for a password** in myPortal.

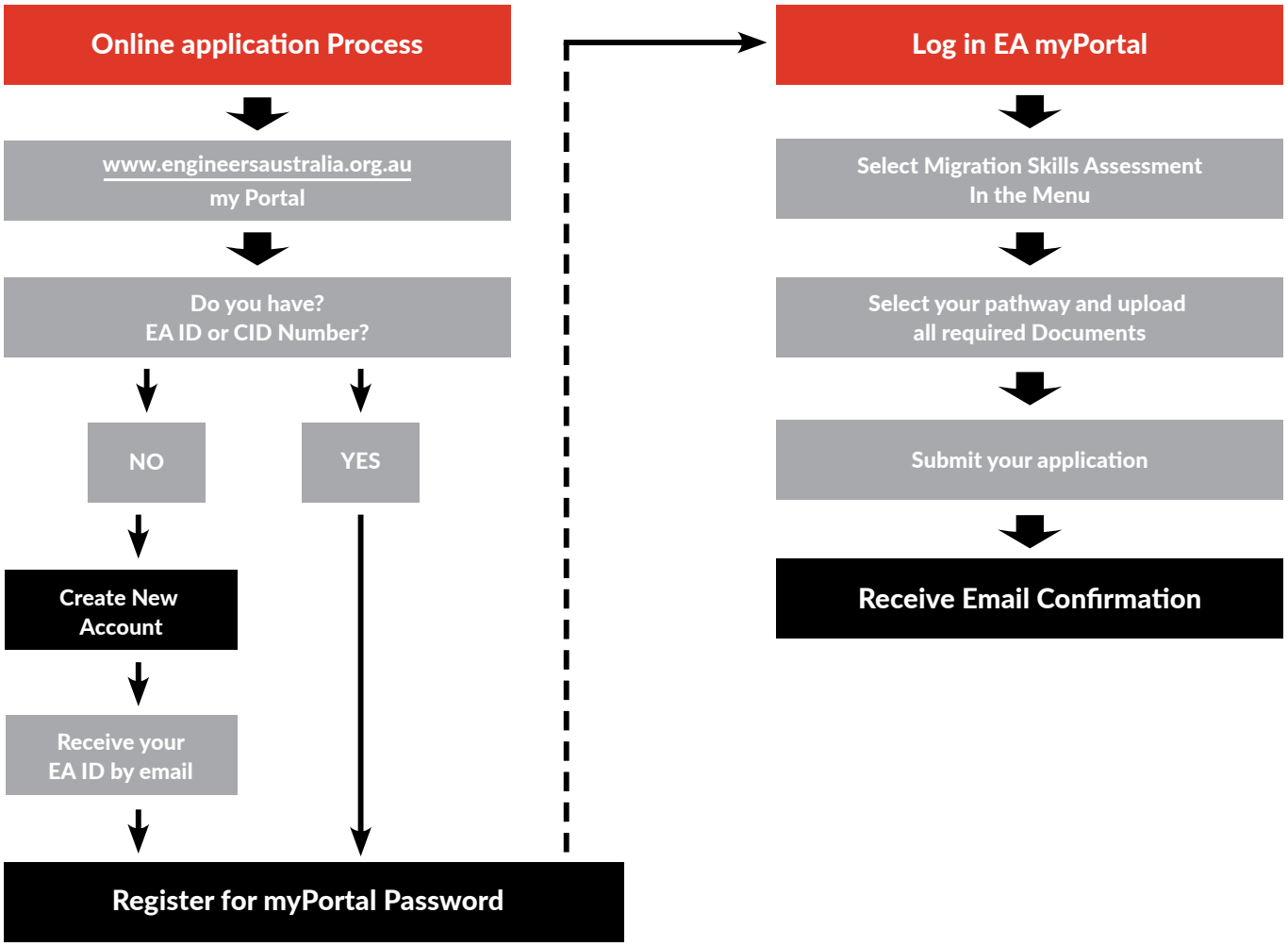
Log on to Engineers Australia's myPortal to access the online services, select Migration Skills Assessment from the menu. You will then be able to start, save, resume and submit your application.

An email notification including your EA ID number and application number will be sent confirming successful submission of your application. Your application will be placed in 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 an invoice, a receipt will be sent to you once the payment has been processed.

All required documents must be colour scans of original documents and must have a resolution of at least 300 dpi.

