



Collaborative Enhancement Project 2022/2023



Optionality in Assessment: Case Studies

Case Study 1

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Institution: University of Manchester

Discipline/Field of Study: Engineering

Type of Assessment: Engineering Feasibility Report and individual presentation

Credits: 15

Level: 7

Unit Type: Optional unit available across a range of programmes

Type of Optionality: Negotiated assessment task/question

Assessment Details:

In this summative assessment each student chooses the subject (a product) which they wish to study for the assessment and this choice is discussed and agreed with the lecturer via e-mail exchange.

The format of the assessment (a report and an individual presentation) has the same marking rubric and structure for every student submission. In this way every student has great freedom of choice of topic and yet it can be demonstrated that every student is marked fairly compared to all others because the same rubric is used for all.

[CS1 Intended Learning Outcomes Engineering Foresight.docx](#)

a. Instructions for completing the assessment

Formative assessment task – week 1 – A concise written introduction to your agreed topic

Having selected the proposed product (and the company manufacturing it) that you wish to base your business report upon, write no more than 300 words of introduction. Use **precise** language, reference **key facts** and be **specific**. (Imagine you are sending this introduction as a document attached to an email to a **senior colleague at work** to explain the topic you are working on.) Introduce the reader to the product and manufacturer using reliable, relevant **facts and figures**. Explain the **benefits that the product** offers to the user, the **market sector** and the main **technologies** it depends on. Please upload your work to BlackBoard, saving the document as: **your student ID number ENGM41011 (123456789ENGM41011)**

The work will be given an indicative mark and you will receive brief feedback to help you with your further study. Formative work marks are **not** used to calculate the unit mark. Please submit your formative work by **18.00hr Thursday 13th October 2022 (wkS+4)**.

1. Instructions for the Main Report Summative Assessment:

(Structured market and technology foresight envisioning report)

The following section describes your summative assessment task which is worth **70%** of the unit mark.

The summative assignment requires you to **gather information** from high quality sources **over several weeks** and produce a professional business report based on your **detailed analysis of this information**.

The assignment is **not an essay**. Your report cannot be completed successfully if left to just a few days before the deadline. The BlackBoard unit content is intended to help with some of the report tasks and if you are unsure of how to proceed, please ask the lecturer for guidance and formative feedback either in a synchronous 'lecture' or by using the **discussion board** in BlackBoard.

Substantial marks are based on your identification and critical analysis of appropriate research materials which take time to gather and to analyse. Use of **relevant fully labelled and referenced diagrams, graphs and tables** to help explain your text and quantify key points is essential.

Your report must have the following sections:

Executive Summary (5%)

This section should provide the reader with a summary of key highlights of the whole report including: a brief introduction to the purpose of the report, the current product, the company manufacturing it and the main findings of the report. (This section is usually best written once the main body of the report is complete)

The current product (15%)

This section should explain to the reader the current product, the technology currently used, the market currently served and user needs that are addressed. The main sustainability issues relating to current product manufacture, use and disposal should be explained.

Major external influences (30%)

This section should explain your assessment of the future major Political, Environmental, Societal, Technological, Economic and Legal factors, (ie external factors that are beyond the direct control of your company) and explain the extent of their likely influence and impact on your chosen product area.

Specific Scientific and Technological developments (20%)

This section should explain specific scientific and technological developments which you consider will have significant potential to influence the future product over its **whole cycle** of manufacture, use and disposal.

Summary (20%)

A summary should **draw upon all the previous analysis** in your report and **explain the main opportunity** for development of the new product and the main risks of seeking this scenario. Please explain the changes that will be expected in **manufacture, use and disposal** of the product.

Appendix 1 Personal project diary and Gantt plan (10%)

The diary is your **personal, weekly, reflective account** of how the assignment was undertaken, things which went to plan and things which caused problems. Explain what you would change if you had to undertake a similar task in the future. **(500 words maximum)**

The diary is written in the **first person "I"** as in "I searched for..."

The diary should include your project plan Gantt chart showing the **original plan** and any **updates** and amendments required during project execution. The plan and diary are tools to help you do well in this assessment, they **must be used regularly** over the duration of the coursework.

References list

Good quality **references from reliable sources are essential** to the success of this report.

Your report should not express personal views and hunches, therefore you must **justify** ie 'back up' each statement that you make with **facts and figures, tables, graphs and diagrams** etc from referenced sources of information. It is important that the reader of your report can go back to the precise page from where you obtained your **facts** from. Please use the Harvard method and state relevant facts to make the analysis specific and focused on the chosen topic.

