



Assignment 1 – Part 1

Assignment 1 – Part 1 contributes 10% of the marks for this unit.

General Requirements

This is an **individual assignment**. Include your name and student ID number.

Do not include a signed declaration of the originality of your work, as this is assumed. It is always a requirement that your work is original for all assessments in this unit.

Begin the assignment with **a long title describing your product**. The title should not be “Assignment 1 – Part 1”. The title **should help the reader quickly understand what your product is**, and why it is innovative. For examples, **see the titles of research papers in engineering journals** and conference proceedings (you could check <https://scholar.google.com.au>).

In this short assignment, **do not include a contents page, tables, or appendices**. **Do not include sub-headings, question headings or divisions** within the body of the text. Consider how each paragraph connects to the next.

This is a technical, engineering report. It is not a marketing or business report. This means you should **avoid informal, colourful, or marketing language**. Your language **should be objective, neutral and avoid discussing opinions or feelings**. Any unsubstantiated or **bold claims should be avoided** without compelling evidence or references. **Avoid the use of first-person pronouns** such as “I”, “my” and “we”.

Reference any sources using the IEEE referencing standard. The **reference list at the end of your assignment should not be included in the word count**. **Correct use of in-text referencing is a critical aspect of this assignment and will be closely reviewed**.

Any words over the word limit will not be considered.

Late assignments will incur a penalty as stated in the unit outline.

If you intend to write about the same innovation as another student because you are working on the same project together in another unit, please contact your lecturer for approval.

It is preferred that you **upload your assignment in PDF format** rather than word, as this reduces errors in the way Turn It In renders your document.

Do not **use large language models such as Chat-GPT in any way in preparation of this this assignment**.

The Assignment

Write a minimum **500-word rationale on a potential product innovation**. The submitted work is to be **no more than 600 words**. Additional words over 600 will not be considered and a penalty may be incurred.

The focus of this assignment is to think creatively **about potential product innovations, conduct research to determine if your product innovation is unique, and then communicate the outcomes in a clear and concise manner with appropriate referencing**.

You may choose to include **one diagram (only)**. This diagram is to be of **your own creation**. The diagram may be a **sketch, functional diagram or other figure that helps the reader understand your product**. In the text, refer to your diagram as a figure. For example, you may use text like, **"as shown in Figure 1"**. If you include a figure, you must refer to it in the text of your assignment, otherwise the figure will be disregarded by the marker. **Do not use images taken from the Internet**.

In your rationale, explain:

- **What your product innovation is and how it works.**
- **The benefits of your product to users.**
- **Why your product innovation is unique when compared to competing or similar products.**

In your rationale, demonstrate that you have **conducted research to determine if your product is unique**. Reference sources using the IEEE referencing standard (we have a workshop that discusses how to reference in Week 2). **At a minimum, you should include five references**.

Along with your rationale, include a separate and **short two-sentence summary of your product innovation below the title in bold or italics**. This short summary **should communicate the concept of the product innovation in just a few words**.

How unique does my product idea need to be?

Your product **innovation should not be available on the market**. However, you can **build on existing products** or combine existing products in a novel configuration. Clearly, products that are more innovative will potentially score higher in this assignment.

A good test of whether your product is **sufficiently unique is if you can justify the benefit of this new product to users**. For example, in almost all cases **changing the colour of a product would not be considered sufficiently unique**.

Clearly, it may not be possible to exhaustively determine if your product innovation is already available in the market with complete accuracy. Given this, you will not be penalised if your product turns out to be available, if you have demonstrated in your rationale that you have undertaken comprehensive research into similar or competing products.

Does my product have to be possible or make logical sense?

The product innovation needs to be logical and make practical sense given what is currently known by science and engineering. Some latitude will be given to products that require the development of new technologies, processes, and materials, if these can be logically justified as part of the product development (and not require decades to realise). For example, the development of a new battery that charges 25% faster, would be considered a reasonable undertaking for a company's R&D department. On the other hand, a proposed teleportation system would be difficult to justify.

How specific does my product need to be?

It is important that your product innovation be specific, such that further consideration can be given to the design and implementation this innovation. By being specific, it may also be easier for you to determine the uniqueness of your product compared to competing products.