Where documents are not in the English language, you must upload colour scans of the documents in the original language as well as English language translations. All translations must be carried out by an authorised translator. The registered ID, name, status and contact details of the translator must be provided on the English language translation.

Please follow the steps as shown in the diagram below.



5. Using a Migration Agent

If you are using an agent, you must provide your agent with your EA ID/CID/membership number. If you do not yet have a number, your agent will be able to create one for you. Your agent will then initiate an application on your behalf.

Note that your agent does not need to register for a password on your behalf and you do not need to provide details of your password to them.

6. Assessment fees and payments

Current Assessment fees are available on our website.

Note: Extra fees apply for the additional services. A discount is applicable when standard assessment and additional service applications are submitted at the same time. If an application for additional services is submitted **after** the standard assessment application, the full fee of each additional service applies.

The following methods of payment are acceptable:

- Credit Card (Visa, MasterCard, American Express)
- BPAY- You must request an invoice for the BPAY details (Biller code and reference number)

Alternative methods of payment may be available upon request.

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.

7. The Assessment Process

You will be able to check the status of your application online by logging into Engineers Australia's myPortal.

Assessment Turnaround Time

The turnaround time for processing assessments can vary, depending on the numbers of incoming applications. Refer to the website for regular updates.
Please DO NOT contact Engineers Australia within this time frame as this will delay processing time for all applications.

Should your assessor require further information, 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 details of the request and to submit any additional documentation.

Your response to any request from this office must be actioned within the specified time frame to avoid cancellation of your application.

8. Assessment Outcome

If the assessment is successful, an assessment outcome letter suitable for migration purposes will be sent to you by email.

The outcome letter can be verified online by entering the application details here.

Assessment outcome letters that cannot be issued electronically will be sent by ordinary post. You may be charged a fee for this service.

Please note that from the perspective of Engineers Australia, the assessment letter has no expiry date. However, we are aware that the Department of Immigration and Border Protection validity policy may vary from this. As such, if the Department of Immigration and Border Protection requests an updated letter, please contact Engineers Australia for instructions.

9. Appealing the Assessment Outcome

If you are not satisfied with the assessment outcome you can proceed with the review process.

Option 1: Apply for an **Informal Review**. This must be made **within 3 months** of the date of the original assessment outcome letter. To lodge an informal review you must submit the form *Application for Informal Review of Assessment Outcome* and pay the Informal Review fee. You may include a cover letter explaining your reasons for appealing the assessment outcome. No new information can be presented. Applicants that are not satisfied with the outcome may apply for a formal appeal.

Option 2: Apply for a **Formal Appeal**. This must be made **within 6 months** of the date of the original assessment outcome letter. To lodge a formal appeal you must submit the form *Application for Formal Appeal of Assessment Outcome* and pay the Formal Appeal Fee. The outcome of the Formal Appeal is FINAL in the review process.

• Applications and fees for the review process can be found here.

• The Informal Review may take 6 weeks and the Formal Appeals may take about 3 months to process.

- The review and appeal fees can be refunded if the process yields the outcome originally sought by the applicant and no additional document was provided.

10. Ethical Standards

Information you provide to Engineers Australia may be used for data matching with Australian Government agencies. Engineers Australia reserves the right to use software applications to screen your submitted work for matches either to published sources or to other submitted applications.

Misleading and false information is viewed as a major breach of ethical behaviour. We refer applicants to the Engineers Australia Code of Ethics, in particular the demonstration of integrity, available here.

The sanctions regarding misleading applications include notification to the Department of Immigration and Border Protection and up to 12 months ban from applying for a skills assessment with Engineers Australia.

Section B

Assessment of Accredited Qualifications

Introduction

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

Engineers Australia is a signatory to three international agreements — **the Washington Accord, the Sydney Accord and the Dublin Accord**.

The assessment of Australian and Accord accredited qualifications is primarily based upon undergraduate qualifications. However, some postgraduate qualifications have been accredited as standalone qualifications. If your postgraduate qualification is not independently accredited and you do not have an accredited undergraduate qualification, you will need to submit a Competency Demonstration Report (CDR) assessment. The CDR assessment will be based on your combined qualifications so both the undergraduate and postgraduate qualifications must be submitted.

The minimum academic requirement for assessment with Engineers Australia is an Australian Advanced Diploma or equivalent.

