Project Proposal: Scope of Work

EGH400-1 RESEARCH PROJECT 1, SEMESTER 2 2022

Assessment #	**1**
Unit Learning Outcomes Assessed	ULO1 Conduct a literature review to inform an engineering problem using survey, reference management, analysis, and synthesis at a mastered level. ULO2 Formulate a proposal for an engineering project that addresses client needs, management of time, resources, and communication at a mastered level.
Task Weight (%)	40%
Due Date	Week 7, 11:59pm 07 September 2022
Nature of Submission	Written Report, 10 pages (reference and non literature review appendix are not counted as part of this page limit), in alignment with the Engineering Technical Report

Overview

You will develop a Project Proposal: Scope of Work for your Research Project incorporating a Literature Review and an overall plan for how you will work towards completion of your project. During this task, you will be expected to demonstrate professional conduct as a Student Engineer and in alignment with the Engineers Australia, Stage 1 Competency Standard for Professional Engineer and the Engineers Australia Code of Ethics.

What you will do

You have been given broad guidance as to the expected outcomes of your Research Project. To manage the project to completion, you are tasked with creating a Project Proposal: Scope of Work, at a similar standard to a Professional Engineer. To complete the Project Proposal: Scope of Work you will:

- Refine the overall Project Objective in consultation with your supervisor and any clients, industry partners or stakeholders. If you will need resources such as consumables or access to workshops and equipment, you should specify this.
- Conduct a review of the current state of engineering within the discipline or focus of your project, by reviewing research literature and current practice. You should attach a literature review to your Project Proposal: Scope of Work (no more than 5 pages words).
- Determine the deliverables that you will produce by the end of your project. This may include constructed engineering systems or models, reports, drawings, designs, reviews, or presentations. Note that you should include interim deliverables including status reports to your supervisor, clients, industry partners or stakeholders as required or testing rigs or models.
- Identify any risks, requirements, and constraints, including any relevant legislation, codes or regulations that will impact your engineering work.
- Agree with your supervisor and any clients, industry partners or stakeholders the modes of testing or validating your project outcomes to ensure appropriate quality standards are achieved. Note that it is important to build in interim quality check points, not just rely on testing or validating your final outcome.
- Determine the ways in which engineering for sustainability will be achieved in the conduct and outcome of your project. You may wish to refer to Sustainable Development Goals or Sustainability Standards which apply to your project (including Life Cycle analysis).
- Taking account of the above considerations, you will create a Project Timeline incorporating deliverables, dependencies, and milestones. You may wish to use the Project Proposal: Scope of Work template. Your submission must adhere to the Engineering Technical Report Style Guide.

For this assessment and the entirety of your project you are expected to engage in professional conduct in alignment with the Engineers Australia Code of Ethics.

What you will submit/present (what artefacts will be used to judge your performance?)

You can either submit to the *Project Proposal: Scope of Work Template* provided or use an alternative means of documenting your work, according to documentation guidelines elsewhere specified (such as a workplace or industry standard documentation). Regardless of which documentation approach you take, you MUST ensure that your report formatting meets the Engineering Technical Report Style Guide and addressed all the areas identified for analysis in

relation to engineering practice. Your submission may not be marked by your supervisor, so you should ensure that it is written for a general engineering audience.

Criteria for Assessment

There are four criterion that will be used to assess your submission, all are equally weighted:

- Literature Review quality
- Analysis of project (risk, requirements, quality, sustainability, ethics)
- Appropriateness of proposed project approach (including methodology and planning)
- Professional engineering conduct (including professional communication)

The attached marking rubric outlines the standards required to achieve a grade against each criterion. Note that in class lectures and meetings with your supervisor will provide you with details of how your mark will be determined.

Resources and Support Available

Support

Library: Attend week 3 lectures and then contact your Liaison Librarian

Student Success: Book an appointment or attend a workshop at qut.to/academicsupport

Resources

Engineering Technical Report Style Guide

Library Guide: **https://libguides.library.qut.edu.au/engcap**

Writing a literature review in Engineering: accessible on your Unit Blackboard site (**https://rise.articulate.com/share/v2lj-cMeDv5y4Pitc7NGpdDMXbgjiqz**)

Academic Integrity Statement

You are reminded that maintaining academic integrity is an important professional capability in all assessment. See the QUT MOPP C/5.3 Academic Integrity and the Engineers Australia Code of Ethics and Guidelines on Professional Conduct. For this assessment academic integrity will be monitored via:

- Interactions with your supervisor where you should discuss the details of your project and the references you are investigating.
- Plagiarism detection during submission via Turnitin.
- Verifying references through the marking process.

