

## Assignment 2 (Individual)

### Individual Literature Review and Discipline Summary

### ENEG20001 – Australian Engineering Practice



**Due: Thursday, 8 Sep 2022 (1:00 PM AEST)**

**Weight: 30%**

**Minimum grade: 50%**

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#### Preamble

The literature review is a part of a technical paper or a part of a thesis. This gives a brief idea of the research topic you have chosen. Usually, the literature review includes the introduction, body and conclusion.

In Australia, engineering is a trusted profession that directly shapes the lives of citizens here and abroad through reliably delivering technical outcomes with high-quality standards and integrity built on established fields of professional practice, standardisation and innovation. One of the core capabilities of an engineer is evidence-based problem-solving, which, from a technical perspective, requires a strong affinity with research and current knowledge of developments in the engineering fields of practice or disciplines (Dowling et al. 2019). The essence of remaining current with research developments in a field of practice is competency in locating, reading and understanding relevant technical publications. Summarising this information, using proper paraphrasing techniques, and citing sources correctly is also necessary to duly acknowledged the contributions of others. Part A of this Assignment will develop skills in reading, understanding and summarising technical publications through applying paraphrasing techniques to create a Literature Review. This work will help conduct a team feasibility study on a specific project topic in Assignment 3. There are many other core capabilities expected from engineers practising in Australia. Part B of this Assignment will Australian engineering practice via a few well-known famous projects. These projects need an understanding of various engineering disciplines. Part B also demands a thorough understanding of discipline-specific technical societies and engineering tools/software that help in practising engineering in Australia.

#### Learning Outcomes

This Assignment assesses the following learning outcomes of this unit:

- Summarise technical publications using paraphrasing and references.
- Review Australian practice in a specialised field of engineering.
- Communicate effectively through technical writing and presentations.

## Requirements

- ☑ Follow the marking rubric herein, which includes indicators of attainment at various levels of achievement in each section of the Assignment. Focus on clearly demonstrating all criteria to obtain a good mark.
- ☑ Include a cover page with the date, your name and student number, the unit code and name, and the assignment title.
- ☑ Prepare your writing for Part A based on the below explanation in this document and using the peer-reviewed journal articles expanding to your Part A topic in Assignment 1.
- ☑ The Academic Learning Centre is available to review this Assignment before submitting but check when and how to send it to them. It is a good idea to send just part of this Assignment to get prompt feedback in the early stages.
- ☑ A strict word limit is not applied, either minimum or maximum, but preparing approximately three (3) to four (4) pages for Part A, and two (2) to three (3) pages for Part B is recommended. The page is A4 size with a 2 cm margin (each side), font: Times/Calibri/Arial, font-size: 11, and the line to line space 1.1.
- ☑ Compile and submit the entire Assignment into a single PDF using the template provided on Moodle.
- ☑ If needed, request an extension through Moodle with appropriate supporting evidence before the due day.

## Resources required to complete this Assignment

You must apply the following resources to complete this Assignment.

Resources	Application
Technical papers	Search for <b>at least three other articles</b> to expand the topic of interest in Assignment 1.
Paraphrasing guidelines	Follow the ALC's guidelines for paraphrasing and preparing a Literature Review and the guidelines you have used in Assignment 1.
Harvard Referencing	Correctly cite all sources by following the format provided in the CQU Harvard Referencing Guide.

## Example (Part A) – Components of a Literature Review

The following explains how to construct a structured literature review. As indicated earlier, you are required to refer to **not less than three peer-reviewed journal articles** on a **specific research topic continues from Part A of Assignment 1**.

### For this Assignment, you need to do the following

- Search for relevant peer-reviewed journal articles. **Only peer-reviewed journal articles relevant to your topic in assessment 1 should be considered. You are not allowed to use the article that you used in assessment 1. For searching articles, explore CQU Online Library, Google Scholar, Google Search etc.**
- Evaluate sources, including the sort of sources, date of publication
- Identify themes, debates and gaps
- Outline the structure
- Write your literature review

### Part A of this Assignment should include but are not limited to

- An abstract with keywords.
- Introduction with background, problem statement and brief literature review.
- Aim and scope
- Research methods
- Synthesis from articles
- Conclusions
- In-text citations and the reference list

Having introduced your topic, you should review what the literature has to say about it. If it were a technical report, you might want to introduce the theory behind your approach here. Reviews of previous literature in a thesis or research paper are not summaries of every article you have read but rather an exposition of the existing knowledge and reasoning which led you to believe that what you did was worth doing in the way that you did it, written so as to convince the reader of these things. Writing about the literature is not just part of “what you have to do”; it is a valuable way to learn the literature, to get it “off the page and into your head”. And that is essential if you are to be able to think critically about your field and the topic you are researching.

In short, a good literature review doesn’t just summarise sources; it analyses, synthesises, and critically evaluates to give a clear picture of the state of knowledge on the subject.