Appendix 2

Appendix pages should be used to present any significant information that helps to further explain and expand points raised in the main body of the report. Please limit appendix pages to a maximum of 4 to keep the report size manageable.

Page count

Please limit the total number of pages to **25 pages** maximum, 12point Calibri with 'normal' 25mm margins.

Word count

Total report length (*excluding diary, tables, diagrams, references and appendices*) **4500 words**

Diary length **500 words = 5000 words total +/- 10%**

Please upload your report saved in PDF format to BlackBoard. Save the file with the file name constructed from your student ID number and MACE41011. The report must be uploaded to BlackBoard **before the deadline of 18.00hr Thursday 24th November 2022 (wk S+10)**

2. Instructions for Individual Oral Presentation:

The Oral presentation is worth 30% of the unit marks. Your individual timeslot and date *to be advised – it will be in Week beginning Monday 5th December 2022 (wk S+12)*

You have been asked to attend the company board meeting to **present a summary of the main findings** of your report. You have a **timed 5 minute** slot with a further **5 minutes for questions** from the panel. It is critical that you use the limited time effectively to clearly convey the main points of your envisioning report. It is essential to **practice the timing** to avoid over-running.

The presentation will be made in person in a small meeting room on campus. You should prepare your presentation using **Microsoft PowerPoint** and **save it to a USB memory stick** and bring this with you to the meeting. A standard laptop and screen will be provided in the presentation room. You are allowed to present from your own laptop, connecting via HDMI cable to the screen. Experience tells us that this sometimes may not work – so **always have the USB with you as backup**. To reduce risk further, you must not rely on having wifi connectivity to your files during the presentation, the presentation should be saved locally. Contingency: If Covid restrictions prevent in person presentations, your presentation will be made 'live' virtually, using screen share software such as Zoom.

b. Marking rubric

Department of Mechanical, Aerospace and Civil Engineering

Marking sheet for individual 5 min presentation Date: Dec 2022

Student Name

Title of Presentation: Engineering Foresight

Marker 1 Tim Jones

Agreed final percentage.....%

Marker 2

Content		20 25 30 35 40 45	50%	<input type="text"/>
Introduction	Who are you? What is it about?			
Market	What are the main market forces?			
Technology	What are the main technological issues?			
Foresight	What is your view of the future?			
Summary	Is it clear the presentation has finished?			

Delivery		8 10 12 14 16 18	20%	<input type="text"/>
Speech	Is it audible and understandable?			
Pace	Is it too fast or painfully slow?			
Time	Did you keep to time?			
Clear message	Are the key points clearly communicated?			
Engagement with audience	Is the presentation creating interest? Are you enthusiastic and engaging?			
Confidence in front of people	Are there signs of stress in the presenter? How was this managed?			

Visual aids		4 5 6 7 8 9	10%	<input type="text"/>
Easy to understand	Are the aids used understandable?			
Clear to read	Is it clear enough to read easily?			
Appropriate diagrams, tables, photos etc	Are the diagrams etc helping to explain things more clearly?			
Use of examples	Are any interesting examples used to explain a point?			

Questions		8 10 12 14 16 18	20%	<input type="text"/>
Missing information	Are questions essential to fill big gaps in the presentation?			
Probing deeper	Do answers indicate full understanding of subject presented?			

Total	%
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c. Teaching materials

d. Other links or pertinent information

Professional Engineers need to produce structured reports which present information from reliable sources, analyse the information and propose a solution. This authentic assessment allows the student a free choice of topic but constrains them to the report format (with main sections/headings/marks defined) so that every student is assessed fairly in the cohort against the same criteria. The report is followed by an individual presentation and short question/answer. This is also based on the authentic task that a professional engineer is required to do - i.e. to summarise their report and answer questions on their recommendations/proposals. It is of particular note that many students tend to procrastinate right at the start of the assessment by trying to select the 'best topic' to study. The offer of a choice leads directly to procrastination in the majority of the cohort. To manage the procrastination every student is emailed personally in the first week by the unit leader to confirm that their choice of topic is practical within the constraints of the assessment. Holding students to a hard deadline to make their choice of topic is vital. It takes a lot of time and effort by the unit coordinator in the first week of the unit to do this. It is also very important not to permit the student to change their topic once it has been confirmed. This might seem to be harsh, however the professional engineer will not get the opportunity to swap their project task once it has been started. Also, some students try to research more than one topic to see which is easiest. This approach multiplies the time effort and would typically end with the student becoming highly stressed, running out of time with several part-done reports, none of which are at a standard that can be submitted for assessment.