In finalising your mark, you may be asked to verify aspects of your submission through an interactive oral. Note that if the Unit Coordinator has reasonable concerns about your academic integrity, they may ask you to authenticate your learning in line with MOPP C/5.3 Section 5.3.7 (e) *Authentication of learning.*

MARKING RUBRIC

REF	CRITERIA	7	6	5	4	3	2	1
1.0	Literature Review quality							
	Extent to which the literature review adheres to the conventions of technical literature review process and outcomes including: • Appropriate scope and nature of literature reviewed • How well you have synthesised literature to focus in on your project topic • How well you have organised the ideas within your review to logically support the purpose of the review and your project	All relevant references identified, and sources highly aligned to project. Very effective synthesis of ideas from references, with logical sequence and argument. Very clear how project will contribute to practice and/or research and how references inform your project.	All relevant references from some sources presented. Effective synthesis of ideas from references, with sequencing and arguments. Clear how project will contribute to practice and/or research, and how references inform your project.	Most relevant references from some sources presented. Analysis of ideas from references, with good argument for relevance and alignment to project. Some ideas of how project will contribute to practice and/or research and relate project to references.	Sufficient relevant references and sources within scope of project. Summary of ideas with logical sequence to aligned to project. Identified gaps in literature or alignment of project as contribution to practice.	Insufficient or irrelevant references or sources not related to project. No summary or analysis. Not well connected to project either in terms of possible contribution or identified gaps.	References not relevant or unreliable. No summary and overuse of quotes. Not connected to project.	No submission
2.0	Project Analysis							
	Quality of analysis of project according to key areas of engineering practice: • Risks, requirements, and constraints • Sustainability • Quality	Thorough exploration of all domains related to engineering practice. Insightful analysis and synthesis of possible impacts and constraints.	Clear exploration of all domains related to engineering practice. Effective analysis and synthesis of possible impacts and constraints.	Clear exploration of most domains related to engineering practice. Good analysis of possible impacts and constraints.	Sufficient exploration of most domains related to engineering practice. Some analysis and summary of impacts and constraints.	Insufficient exploration or few domains addressed in relation to engineering practice. Mostly summary with little connection to impacts and constraints.	No attempt to explore most domains in relation to engineering practice. Little connection to impacts and constraints.	No submission

REF	CRITERIA	7	6	5	4	3	2	1
	• Ethics							
3.0	Project Approach							
	Extent to which your methodology and project plan will support achievement of a high-quality engineering outcome including: • Well planned approach with appropriate deliverables and milestones • Clear recognition of interdependencies, and logical sequence and timing • Engineering method appropriate to achievement of project outcomes.	Sophisticated plan with expert engineering methods identified, clearly aligned to achieving high quality outcome. All dependencies recognised and logical sequence and timing of activities and milestones.	Very effective plan with appropriate engineering methods identified, aligned with high quality outcome. Most dependencies recognised and clear sequence and timing of activities and milestones.	Effective plan with appropriate engineering methods identified, aligned with quality outcome. Majority of dependencies recognised and sensible sequence and timing of activities and milestones.	Appropriate plan with engineering methods identified that are likely to achieve quality outcome. Some dependencies recognised and sequence and timing of activities and milestones clearly articulated.	Plans unclear and unlikely to achieve engineering methods and quality outcome. Dependencies lacking or not recognised. Sequence and timing not clear. Interim milestones missing.	Plan unclear, with no alignment to engineering methods or quality outcome. Dependencies missing, timing unclear and no milestones identified.	No submission
4.0	Professional Engineering Communication and Conduct							
	Extent to which submission meets the professional communication standards (as outlined in the Engineering Technical Report Style Guide,	Report demonstrates all aspects of professional communication and conduct. Report is	Report demonstrates professional communication and conduct to an appropriate standard. Report	Report generally demonstrates professional communication and conduct, and mostly communicates	Report attempts to communicate project details in a clear way, but does not always align with formatting and communication standards, may be	Report attempts but does meet professional communication standards or guidelines, and significantly more	Report does not meet professional communication standards or guidelines.	No submission

REF	CRITERIA	7	6	5	4	3	2	1
	including professional formatting).	professionally formatted, well edited and effectively communicates project proposal details to industry standard.	is well edited and formatted, and clearly communicates project proposal details.	project proposal details clearly. Report may not always be in alignment with professional standards or style guide.	unclear at times and/or may require more editing and review.	review and editing is required.		
Feedback: What was done well					**Feedback: What you could improve**			
Result for this Assessment Task:								