**Finally, for Part A**, each of the above-mentioned elements should be shorter than it would need to be for a full academic report. The intention is to provide an overview of the main sections that most reports should have.

### Reference List

Please use only the Harvard style reference (in-text and the reference list). **You can put the reference list of Part A either at the end of Part A or the end of Part B.**

## **Example (Part B) – Description of Australian engineering practice after introducing various disciplines of engineering**

**Part B** will focus on selecting one successful and one unsuccessful project from major engineering disciplines. For example, if you are a mechanical engineering discipline student, you must choose one successful and one unsuccessful project from your discipline. You can find the those successful and unsuccessful articles from CQU online library, Google Scholar or Google Search etc. Similarly, students should pick up their discipline-specific projects for electrical and civil engineering. You will need to paraphrase your understanding of how the project is described and what engineering disciplines are practised. Also, you should demonstrate your understanding of the impacts of this project on society and the environment.

### **Reference List**

Please use only the Harvard style reference (in-text and the reference list).

### **Reference**

Dowling, D, Hadgraft, R, Carew, A, McCarthy, T, Hargreaves, D, Baillie, C & Male, S 2019, *Engineering your future: an Australasian guide*, John Wiley & Sons.

## Marking rubric (Part A)

Total marks: 20

Criteria	Excellent (100%)	Excellent-(87.5%)	Good (75%)	Good-(62.5%)	Sound (50%)	Sound-(37.5%)	Sound- -(25%)	Poor (0)
<b>Abstract</b> Max marks: 2	The abstract contains an excellent problem statement, aim, brief outcomes and implications. It follows 5-6 appropriate keywords.	The abstract contains an excellent problem statement, aim, brief outcomes and implications. The abstract follows 3-4 appropriate keywords.	The abstract contains an appropriate problem statement, aim, brief outcomes and implications. However, any one of the above needs an improvement. It follows 3-4 appropriate keywords.	The abstract contains an excellent problem statement, aim, brief outcomes and implications. It follows 1-2 appropriate keywords.	The abstract contains a problem statement, aim, brief outcomes and implications. The abstract follows no keywords.	The abstract contains a problem statement and aim. It has no keywords.	An erroneous abstract. At least one element is appropriate.	No or inappropriate abstract.
<b>Introduction</b> Max marks: 2	The introduction includes excellent background information, a problem statement, a brief literature review.	The introduction includes excellent background information, a problem statement, a brief literature review. However, any one of the above needs a slight improvement.	The introduction includes background information, a problem statement, a brief literature review. However, any two of the above need a slight improvement.	The introduction includes background information, a problem statement, a brief literature review relevant to the topic. However, all three of the above need a slight improvement.	The introduction includes background information, a problem statement, a brief literature review relevant to the topic. However, any two of the above need major revisions.	The introduction includes background information, and a problem statement. However, all three of the above need major revisions.	At least one relevant introductory element is included.	Missing or inappropriate introduction elements.
<b>Aim and scope</b> Max marks: 2	The aim is summarised concisely and accurately in a single sentence using correct engineering diction and terminology. The scope is appropriate and relevant to the topic. It contains correct inclusions, exclusions, and assumptions.	The aim is summarised concisely and accurately in a single sentence using correct engineering diction and terminology. The scope contains inclusions, exclusions, and assumptions. But a little improvement is required in any one of them.	The aim is summarised concisely and accurately in a single sentence using correct engineering diction and terminology. The scope contains inclusions, exclusions, and assumptions. But a major improvement is required in any one of them.	The aim is summarised concisely and accurately in a single sentence using correct engineering diction and terminology. The scope contains inclusions, exclusions, and assumptions. But a major improvement is required in any two of them.	The aim is summarised concisely and accurately in a single sentence using correct engineering diction and terminology. The scope is somewhat correct.	The aim is accurately articulated, but scope needs significant improvement.	The aim is accurately articulated, but the scope is incorrect.	An incorrect presentation of the aim and scope of the selected paper.
<b>Research Methods</b> Max marks: 3	The summary of all research methods are concise and accurate and linked to the appropriate standards of practice in Australia, such as Standards Australia.	The summary of all research methods is concise, accurate and connected to the standards of practice.	The summary included all research methods in statements that are accurate and somewhat connected to the standards of practice.	The summary included most of the essential methods, BUT the accuracy of the summary could be improved.	The summary included at least 50% of the essential methods.	The summary included at least 25% of the essential research methods.	The summary misses most of the essential methods.	An incorrect presentation of all the research methods.
<b>Synthesis from articles</b> Max marks: 3	More than three peer-reviewed journal articles were used. Key points are synthesised appropriately.	At least three peer-reviewed journal articles were used. Key points are synthesised appropriately.	At least three peer-reviewed journal articles were used. Key points are synthesised appropriately. However, a slight improvement is required.	At least two peer-reviewed journal articles were used. Key points are synthesised appropriately.	At least two peer-reviewed journal articles were used. Key points are synthesised, but improvement is required.	At least one peer-reviewed journal article was used. Key points are synthesised, but improvement is required.	One article was used. Key points are synthesised, but significant improvement is required.	Inappropriate discussion/synthesis from selected articles.
<b>Conclusions</b> Max marks: 2	The conclusion is concise and accurate, with connections made to the aim.	The conclusion is accurate, with connections made to the aim.	The conclusions include all significant outcomes, but they are not related to the aim.	The conclusions include most of the significant outcomes, but they are not related to the aim.	The conclusions do not cover all significant outcomes, but those mentioned are accurate.	The conclusions include a few outcomes, but they need improvement.	Included conclusions need significant improvement.	No clear idea about conclusions.