Occupational Outcome

The occupational outcome of your assessment generally reflects the title and/or content of your degree. If you have completed a double major, the outcome will reflect the dominant major. Only one outcome is given per assessment. If you have a double major and you have a preference as to which one is recognised, please upload a cover letter to explain your nomination. Please note that this does not guarantee an outcome in the occupation requested but rather notifies us of your preference. If you are seeking assessment in an occupation that is not the same as the title of your degree, you will need to submit a CDR for assessment.

Recognition of Prior Learning

If you have received credit/recognition of prior learning (RPL) for prior studies towards your qualification, you will also need to upload your original academic documents from the tertiary institution where those subjects were originally completed.

Accords Accredited Qualifications

Please note:
Only qualifications based in a signatory country can be recognised under the Accords.

Only qualifications completed in or after the year in which the country gained full signatory status to the Accord are accredited.

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 here.

The year shown after each program is the year in which that 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 **full**, ongoing accreditation applies. This is denoted by a **(F)** after the commencement date of an accredited program. **Provisional** accreditation is denoted by a **(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 delivered by Australian universities offshore. Please refer to our published list of accredited Australian qualifications for information on the accreditation of offshore programs. Applicants with accredited Australian qualifications obtained offshore are required to provide an IELTS or TOEFL iBT® test result (see Section A).

2. The Washington Accord

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

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

Please follow this link for relevant dates and signatory details. Click on the relevant signatory web link for the published list of accredited programs for that country.

The minimum academic requirements for an assessment via the Washington Accord are qualifications which are broadly comparable to an Australian 4 year bachelor degree in engineering.

The Washington Accord applies only to engineering degrees accredited by the representative body of the signatory country. (e.g. A Turkish qualification accredited by ABET will not fall under the Washington Accord as MUDEK is the representative body for Turkey).

Applicants with qualifications from the UK

Please pay attention to the Public Notes on the accredited course list.

Some qualifications are listed with a Further Learning Requirement 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/education-skills/course-search/acad, 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.

Programs that are 'accredited for further learning for CEng' require an accredited undergraduate qualification to apply via the Washington Accord pathway.

3. The Sydney Accord

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

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

Please follow this link for relevant dates and signatory details. Click on the relevant signatory web link for the published list of accredited programs for that country.

The minimum academic requirements for an assessment via the Sydney Accord are qualifications which are broadly comparable to an Australian 3 year Bachelor of Technology degree in engineering.

The Sydney Accord applies only to engineering degrees accredited by the representative body of the signatory country.

4. The Dublin Accord

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 be the same as 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 organisation gained full signatory status to the Dublin Accord.

Please follow this link for relevant dates and signatory details. Click on the relevant signatory web link for the published list of accredited programs for that country.

The minimum academic requirements for an assessment via the Dublin Accord are qualifications which are broadly comparable to an Australian 2 year Advanced Diploma or Associate Degree in engineering.

The Dublin Accord applies only to engineering degrees accredited by the representative body of the signatory country.

Checklist

- Recent passport-style photograph (35mm x 45mm)
- Prime Identification Document (current passport, **only** page including photo and name)
- Academic degree certificate (a letter of completion will **only** be accepted as a substitute before graduation and **only** for Australian qualifications)
- Complete and official academic transcript (including any recognition of prior learning)
- Curriculum Vitae/Resume
- IELTS Test Report Form or TOEFL iBT® result
- Official Change of Name documents where applicable (e.g. gazette publication, letter/certificate issued by registry)
- Official English translations of above documents where applicable

The documents listed above must be colour scans of the original documents. Please upload each document separately (a document might consist of more than one page. DO NOT upload each page of the document separately).

Please DO NOT submit the following:

- Certified copy of an original document
- Black and white scans
- Scan of photocopy
- Low resolution scans. All scans must have a resolution of at least 300 dpi
- Please refrain from uploading a document multiple times.

Processing will be delayed if any of the above is submitted.

Section C

Assessment of Non-Accredited Qualifications/ Engineering Manager

Introduction

This section provides instructions for compiling a Competency Demonstration Report (CDR). The CDR assessment is based primarily upon the undergraduate qualification and demonstrated graduate competencies (refer to Appendix).

Applicants need to provide documentary evidence of BOTH:

- The core technical engineering knowledge supporting the nominated occupation AND;
- The demonstrated application of that knowledge in the nominated occupation.

