ENGINEERS AUSTRALIA

ENGINEERING EDUCATION AUSTRALIA

An Engineers Australia Business

Participant Guide

Determine Rail Track Design Requirements Micro-credential

Assessment Pathway only – validation of prior capability

RELEVANT / FLEXIBLE / TRUSTED

ABOUT ENGINEERS AUSTRALIA

Engineers Australia is the national forum for the advancement of engineering and the professional development of its members. With over 100,000 members embracing all disciplines of the engineering team, Engineers Australia is the largest and most diverse professional body for engineers in Australia.

Engineers Australia's professional competency frameworks have been honed over several decades to keep pace with advances in higher education, industry training reforms and a global push by employers to focus on applied experience, standards of performance and employability rather than simply academic qualifications.

ABOUT ENGINEERING EDUCATION AUSTRALIA

Engineering Education Australia (EEA) is a fully owned subsidiary of Engineers Australia (EA). We work with leading experts in engineering, education, and business to provide learning opportunities to enable engineers to maintain and further develop their professional standards as well as providing opportunities to gain and maintain a competitive edge.

EEA know engineers are delivering projects that benefit all of society and we build their skills to do that. We have been training engineers for over 30 years, tailoring our courses to meet the needs of engineers for the jobs of today and preparing engineers for the jobs of the future.

EEA courses are industry recognised supporting the need for engineers to always be upskilling and reskilling in both technical and non-technical areas of practice.

MICRO-CREDENTIALS

EEA also provides micro-credentials which are short learning and/or experience recognition opportunities in a range of technical and non-technical capability areas. EEA will continue to release new micro-credentials to support industry to bridge the growing skill gap.

> "Micro-credentials are a formal validation that the skills, knowledge and personal attributes acquired through learning and experience have been successfully obtained to an agreed standard of practice."
>
> *—Professor Marcus Bowles, Macquarie University, Centre for Workforce Futures 2016*

Engineers can upskill and reskill when they want, how they want, in the area of expertise they need, anytime and anywhere.

EA awards micro-credentials to recognise the achievement by the engineer of experience and learning gained through applied practice in their profession.

EA's micro-credentials provide evidence of an engineer's professional capability and competency in Determine Design Requirements Rail Track.

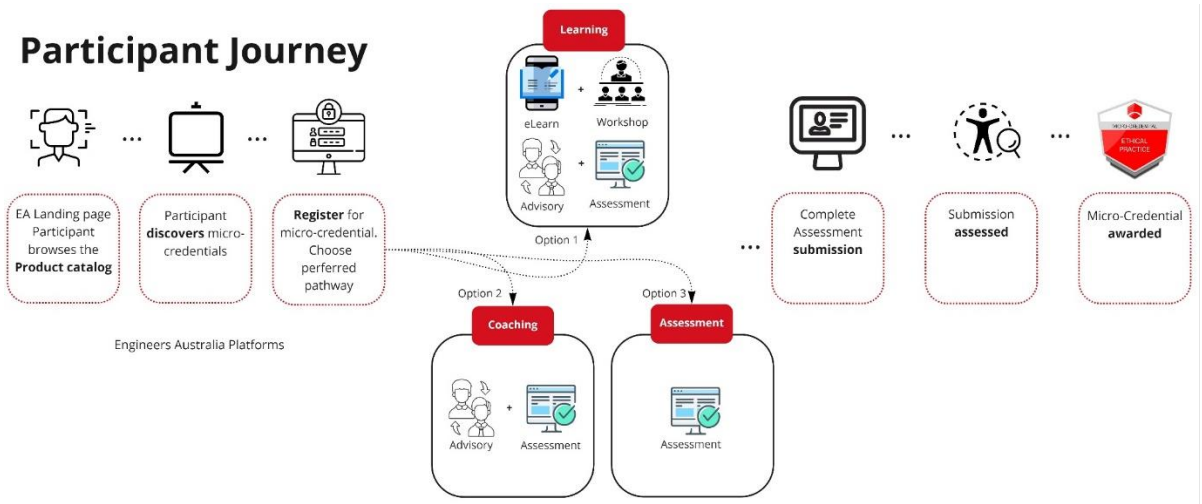
EA develops micro-credentials in consultation with industry. We work with industry to identify skill needs, skill shortages and future trends to enable engineers to be future-ready today and tomorrow. All Engineers Australia's micro-credentials align to one or more, frameworks including stage two Chartered competencies, specialist knowledge in an area of practice or Engineers Australia's Capability Framework.