Criteria	Excellent (100%)	Excellent-(87.5%)	Good (75%)	Good-(62.5%)	Sound (50%)	Sound-(37.5%)	Sound- -(25%)	Poor (0)
<b>Grammar, spelling, punctuation, clarity</b> Max marks: 3	Grammar and punctuation are free from errors. Powerful writing with precise language and vocabulary.	Grammar, punctuation, and spelling have minor errors. The writing generally uses precise language and vocabulary.	Grammar, punctuation, and spelling have 2-3 errors. The writing uses precise language and vocabulary.	The writing has few errors (4-5), and the meaning is understandable.	The writing has some grammar, punctuation, and spelling errors, but the meaning is understandable.	The writing has many grammar, punctuation, and spelling errors, but the meaning is understandable.	There are numerous grammar, punctuation, and spelling errors, but the meaning is somewhat understandable.	There are too many errors that meaning is obscured.
<b>Referencing</b> Max marks: 3	Both in-text citation and the full reference follow the Harvard-CQU style without any errors.	Both in-text citation and the reference list follow the Harvard-CQU style with only one error.	Harvard-CQU style followed in-text citation and the reference list with two formatting errors.	Harvard-CQU style followed in-text citation and the reference list with three formatting errors.	Harvard-CQU style is not convincingly followed but attempted both in-text citation and the reference list.	Attempted, but errors in in-text citations and the reference list are acceptable. Harvard-CQU style is not followed.	Attempted but significant errors in in-text citations and the reference list. Harvard-CQU style is not followed.	No references included or poor attempt.

## Marking rubric (Part B)

**Total marks: 10**

Excellent (100%)	Excellent-(87.5%)	Good (75%)	Good-(62.5%)	Sound (50%)	Sound-(37.5%)	Sound- -(25%)	Poor (0%)
Articulated both projects' (successful and unsuccessful) key points professionally. The impact of the projects on society, environment and economy is discussed professionally. No error in in-text citations and the reference list. Professional use of all technical terms and no errors in spelling, punctuation, capitalisation, and grammar.	Articulated both projects' (successful and unsuccessful) key points professionally. The impact of the projects on society, and environment is discussed professionally. No error in in-text citations and the reference list. Professional use of all technical terms and one or two errors in spelling, punctuation, capitalisation, and grammar.	Articulated both projects' (successful and unsuccessful) key points professionally. The impact of the projects on either society, or environment is discussed professionally. No error in in-text citations and the reference list. Professional use of all technical terms and only a few errors in spelling, punctuation, capitalisation, and grammar.	Articulated both projects' (successful and unsuccessful) key points professionally. The impact of the projects on environment is discussed professionally. No error in in-text citations and the reference list. Professional use of all technical terms and but some errors in spelling, punctuation, capitalisation, and grammar.	Described both projects (successful and unsuccessful) adequately. The structure and English grammar are acceptable. Erroneous discussion of the impact of the projects on societies. A few formatting errors in the in-text citations and the reference list.	The description of one project (successful or unsuccessful) is somewhat relevant and correct. The structure and English grammar have errors. Erroneous discussion of the impact of the projects on societies. Inappropriate use of citations in the texts and the reference list.	The description of one project (successful or unsuccessful) is somewhat relevant. The structure and English grammar have numerous errors. Erroneous discussion of the impact of the projects on societies. Inappropriate use of citations in the texts and the reference list.	The project description is not appropriate.

# Australian Engineering Practice

**Unit code: ENEG20001**

**Term 1, 2022**

**Assignment - 2 (Individual submission)**

**Student Name: Student ID**

**Week of Submission**

**Date of Submission**



**School of Engineering and Technology Central Queensland University**

## **Part A – Literature review**

### **Abstract**

Keywords: Limited to 5-6.

#### **1. Introduction: should include**

- Background
- Problem statement
- A brief literature reviews



**2. Aim and scope (The scope should contain inclusions, exclusions, and assumptions).**

**3. Research methods (should be detailed).**

**4. Discussion/synthesis from selected articles (not less than two pages).**

## 5. Conclusions

**Part B – Description of successful and unsuccessful projects (the discussion should also include the impact of the projects on either society or environment or economy (should be 2-3 pages)**

## **Reference List**