The CDR must be all your own work. All typed components of the CDR must be done using a word processor and you are strongly advised to keep a copy.

Your CDR will be assessed against the graduate competency standards and the ANZSCO definition of the occupational category nominated by you.

1. Steps in Preparing a CDR

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

Personal Information
Prepare your personal documentation: A passport style photo, prime ID, name change documents, CV/Resume and English language test results

↓

Application
Nominate your prefered occupational category

↓

Education
Prepare academic certificates, transcripts and any other relevent academic documentation

↓

Skilled Employment
Evidence of employment, must be provided by applicants whose career episodes are based on engineering experience and/or for Relevent Skilled Employment services

↓

Report
Prepare CPD Statement, Career Episodes and Summary Statement

↓

Submit
Once all of the above are prepared, you are now ready to log into myPortal and lodge a CDR application

Components of the CDR assessment

1. Personal Information

1.1 Passport style photo: You are required to provide a clear and current passport-style photograph of yourself.

1.2 Prime ID: You will need to provide your current passport bio-data page (not the entire passport) and English language translation where applicable. Where this is not available a scan of your Birth Certificate and/or National Identify Card may be acceptable in lieu.

1.3 Name change documentation: If your current name is not the same as that on your academic documents, you must provide evidence of your name change. This may include a gazette publication, an official letter/certificate issued by registry.

1.4 Curriculum Vitae (CV)/ Résumé: A full summary of your engineering education and work experience is required. Your CV must be a complete record of your activities and must even include any periods of inactivity. The CV is to be a chronological listing of employment, **not** projects. Your CV should be no more than three A4 pages.

For each workplace provide:

- organisation name and location, including contact details
- 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

1.5 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 2 of Section A for full details of the English competency requirements.

2. Application Information

2.1 Engineering Occupation: You must select the engineering occupation in which you are seeking assessment. Please note, an outcome is not guaranteed in the nominated occupation and will be determined upon assessing. For further information on ANZSCO occupations, please refer to the Australian Bureau of Statistics website: www.abs.gov.au

2.2 Registration: You will need to upload any evidence of your professional registration if applicable.

3. Education

You must provide your degree certificate and official academic transcript. If you have more than one engineering qualification, all relevant additional qualifications must be provided. If you are currently enrolled in any formal educational program, please upload your enrolment letter and current transcript if

available. Please ensure the name of the educational institution is entered using the appropriate upper and lower case letters (e.g. University of New South Wales).

4. Employment

For the Relevant Skilled Employment, any claimed work experience over 12 months must be supported by documentary evidence **See Item 4 Section D**. However, for career episodes based upon engineering experience, documentary evidence of employment must also be provided regardless of the duration of employment.

If the documentary evidence of your work experience is not in the English language, you will be required to provide a translation. All translations must be carried out by an authorised translator **(see Item 4 Section A)**.

Documentary evidence in support of work experience claims must be on a company letterhead (including name and location details) and include the date of document, dates and duration of employment in addition to the name and position of author.

5. The Report

This section includes the Continuing Professional Development, three Career Episodes and Summary Statement.

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.

All relevant CPD must be included in your CDR application. This CPD must be provided in list format (title, date, duration, and venue) and may include details of:

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

Your CPD listing must not be more than one A4 page. It is not necessary to include certificates from each course.

5.2 Writing your Three Career Episodes:

A career episode is an account of your engineering education and/or work experience. Each career episode focuses upon a specific period or distinct aspect of your engineering activity. Each career episode must focus on a different period or aspect of your engineering activity. Each episode should focus on how you applied your engineering knowledge and skills in the nominated occupation.

You may base your career episode upon:

- 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 written in English, in your own words and will act as evidence of your communication skills to your assessor.

Do not present large amounts of technical material. It is recommended that each narrative be a minimum of 1000 and maximum of 2500 words.

Each career episode must clearly demonstrate the application of engineering knowledge and skills in the nominated occupation. That is, state what you did and describe how you did it, emphasising your own personal role in episode (for example *I designed*, *I investigated* etc.) Please do not include excessive technical details (photos, calculations, tables).

Each career episode should emphasise any engineering problems identified by you and any particular problem solving techniques you applied. The purpose of this is to assess your personal contribution in meeting project and task objectives.

Please Note:
It is not sufficient to merely describe work in which you were involved. 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.