Whilst aligning to a specific framework, micro-credentials criteria are used to develop explicit content for learning and assessment creation. The criteria shape the assessment requirements and provide direction regarding the type of evidence required for the portfolio of work and the questions covered during the interview.

YOUR GUIDE

This guide provides you with a step-by-step summary of the journey to a micro-credential via the learning pathway. Your journey commences with determining what micro-credential is best suited for you at this point in your career. Are you looking for future focus capabilities, for completing a micro-credential that provides you with skills you need now? Explore your options at eea.org.au/micro-credentials-engineers

The image below shows the assessment pathway as option three. Before we get to what you need to do, let us look at the participant journey.



WHAT DO I DO?

You can choose from several capabilities targeted to assist engineers at various points in their career journey. For example, 'Risk Management' and 'Ethical Engineering Practice' micro-credentials are for those engineers who may wish to commence the journey towards Chartered, or as a stand-alone credential addressing specific needs. The criteria for both these credentials align with the requirements of a Chartered application; however, they are only a component of the requirements under the holistic assessment format.

You may wish to use the micro-credentials to showcase your acquired skills, knowledge, or capabilities gained in the workplace and apply for an assessment of your experience. The assessment aligns with the endorsed criteria to ensure consistency and rigour of assessment outcomes.

DECIDING WHICH CREDENTIAL

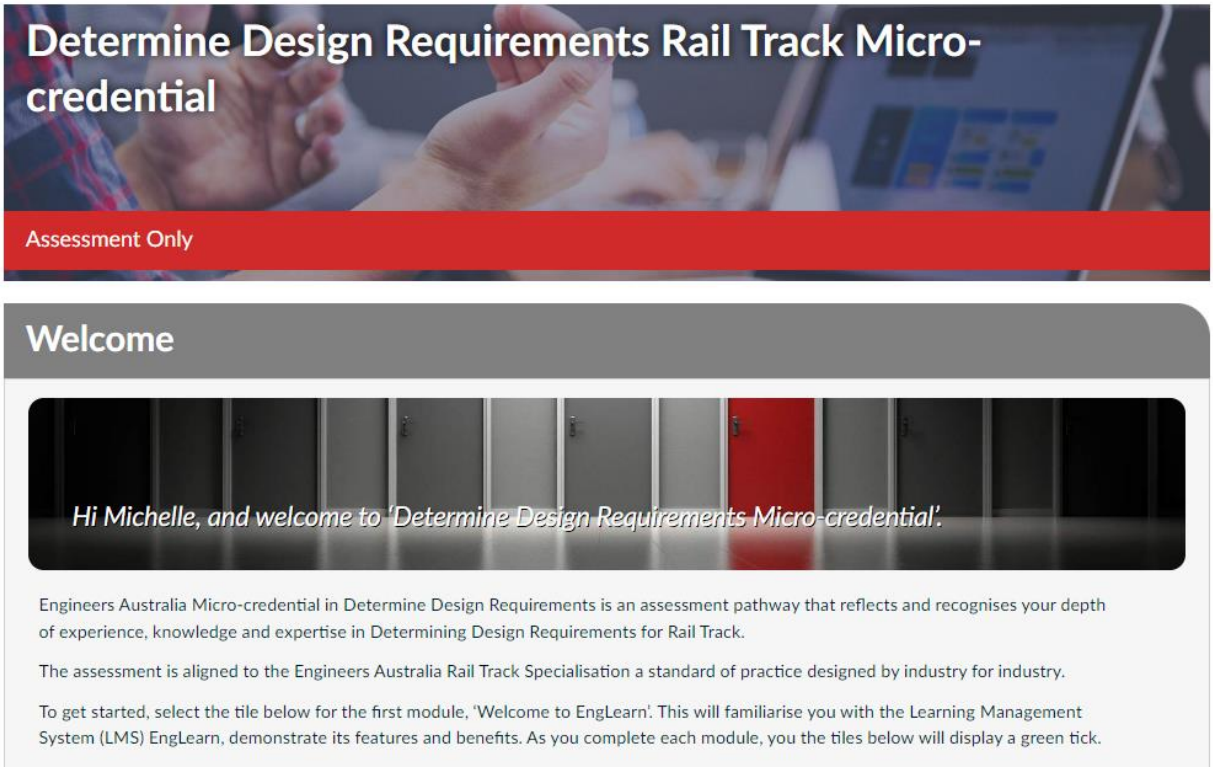
You will have a choice. You can choose a capability area to develop, how you consume learning, and whether you want to be recognised for skills already achieved. You, as the engineer will drive your individual development.

