2023 Semester 1 Curtin University
NPSC5000
Final Assessment: Research proposal

Due: Sunday, 28th May 2023 (23:59) **Grade**: Pass/Fail

Pass requirements - you must achieve **Meets Expectations** or above in **all criteria** of each part.

Overview

This assignment is a group assignment with an individual component. There are **3 parts to this assessment**:

1. A **group** research **proposal** (one submission from the group)
2. A **group pitch** (one submission from the group with all group members participating)
3. An **individual reflection** (all group members to submit individual reflections)

The proposal will be on a **research topic** of your **group's choice**. You will use a template provided with these instructions. You will use the **Challenge Platform** to interact with your group and to upload all material.

Purpose

This assignment will require you to complete a proposal that draws together the practical and ethical considerations necessary to undertake a research project in your chosen discipline.

This will benefit you in future research because you will have learnt:

- to be aware of, and critically review, previous and existing literature in the area to identify the gaps in knowledge and formulate appropriate research question(s).
- to consider the social and ethical implications of your research as applicable to your discipline.
- to develop a workable and achievable research methodology that includes a realistic timeline and considers contingency plans to ensure a successful project.
- to persuade the assessor that the research or project you have proposed is worthwhile.

This assessment requires you to learn and to work in groups. You will need to work as a team to be successful. Teamwork is highly valued by employers. Well-developed interpersonal skills are listed by employers as being among the top 10 skills sought in university graduates. As such, this assignment will provide you with an opportunity to develop these skills at university.

Your work will be **assessed** on the **group proposal** (written presentation), the group **pitch (**oral presentation), **and** the **individual reflections** on the group process.

Although this is a group assessment, a **Pass or Fail** for this assessment will be **determined individually** based on the group process assessment (evaluation of team members) and your contribution to the group (as captured using the Challenge Platform)**.**

Part 1: Written proposal (all group members contribute)

A research proposal is a type of science communication that is written to persuade an assessing body that an idea for a science project or engineering design is worthy of investment. It will include a statement of what the idea/problem is, why it is important, and how it will be done. It usually includes a timeline as well as an estimated budget.

You will **fairly choose** a STEM research **topic** that is **of interest to everyone** in the group.
This may be relevant to a common discipline and/or general interest to all in the group. Some interesting ideas may be generated by looking at the 17 United Nations Sustainable Development Goals (SDGs).

Your group research proposal **should not exceed 1200 words**, including in-text citations but excluding the reference list. We suggest that you critically **evaluate five (5) primary sources for your literature review**. These will form the bulk of your references (but you will possibly include other references due to the critical evaluation of your primary sources). Given the length of this assignment you need to be very selective with your references.

EXAMPLE PROPOSALS are available in the Final Assessment folder on Blackboard
We will provide a template for the proposal with specific headings. This template is modified from the one available at Scribbr.com.

The **proposal will be assessed** against **five criteria** (each with sub-criteria).
TO PASS, you need to achieve "meets expectations" in all criteria.

1. **Introduction and Problem Statement** (*weight 35%*): Consisting of background (literature review) and the statement of the problem. The background will include the critical evaluation of the 5 primary sources, citing relevant literature. The research question (including the main aim) must be clearly stated and linked to a gap in the literature. The significance and innovation of the work should be discussed, (can be demonstrated by compelling relevance to selected SDGs, if used).

2. **Research design and method(s)** (*weight 15%*): Here you should explain your approach to the research and describe exactly what steps you will take to answer your questions. The research should have a purposeful design, appropriate method(s) for the research question at hand, and be achievable within the norms of the discipline.
   For the approach and methodology section, you should describe components such as the data gathering process (if applicable), the experimental design and controls, and appropriate methods for the analysis and presentation of the data, such as particular statistical methods**. You should make use of the material gained from all the lectures and workshops, as well as your own additional reading to formulate the approach and methodology.**

3. **Practical Considerations** (*weight 10%*): Address any potential obstacles, limitations and **ethical or practical** issues surrounding the undertaking of your proposed research. How will you plan for and deal with problems? This section must include a clear articulation of the research ethics. Appropriate Curtin policies should also be consulted and referred to in your proposal, if they apply. This section must also include a timeline (Research Schedule/Gantt Chart) with contingency plans in place to allow for a successful outcome. *(**NOTE**: The research schedule/Gantt Chart **does not count** toward the maximum word count)*.