You must number each paragraph in each of your career episodes. **This is necessary to construct the Summary Statement.** 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.)

Career episode format

Each career episode should be in essay form and **not** formatted into a table.

Each career episode should follow the format below:

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 the 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 have been 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 (500–1000 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.

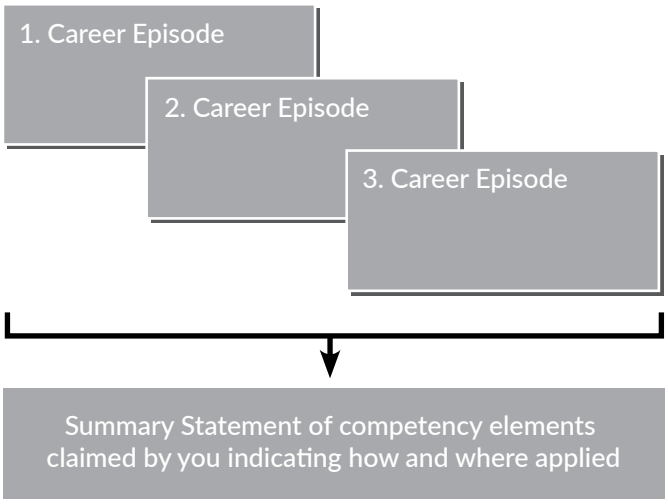
d) Summary (50–100 words)

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.

5.3 Preparation of the Summary Statement

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.



Once you have completed your career episodes you must analyse them to ensure you have addressed all the competency elements for the nominated occupational category.

The results of your analysis will be demonstrated in your Summary Statement. The Summary Statement cross-references the 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.

You must download and complete the appropriate summary statement for your nominated occupational category.

The summary statement templates are available on the website. These are guides only. Do not attempt to

restrict your Summary Statement to one page only.

You do not need to cover all the indicators within each competency element.

Please note that only **one** Summary Statement is required for all **three** episodes.

Checklist

- Recent passport style photograph (35mm x 45mm)
- Prime Identification Document (current passport, **only** page including photo and name)
- Academic degree certificate (a letter of completion will **only** be accepted as a substitute before graduation and **only** for Australian qualifications)
- Complete and official academic transcript (including any recognition of prior learning)
- Curriculum Vitae/Resume
- IELTS Test Report Form or TOEFL iBT® result
- Official Change of Name documents where applicable (e.g. gazette publication, letter/certificate issued by registry)
- Registration certificate under the relevant licensing authority where applicable (e.g. Philippine Regulations Commission)
- Documentary evidence of employment (for periods of 12 months or more, or if the employment provide a basis for a career episode/s)
- List of Continuing Professional Development (CPD)
- Three Career Episodes
- Summary Statement for the nominated category
- Official English language translations of above documents where applicable

Please upload each document separately (a document might consist of more than one page. DO NOT upload each page of the document separately).

The documents listed above must be colour scans of the original documents.

Please DO NOT submit the following:

- Certified copy of an original document
- Black and white scans
- Scan of photocopy
- Low resolution scans. All scans must have a resolution of at least 300 dpi
- Please refrain from uploading a document multiple times.

Processing will be delayed if any of the above is submitted.

Professional Engineer

Summary Statement

These are the competency Units and Elements. These elements must be addressed in the Summary Statement. If you are applying for assessment as a Professional Engineer, you will need to download this page from our website, complete it and lodge it with your application. For details, refer to the Appendix, Pages 24–28.

Competency Element	A brief summary of how you have applied the element	Paragraph number 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 demeanor.		
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. If you are applying for assessment as an Engineering Technologist, you will need to download this page from our website, complete it, and lodge it with your application. For details, refer to the Appendix, Pages 29–33.

Competency Element	A brief summary of how you have applied the element	Paragraph number 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.		
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.		
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 demeanor.		
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. If you are applying for assessment as an Engineering Associate, you will need to download this page from our website, complete it, and lodge it with your application. For details, refer to the Appendix, Pages 34–37.

Competency Element	A brief summary of how you have applied the element	Paragraph number 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 demeanor.		
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. If you are applying for assessment as an Engineering Manager, you will need to download this page from our website, complete it, and lodge it with your application. For details, refer to the Appendix — Pages 38.

