CRITERION A

Strand A.1 – Explain and Justify the Need:

- Clearly explain the problem to be solved for a specified client/target audience, demonstrating a deep understanding of the context.
- Justify the need for a solution by providing insightful reasons and evidence based on thorough research.
- Identify potential challenges or implications of not addressing the problem, showcasing critical thinking skills.
- Synthesize information effectively to articulate the importance of solving the problem, demonstrating clarity and coherence in communication.
- Demonstrate empathy towards the client/target audience by considering their perspective and needs in the explanation and justification.

Additional Guidance:

- Utilize real-world examples or case studies to strengthen your justification.
- Consider potential stakeholders and their interests when explaining the need for a solution.
- Incorporate relevant statistics or data to support your arguments and enhance credibility.
- Anticipate and address potential counterarguments or objections to strengthen your justification further.

Strand A.2 – Identify and Prioritize the Research:

- Develop a comprehensive research plan outlining primary and secondary research methods, demonstrating independence and strategic thinking.
- Prioritize research sources based on their relevance, credibility, and potential impact on developing a solution.
- Gather data systematically from diverse sources to ensure a well-rounded understanding of the problem and potential solutions.
- Analyze research findings critically, identifying patterns, trends, and gaps to inform the design process effectively.

- Adapt research strategies as needed based on emerging insights or changing project requirements, showcasing flexibility and adaptability.

Additional Guidance:

- Utilize a variety of research methods such as surveys, interviews, observations, and literature reviews to gather comprehensive data.
- Consider the ethical implications of your research methods and ensure compliance with relevant guidelines and regulations.
- Engage with experts or stakeholders to gain valuable insights and perspectives that may not be accessible through traditional research channels.
- Continuously evaluate and refine your research plan to ensure its effectiveness and relevance throughout the design process.

Strand A.3 – Analyze Existing Products:

- Evaluate a diverse range of existing products relevant to the problem, demonstrating thorough research and analysis skills.
- Identify key features, functionalities, and design elements of existing products that inspire potential solutions.
- Critically assess the strengths and weaknesses of each product analyzed, considering their applicability and relevance to the project.
- Synthesize insights from product analysis to generate innovative ideas and approaches for addressing the problem.
- Communicate findings effectively, highlighting key observations and implications for the design process.

Additional Guidance:

- Consider conducting comparative analyses to identify trends or commonalities among existing products.
- Explore unconventional or niche products for unique insights and inspiration.
- Look beyond your immediate industry or field for innovative solutions that may offer fresh perspectives.

- Document your product analysis comprehensively, including visuals, annotations, and annotations to facilitate understanding and communication.

Strand A.4 – Develop a Detailed Design Brief:

- Synthesize research findings into a concise and comprehensive design brief that clearly articulates project objectives, requirements, and constraints.
- Provide detailed background information, including the problem statement, target audience, and project scope, to establish context and relevance.
- Outline specific design criteria and success metrics based on analysis of research findings and client/target audience needs.
- Incorporate insights from product analysis to inform design considerations and priorities.
- Ensure clarity, coherence, and professionalism in the presentation of the design brief, using appropriate language and formatting conventions.

Additional Guidance:

- Use visual aids such as diagrams, charts, or prototypes to enhance the clarity and impact of your design brief.
- Tailor the design brief to the needs and preferences of the intended audience, ensuring accessibility and engagement.
- Seek feedback from peers, mentors, or stakeholders to validate and refine your design brief before finalizing it.
- Continuously update and iterate on the design brief as new insights or requirements emerge throughout the design process.

CRITERION B

Strand B.1 – Develop Design Specifications:

- Develop detailed design specifications that clearly articulate the success criteria for the solution, based on thorough analysis of research findings and client/target audience needs.
- Ensure that design specifications are specific, measurable, achievable, relevant, and time-bound (SMART), providing a clear framework for evaluating potential solutions.
- Incorporate feedback from stakeholders or experts to validate and refine design specifications, ensuring alignment with project objectives and constraints.
- Consider potential challenges or limitations in meeting design specifications and develop contingency plans or alternative approaches as needed.
- Communicate design specifications effectively, using appropriate language and formats to facilitate understanding and interpretation by others.

Additional Guidance:

- Prioritize design specifications based on their importance and impact on the overall success of the solution.
- Use quantitative metrics or benchmarks wherever possible to make design specifications more objective and actionable.
- Include both functional and non-functional requirements in design specifications to ensure comprehensive coverage of solution attributes.
- Continuously review and update design specifications as the project progresses, incorporating new insights or changing requirements.