Will I be marked on how “good” my product innovation idea is?

Please note that the focus of part 1 of this assignment is on written communication and clear expression of your ideas, as well as demonstrating the ability to conduct research and reference sources.

A “good” product innovation idea is subjective, in that only the market can determine if a product innovation will be successful or not. Given this, some latitude will be given as to the quality of a product innovation, if it meets the conditions described earlier. Crucially, if you can justify your product innovation as unique and useful and then present it in a logical way, this will be sufficient to meet the requirements of this assessment.

How should I refer to my product?

In engineering reports, it is often important to avoid the use of first-person pronouns, such as “I”, “my”, “we”, “our”, “us”. The reason is that a technical report should focus on the subject matter, rather than the author. This can be difficult when proposing a new product or design concept, as this is a process you are personally undertaking. There are a few ways to effectively handle this:

- Refer to the “The proposed product”, “The product concept”, “The new design” and so on, rather than using language such as “My product” or “I have designed the following product”.
- You may decide to develop a product name, which can be used instead. For example, “The Ocean Hard Hat has been developed to meet the needs of...”.

Marking Rubric

The marking rubric is shown below.

	Absent	Novice	Emerging	Pass	Good	Excellent
Acknowledgement of Source (20%)		Claims are not substantiated by supporting evidence that is both properly paraphrased and appropriately referenced.	Claims are substantiated by supporting evidence that is both properly paraphrased and appropriately referenced with few errors.	Claims are substantiated by supporting evidence that is both properly paraphrased and appropriately referenced with minor errors.	Claims are substantiated by supporting evidence that is both properly paraphrased and appropriately referenced, with only one errors.	All ideas/facts/claims are substantiated by supporting evidence that is both properly paraphrased and appropriately referenced.
Task Fulfilment/ Academic Style (50%)		Do not address the task or responds to the task only partially or in a limited way. May have misinterpreted the task. Does not adhere to academic writing style conventions (i.e. formal, impersonal, and objective).	Responds to the task only partially or in a limited way; Mostly adheres to academic writing style conventions (i.e. formal, impersonal, and objective)	Responds to the task relevantly but may lack detail and length. Mostly adheres to academic writing style conventions (i.e. formal, impersonal, and objective).	Responds to the task relevantly but may lack detail and length. Fully adheres to academic writing style conventions (i.e. formal, impersonal, and objective).	Responds to the task relevantly in sufficient detail and length (including formatting of text). Fully adheres to academic writing style conventions (i.e. formal, impersonal, and objective).
Grammar, Vocabulary and Punctuation(15%)		Contains several grammatical errors and/or a limited range of vocabulary, which may include inappropriate usage. Contains numerous spelling and/or punctuation errors which impede overall comprehension - do not penalise typos or common misspellings.	Contains some grammatical errors and/or uses a limited vocabulary. Contains several spelling and/or punctuation errors – do not penalise typos or common misspellings.	Contains some grammatical errors in complex forms, and/or may include a more limited vocabulary range. Contains a number of spelling and/or punctuation errors - do not penalise typos or common misspellings.	Contains a range of contextually appropriate vocabulary and include few, if any, grammatical error Contains very few spelling or punctuation errors - do not penalise typos or common misspellings	Contains a wide range of contextually appropriate vocabulary and does not include any grammatical errors Is free from spelling or punctuation errors - do not penalise typos or common misspellings
Organisation, Coherence, Cohesion(15%)		May lack overall organisation, thematic unity and coherence in and/or between sentences including the development of ideas, but shows some attempt at connecting the ideas expressed.	May lack overall organisation but develops some ideas coherently with some attempt at paragraphing demonstrated. Sentence structures may be limited and/or inappropriately connected.	Has an overall logic and coherence. Shows use of paragraphs and a range of sentence structures which are usually appropriately connected.	Is logically organised, expresses ideas coherently through well-constructed paragraphs, and a range of appropriately connected sentence structures.	Is logically organised, presents a unity of theme and expresses ideas coherently through well-constructed paragraphs and a wide range of appropriately connected sentence structures.