4. **Conclusions** (weight 10%): Finish the proposal by emphasizing why your proposed project is important (worthwhile, valuable) and what it will contribute to practice or theory.

5. **Structure and style** (*weight 30%*): You must use a formal and consistent scientific writing style, with appropriate syntax, grammar, punctuation, and spelling (see note below regarding use of generative AI in writing). The overall structure should be clearly signposted (use of the template will ensure this), with an identifiable organisation within and fluid connection between paragraphs. References must be integrated into the text using the APA 7th format.

Note: There is no guarantee that any content generated by artificial intelligence is reliable, true, correct, or of sufficient standard to pass an assessment task. It is ARTIFICIAL; YOU are the emerging scientists and engineers—trust yourselves.

- The **use of generative AI** for this assessment is **not recommended**; however, if you use AI (Artificial Intelligence), you **must acknowledge** its use in your proposal.
- Refer to this resource to learn how to acknowledge generative AI use: APA 7 Referencing.
- We absolutely recommend use of other types of writing assistance such as Studiosity (now available as a link on the Blackboard side bar) and/or Grammarly. Curtin (through the student OASIS) provides access to these resources for most students.

Part 2: Group Pitch (all group members contribute)

The **second component** of the final assessment is a **recorded (video) oral group presentation**, with appropriate visuals, with the **level** aimed at a **general audience** (high school equivalent). Your pitch is in the form of a video that is a **maximum of 5 minutes**. **All group members must participate** in the presentation. Each member **must appear in the video** presentation.

You are aiming to convince the audience of the purpose and importance of your research. Presentation skills will be addressed in the workshop on the 12 May. **Instructions** on how **to prepare a video** are available in the Assessment folder.

For a breakdown on effective presenting, please enjoy this TedX video by David J.P. Phillips on "How to Avoid Death By Powerpoint"

More resources:
How to make short 5-minute presentations (***NOTE****: focus on the tips – not the advertising*)
Presentation Coach – how to present professionally.
How to appear in your PowerPoint

Part 3: Individual Reflection of the Group Process

The group process refers to how you and your group work together to get the written proposal and video pitch done - group members must work together as a team, and each must contribute equitably.

The **final component** required to successfully complete this assignment is the **individual assessment of the process**.

Working as a group will enable you to pool your ideas and see problems from different perspectives. You will be able to draw from your collective skills and expertise to write a proposal that has greater depth and breadth than if one of you had proposed the work alone.

Group work also provides you with an opportunity to develop more generic skills such as: organisation, delegation, effective communication, co-operation, leadership as well as following. These are all valuable transferable skills that are highly sought by employers.

The **individual reflection** of the group process is a module on the Challenge Platform that each member of the group fills in separately. (for example if there are 5 members in your group, there should be 5 individual reflections).

NOTE: Each reflection is invisible to other members of the team and allow each person to honestly reflect on the group dynamics.

The module will begin with a written reflection. You will write as much or as little here as you want – but we, as your markers, will use this to provide supporting documentation for your numerical scores of yourself and your group members.

You may look at the reflection module on the Challenge Platform before you start, but keep in mind that if you progress to the next step – you will not be able to go back.

Assessment of group process

Group processes that will be evaluated by your peers in this assessment are:

- Listening skills
- Openness to others' ideas
- Preparation
- Contribution
- Leadership

In the Challenge Platform, after the written section, you will then be presented with a survey style template where you will rate each of the above for yourself and your team mates. The numbers are defined in the rubric below.

Highlight the appropriate score for each criterion for each member of your group.

Group members Be sure to rate yourself	Listening Skills	Openness to others' ideas	Preparation	Contribution	Leadership
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5

Appendices follow with Rubrics for each part of the Assessment.