REGISTERING FOR A CREDENTIAL

If a micro-credential sounds like it's for you, visit us at either micro-credentials for engineers or go directly to our Determine Design Requirements Rail Track micro-credential to register and take the step. eea.org.au/micro-credentials-engineers

ENGLEARN

You will receive a course invitation from Instructure which hosts our Learning Management System EngLearn. Click on 'accept course invitation', which will take you to the EngLearn login page. Your account has automatically been set up; however, you will need to reset your password by using 'forget password' and following the instructions received via email to activate your account.



ASSESSMENT SUBMISSION

You submit your body of evidence, including a reflective explanation on why the evidence examples fulfil the micro-credential criteria, along with your micro-credential checklist, including evidence key. Please note: all submissions must be in English.

1. Determine a design specification for a new mainline section of track that includes:

   a. Operational and performance requirements of the track section
   b. Clear scope and limits to the works, with appropriate tie-ins
   c. All relevant aspects of ARTO standards
   d. Analysis of train types, numbers, performance requirements and operations
   e. Inclusion of potential future track requirements or capacity
   f. Consideration of earthworks and drainage requirements
   g. Appropriate consideration of site conditions
   h. Input from construction and maintenance personnel

2. Determine design requirements for at least two of the following

   a. New Level crossing
   b. Installing a turnout/ crossing work in an existing section of track
   c. Integration of an existing turnout design
   d. Construction of a new turnout or crossing work
   e. Track for a rail yard
   f. Refurbishment of a turnout
   g. Reconditioning of an existing section of track
   h. Or any other relevant application to rail infrastructure design

Step 1: You must describe at least two different work examples relating to the micro-credential topic. Prior to choosing the work examples, it is highly recommended that you familiarise yourself with the criteria listed below:

If participants have any queries or would like to seek clarification, submit an email to microcredentials@eea.org.au and include, the Micro-credential and which criteria and clarification is being sort.

Once you have familiarised yourself with the criteria and chosen your work examples, you are required to collate the body of evidence. You are required to have at least one piece of evidence aligned with each criterion. One piece of evidence may address more

than one criterion. It is suggested that you ideally seek to provide holistic examples which address a range of criteria when compiling evidence for your submission.

Step 2: Collate your workplace evidence and align it to each criterion and break down each criterion into smaller sections to ensure you are addressing all requirements.

You may wish to provide evidence that demonstrates multiple criteria with an example such as a project report and explains using the section provided how it aligns to the criteria identified. Refer to step 3.

Please note: Workplace examples and supporting evidence must be within the last 24 months. If examples are older, relevance must be demonstrated within the reflection explanation.

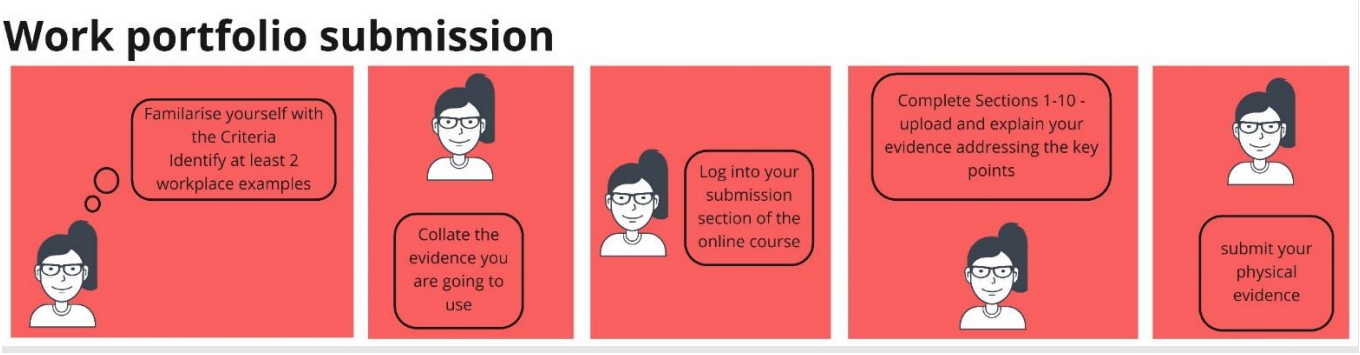
Document upload note: When uploading your evidence, you must upload pdf documents under 500MB in size. If you wish to submit larger documents, either compress files or please provide a link to a free viewing platform so assessors can access your documents.