Competency Element	A brief summary of how you have applied the element	Paragraph number in the career episode(s) where the element is addressed
EM1.1 Contributes to engineering business strategies.		
EM1.2 Develops client relationships.		
EM1.3 Manages the implementation of engineering plans within the business.		
EM1.4 Manages resources.		
EM1.5 Manages people.		
EM1.6 Manages suppliers.		
EM1.7 Manages business information.		
EM1.8 Monitors engineering business performance.		

Section D

Additional Assessment Services

Introduction

The additional assessment services are generally ONLY of interest to the following clients:

- Applicants that need a skills assessment completed urgently and/or;
- Applicants who hold an overseas PhD and/or;
- Applicants who have received work experience in their nominated occupation or a closely related occupation.

Applicants can apply for one or all of the above services as required.

Please Note:

Engineers Australia does **NOT** award the points for migration. Points are issued by the Department of Immigration and Border Protection in relation to your application for skilled migration NOT by Engineers Australia as part of your migration skills assessment.

1. Fast Track

Applicants that need a skills assessment completed urgently can apply for the fast track service. This ensures that a submitted application will be passed on to an assessor as designated on website. The fast track option will be available on the payment page prior to submitting the application. The service is also available to applicants who have already submitted an online application via this link.
Please note that the end of year office close-down will impact the Fast Track service. Files will not be processed during the close down period. The close down dates will be displayed on our website. Fast Tracked applications will be processed in priority when work resumes.

2. Online Application Process

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 300dpi). **Certified documents are not accepted for online applications.**

3. 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 which may not be required for 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:

- relevant fee payment;
- colour scans of all original academic documentation (testamurs and transcripts, as applicable) demonstrating that the qualification has been awarded;
- a list of doctoral examiners and details;
- a list of publications made during and after the doctoral program;
- a thesis abstract.

4. Relevant Skilled Employment

Engineers Australia has been authorised by the Department of Immigration and Border Protection 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 and Border Protection case officer, who may also need to review claims of relevant employment gained subsequent to the formal assessment.

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.

Be aware that only work experience gained after completion of the qualification supporting your nominated occupation will be recognised. **Work experience gained prior to or during your studies will not be assessed as relevant.**

Applicants who require this service can apply at the same time as submitting an application for the standard assessment or at a later date.

Please upload each document separately (a document might consist of more than one page. DO NOT upload each page of the document separately).

All documents pertaining to the Relevant Skilled Employment and/or PhD must be colour scans of the original documents.

Please DO NOT submit the following:

- Certified copy of an original document
- Black and white scans
- Scan of photocopy
- Please refrain from uploading a document multiple times.

Processing will be delayed if any of the above is submitted.

Applicants are required to provide third party documentary evidence based on the Table below:

DOCUMENTS FOR RELEVANT SKILLED EMPLOYMENT ASSESSMENT

OPTION 1

- Reference letter written on the official company letterhead of employer to:
- Indicate clearly the full address of the company and any telephone, fax numbers, email, website addresses and issue date
- Be endorsed by the manager/direct supervisor of HR/Section
- Include the name and position of the person endorsing the employment document. These should be typed or stamped below that person's signature. Include the direct official telephone and official email address of the person endorsing the document
- Include the company's stamp
- Indicate 5 main duties undertaken, the job title or position
- Indicate the exact period of employment (start and finish date, including day/month/year)
- Indicate whether full or part-time (including hours/week)
- Pay rate (monthly, fortnightly or annually)

OPTION 2

- a Job Offer Letter with duties, including employer's letter head, full address of the company and telephone, fax numbers, stamp, email and website addresses

OR

- an Annual Performance Review (if it includes duties) issued by the employer on official letter head and signed by a more senior officer

OPTION 3

- Reference letter endorsed by the Manager/Direct Supervisor/Human Resources Department, with letter head, stamp, full address of the company and telephone, fax numbers, email and website addresses and date of commencement and finish etc.