Appendix: Rubrics

Written Proposal Rubric

			Performance Rating Descriptor				
Criteria	**Sub-criteria**	**weighting (%)**	**Absent**	**Limited ability**	**Meets Expectations**	**Proficient**	**Exceeds Expectations**
Introduction and Problem Statement	Intro: Topic and Scope	35	No topic, no context provided	Attempt to provide scope, but out of context	The topic is generally described	The topic and scope are noted, but are somewhat unclear how they are related.	Topic and Scope articulated with a concise and appropriate thesis statement
	Intro: Critical Evaluation of literature		No literature review.	Some literature review, but out of context.	Main ideas of literature sources discussed, but not evaluated	5 literature sources discussed, but evaluation is not strong	Thorough literature review incorporating critical evaluation of all 5 sources
	Intro: Knowledge Gap		No knowledge gap identified	possible gaps discussed, but not in context	Knolwedge gap stated, but not connected to literature	gap identified - loosely connected to literature	Knowledge gap identified in context of literature
	PS:Research Questions		No research question included	Research Question is unclear. No link to background.	Research question stated and linked to background.	Research question is clear and follows from background.	Very well-articulated research question, linking to established gaps in the literature.
	PS: Significance and Importance		No explanation of importance or significance	Some attempt to consider the signifcance or importance	Importance and significance included, but unclear.	Importance stated. Expected outcomes stated.	Importance and potential outcomes linked
Research Design and Method(s)	Design	15	No research design considered	research design does not connect to question	design is described but lacking in detail	design is connected to research question, but incomplete	Research design clearly explained and linked to research question.
	Methods and Sources		no methods described	Some methods included, but not appropriate for research question	Methods described but lack detail	Methodology clearly described, but missing information about outcomes/analysis	Clear and measurable outcomes noted, in conext of methodology
Practical Considerations	Ethics	10	No research ethics considered	Ethics mentioned	Ethical implications specific to research included	Ethical implications of study and wider effect considered	Ethical implications and potential protocol/approvals fully considered
	Timeline and contingencies		no gantt chart/timeline	timeline metioned, but unrealistic	timeline discussed, some contingency option	gantt chart included	detailed gantt chart (considering potential contingencies) included
Conclusions		10	No summary or implications included	mininally summarised	Summary restates research question and adds one implication	Summary restates research question and includes some benefits of study	summary emphasises benefits from proposal, urges action and is confident in tone
Structure and Style	Writing Style	30	The scientific writing style is inconsistent and informal	The scientific writing style does not flow smoothly because of consistently inappropriate syntax, grammar and formality.	The scientific writing style occasionally flows, but lacks appropriate syntax, grammar or formality.	The scientific writing style has acceptable syntax, grammar and formality, but lacks maturity and proficiency.	The scientific writing flows well and has mature syntax, grammar and formality.
	Organisation		Little or no identifiable paragraph structure.	Poor logical flow with poor paragraph structure. No identifiable topic sentence with poor support. No transition to the next paragraph.	Occasional logical flow, with some clarity or precision but poor paragraph structure, no identifiable topic sentence, support for the topic sentence, or transition to the next paragraph.	Some logical flow, but lacking clarity, precision or sophistication with a paragraph structure that has an identifiable topic sentence, but lacking support for the topic sentence, or transition to the next paragraph	Good logical flow, with clarity, precision and sophistication. Good paragraph structure with an identifiable topic sentence, and support for the topic sentence, and transition to the next paragraph.
	Grammar, syntax, punctuation, and spelling		Repeated errors in sentence structure, proper use of punctuation, spelling	Freqent errors in sentence structure, puntucation, and spelling	Many sentences are well constructed, occasional errors in use of punctuation, few capitalisation errors, spelling of common words is correct	Most sentences are well constructed, few errors in use of punctuation, few errors in sentence parts usage, spelling is mostly correct	All sentences are well constructed with varied structure, all punctuations is used properly, spelling is correct for common and difficult words, parts of sentences are used correctly (nouns, verbs, tenses, etc..)
	References (and in-text citations)		No references are integrated. No referencing style is identifiable	References are poorly integrated. The referencing style is inconsistent or inappropriate.	References are inconsistently integrated. The referencing is inconsistent in style.	References are integrated. The referencing is partially consistent in style.	References are well integrated. The referencing is fully consistent in style, prominence, and placement.