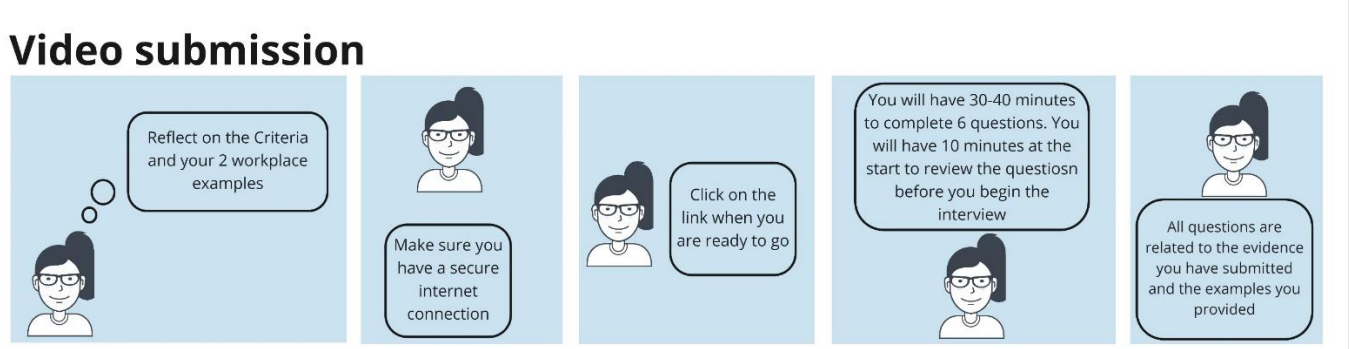
Step 3: In this step, you must provide a reflection on how and why the evidence relates to the criteria, and address the following questions:

- Identify the criteria you are addressing with the piece of evidence
- Provide context of this example? Describe the context, this may include, the environment, stakeholders, contractual arrangements etc.
- What was your contribution to the example provided? Reflection should describe what you contributed to the examples – i.e.: Author, Reviewer, Contributor, team member etc.
- How does this example demonstrate your capability? Reflection should provide an explanation of how the example aligns with one or more criteria.
- Did you achieve what you expected in the example provided? Reflection on the outcome of the example provided whether the outcome was expected or unexpected – what were the lessons learned.

Step 4: Once the workplace portfolio of evidence has been submitted, you will be required to attend a video interview, during this interview you will be required to verbally answer around 6 questions in 30-40 mins.

Step 5: Your final step is to check all submission requirements have been met, using the Submission Checklist provided at the end of this guide. The Submission Checklist is to be submitted along with all evidence for assessment.





ASSESSMENT TIMELINES

Submission:	Participant have 8-10 weeks from date of access to the assessment module to submit all evidence for assessment.
Assessment:	You will be notified of your assessment outcome 10 business days after submission.
Outcome:	You will either be notified successful or resubmit. If successful a digital badge will be issued as part of the notification.
Resubmit:	If you are required to resubmit. You will need to address the feedback provided by the assessor and provide further evidence or clarify further in your written reflection. You will have 10 business days to resubmit, and the assessor will have a further 5 business days to assess the additional information provided.

AWARD

Once an assessment is complete, participants will receive their results, feedback, and link to their digital badge. The digital badge can then be shared on social media platforms or included in an electronic CV.

Micro-Credential Submission Checklist

Participant Name	
Micro-credential	

For participant use only

Criteria	Submission detail and reflection	
Criteria 1 - Determine a design specification for a new mainline section of track that includes: a. Operational and performance requirements of the track section b. Clear scope and limits to the works, with appropriate tie-ins c. All relevant aspects of ARTO standards d. Analysis of train types, numbers, performance requirements and operations e. Inclusion of potential future track requirements or capacity f. Consideration of earthworks and drainage requirements g. Appropriate consideration of site conditions h. Input from construction and maintenance personnel	Evidence submitted Explanation (500 Word max)	☐ ☐

Criteria 2 - Determine design requirements for at least **two** of the following a. New Level crossing b. Installing a turnout/ crossing work in an existing section of track c. Integration of an existing turnout design d. Construction of a new turnout or crossing work e. Track for a rail yard f. Refurbishment of a turnout g. Reconditioning of an existing section of track h. Or any other relevant application to rail infrastructure design	Evidence submitted Explanation (500 Word max)	☐ ☐
Completed employer endorsement form	Signed by Manager/Supervisor	☐

Video interview completed	Date complete	
Date Submitted		