AND

- Statutory Declaration/Affidavit by a direct supervisor providing your duties

AND

Documents issued by the related government agency or any other organisation not related to your employer, such as:

Social Security/Social Insurance Report

OR

Income Tax (Acknowledgment)/Payroll Tax report

OR

Superfund Contribution Statement

OR

Provident Fund Statement/Retirement contribution reports

OR

Work permit

NOTE: Company name must be stated on each document

SELF-EMPLOYED (SUBMIT ALL THE DOCUMENTATION LISTED BELOW)

- Third party confirmation of the period of self-employment with the party's letter head and stamp; the position held and the individual duties performed (for example, signed by client; or company solicitor accountant. etc.)
- Proof of Registration of the engineering company issued by the government as an engineer in the country
- Receipts issued for projects with the stamps
- Business tax report
- Contracts stating the technical details and starting date of the projects
- Completion letter/certificate issued by the local government

Notes:

1. Work experience cannot be claimed before completion of the applicable qualification
2. Work experience should be paid **at the market or salaried rate for engineering professionals.** Clients receiving stipends, living allowances or scholarships will not generally be considered to be salaried
3. Whilst 'full-time' work constitutes 20 hours per week or more, this must be regular employment and must not include long periods of unpaid leave
4. In general, research activities undertaken as a Ph.D. student, or work experience as a Research Assistant/Fellow whilst undertaking a Ph.D., cannot be considered as relevant skilled employment
5. Military Service compulsory or exemption certificate must be provided if the service is mandatory in your country
6. The decision on assessing the relevant skilled employment will be made on basis of information given in the original application. There will be **NO** further correspondence if there are any shortcomings
7. Any misleading information will result in an unsuccessful outcome and sanctions will apply. **See Item 10 of Section A**
8. Only successful skilled employment results will be recorded in the final outcome letter.

Appendix

Detailed description of competency elements for each occupational category

Professional Engineer: General Description 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.

b. 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.

c. 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. repares 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

b. alternative concepts, solutions and procedures, appropriately challenges engineering practices from technical and non-technical viewpoints; identifies new technological opportunities.

c. Seeks out new developments in the engineering discipline and specialisations and applies fundamental knowledge and systematic processes to evaluate and report potential.

d. Is aware of broader fields of science, engineering,

e. 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, judgment 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 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*
www.engineersaustralia.org.au

Engineering Technologist: Unit 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 (e.g. geotechnics, power systems, manufacturing, etc.) within a branch of engineering (e.g. 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,

b. personal behaviour and other non-verbal communication processes, as well as the fundamentals of human social behaviour and their cross-cultural differences.

c. 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, judgment 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 is 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.

See Summary Statement in *Section C*
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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 sub¬-discipline(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. ET2 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 sub¬-discipline(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.

c. 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.

d. Is aware of the need to accommodate relevant contextual issues into practical and technical project work, including the fundamentals of costing and financial control.

e. 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.

f. Is able to implement sustainable practices to achieve sustainable outcomes in all facets of practical and technical project work.

EA3 Professional and Personal Attributes

2.5 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.

2.6 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.

2.7 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.

2.8 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.

2.9 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.

2.10 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 multi¬cultural 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

Engineering Manager is a high level executive position involving the formulation of engineering strategies, policies and plans and the direction, administration and review of engineering operations for an organization.

Tasks include:

- Determining, 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
- Responsibility for selection, training and development of personnel working for him/her
- Responsibility for planning, organising, directing, controlling and coordinating the engineering and technical operations of the organisation

Note: A Project Manager or Project Engineer is not considered an Engineering Manager; but rather is considered as working as an engineering professional.

Eligibility and Conditions

An Engineering Manager should typically have:

- **Seven** years of experience as an engineering professional before they can demonstrate sufficient competencies at the Engineering Manager level
- **Three years** of experience operating at the Engineering Manager level
- Persons reporting to them who are at the professional level

Documentary requirements in addition to the CDR

It is mandatory for an Engineering Manager applicant to apply for a Relevant Skilled Employment assessment.

- Letters of reference and organisational charts must be provided. Should provide the Official Organisational Chart approved by the person he or she reports to in the organisation
- Official duty statement approved by authorised person in the organisation
- Company profile of the whole organisation, including details of the size and business activities of the organisation being managed
- Detailed employment documentary evidence for the last ten years
- Documentary evidence of your appointment as an Engineering Manager (performance reviews, letters of offers and promotion letters)
- Historical career profile showing you career progression within the organisation
- Details of the formal management training undertaken
- Remuneration for the last three years
- Additional documentation to support your claim

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Engineering Manager: Units and Elements of Competency

1. EM1.1 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
Professional Engineer Category (Skill Level 1)

ANZSCO Occupations Designated to Engineers Australia

Professional Engineer Category (Skill Level 1)

Aeronautical Engineer (233911) including specializations
Agricultural Engineer (233912) 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)