Presentation Rubric:

Criterion	Marks	Performance rating descriptor				
		Absent	**Limited ability**	**Meets Expectations**	**Proficient**	**Exceeds Expections**
Visuals	10	Hard to read; confusing or unclear.	Achieves purpose of delivering information; some parts may not be clear.	Attractively designed and somewhat engaging; very minimal parts may not be clear.	Attractively designed, effective and engaging; reinforced presentation; one slide may be unclear.	Attractively designed, effective and engaging; clearly adds to presentation; Legible graphs, tables, pictures, objects.
Content	10	Difficult to follow; confusing sequence of information.	Articulation could be improved in terms of organisation and clarity.	Directed but could be better articulated for clarity.	Directed, sources relevant, logical articulation of findings.	Detailed - relevant sources; logical and accurate information with no factual errors.
Presentation	10	Difficult to understand Informal language; Reads the text;	Sufficiently comprehensible.	Comprehensible delivery techniques and academic language.	Good delivery techniques and appropriate language suitable for a STEM audience.	Excellent delivery techniques and appropriate language suitable for a STEM audience - presentation compelling.

Individual Reflection Rubric:

Criteria	**Absent (0)**	**Unacceptable (1)**	**Limited Ability (2)**	**Meets Expectations (3)**	**Proficient (4)**	**Exceeds Expectations (5)**
Listening Skills	Never shows up and never contributes.	Doesn't restate what others say when responding; often interrupts; doesn't ask for contributions from others; is readily distracted; often talks with others when another team member speaks.	Rarely restates what others say before responding; often interrupts; rarely solicits others contributions; does not make eye contact; sometimes converses with others when another team member is speaking.	Sometimes restates what others say before responding; sometimes interrupts; sometimes asks for others contributions; sometimes makes eye contact.	Often restates what others say before responding; usually does not interrupt; often solicits others contributions; makes eye contact.	Routinely restates what others say before responding; rarely interrupts; frequently solicits others contributions; sustains eye contact.
Openness to others' ideas	Never shows up and never contributes.	Interrupts others' articulation of their ideas; makes deprecatory comments and/or gestures.	Interrupts others' articulation of their ideas; does not comment on the ideas.	Sometimes listens to others ideas without interrupting; generally, responds to the ideas.	Listens to others ideas without interrupting; responds positively to the ideas even if rejecting.	Listens to other ideas without interrupting; responds positively to ideas even if rejecting; asks questions about the ideas.

Criteria	Absent (0)	Unacceptable (1)	Limited Ability (2)	Meets Expectations (3)	Proficient (4)	Exceeds Expectations (5)
Preparation	Never shows up and never contributes.	Typically, does not complete assignments; typically comes to team sessions without necessary documents and materials.	Hardly/rarely completes assignments; sometimes comes to team sessions with necessary documents and materials.	Sometimes completes assignments; sometimes comes to team sessions with necessary documents and materials.	Typically completes assignments; typically comes to team sessions with necessary documents and materials.	Always completes assignments; always comes to team sessions with necessary documents and materials; does additional research, reading, writing, designing, implementing.
Contribution	Never shows up and never contributes.	Rarely contributes; contributions are often peripheral or irrelevant; frequently misses team sessions.	Sometimes contributes; quality of contribution is inconsistent.	Sometimes contributes; quality of contributions is fair.	Usually contributes; quality of contributions is solid.	Always contributes; quality of contributions is exceptional.
Leadership	Never shows up and never contributes.	May volunteer to lead but does not follow through; misses team sessions, does not address outcomes or direction for sessions or projects, team members become anarchical.	Resists taking on leadership role; in leading allows uneven contributions from team members, is unclear about outcomes or direction, does not make plans for sessions or projects.	Will take lead if group insists; not good at being attentive to each member of the team, sometimes articulates direction for sessions, has some trouble keeping team on schedule.	Is willing to lead; in leading is attentive to each member of the team, articulates general direction for each session and each project, attempts to keep team on schedule.	Seeks opportunities to lead; in leading is attentive to each member of the team, articulates outcomes for each session and each project, keeps team on schedule, foregrounds collaboration and integration of individual efforts.