Strand B.2 – Develop Feasible Design Ideas:

- Generate a range of feasible design ideas that address the identified problem and align with the established design specifications.
- Explore multiple creative approaches and alternatives, considering different perspectives, technologies, and materials to stimulate innovation.
- Use appropriate tools and techniques to visualize and communicate design ideas effectively, such as sketches, prototypes, mock-ups, or digital simulations.
- Evaluate each design idea systematically, considering its strengths, weaknesses, and potential impact on meeting design specifications.
- Solicit feedback from peers, mentors, or stakeholders to validate and refine design ideas, fostering collaboration and iteration.

Additional Guidance:

- Embrace a divergent thinking mindset to explore unconventional or out-of-the-box solutions.
- Prioritize simplicity, practicality, and user-friendliness in design ideas to enhance feasibility and usability.
- Balance creativity with feasibility by considering technical constraints, resource availability, and project timelines.
- Document the rationale behind each design idea, including its intended purpose, unique features, and potential benefits.

Strand B.3 – Present and Justify Chosen Design:

- Present the chosen design clearly and persuasively, highlighting its alignment with design specifications and its potential to address the identified problem effectively.
- Provide a comprehensive rationale for selecting the chosen design, drawing on evidence from research findings, design specifications, and evaluation criteria.
- Anticipate and address potential concerns or objections raised by stakeholders, demonstrating confidence and conviction in the chosen design.
- Use appropriate visual aids or prototypes to enhance the presentation and communication of the chosen design, making it more tangible and compelling.
- Engage the audience actively during the presentation, encouraging questions, feedback, and discussion to deepen understanding and buy-in.

Additional Guidance:

- Tailor the presentation style and content to the preferences and expectations of the audience, ensuring relevance and impact.
- Highlight the unique features or advantages of the chosen design compared to alternative options, emphasizing its value proposition.
- Practice and refine the presentation delivery to enhance clarity, coherence, and persuasiveness.
- Incorporate storytelling techniques to create a compelling narrative around the chosen design, connecting it to the broader context and purpose of the project.

Strand B.4 – Develop Accurate Planning Drawings/Diagrams:

- Develop accurate and detailed planning drawings or diagrams that translate the chosen design into actionable instructions for implementation.
- Include all necessary technical details, dimensions, annotations, and specifications to guide the construction or creation of the solution effectively.
- Ensure consistency and coherence in the presentation of planning drawings or diagrams, using appropriate conventions, symbols, and notation systems.
- Anticipate potential challenges or ambiguities in the implementation process and address them proactively in the planning drawings or diagrams.
- Validate and refine planning drawings or diagrams through feedback from peers, mentors, or experts to improve clarity, accuracy, and usability.

Additional Guidance:

- Use industry-standard tools or software for creating planning drawings or diagrams, ensuring compatibility and professional presentation.
- Break down complex tasks or components into manageable steps or sub-assemblies to facilitate understanding and execution.
- Collaborate closely with relevant stakeholders or specialists to incorporate their expertise and insights into the planning process.
- Continuously update and iterate on planning drawings or diagrams as the project evolves, accommodating changes or refinements to the chosen design

CRITERION C

Strand C.1 – Construct a Logical Plan:

- Develop a comprehensive and logically structured plan that outlines the efficient use of time, resources, and processes required to create the solution.
- Break down the implementation process into clear and sequential steps or tasks, ensuring that each contributes to the overall objectives and success criteria.
- Consider factors such as project scope, timeline, budget, and available resources when developing the plan, balancing efficiency with quality and sustainability.

- Incorporate contingency measures or alternative pathways into the plan to address potential risks, uncertainties, or changes in project requirements.
- Communicate the plan effectively to peers or collaborators, using appropriate formats, tools, and terminology to facilitate understanding and execution.

Additional Guidance:

- Utilize project management methodologies or tools (e.g., Gantt charts, Kanban boards, project scheduling software) to organize and visualize the implementation plan.
- Allocate responsibilities and roles clearly within the plan, ensuring accountability and coordination among team members or stakeholders.
- Regularly review and update the plan as needed throughout the implementation phase, adapting to emerging challenges, insights, or feedback.
- Foster a collaborative and inclusive approach to plan development, soliciting input and contributions from diverse perspectives and expertise areas.

Strand C.2 – Demonstrate Excellent Technical Skills:

- Demonstrate mastery of relevant technical skills and techniques required to create the solution, applying them effectively and accurately in practice.
- Execute tasks or processes with precision, consistency, and attention to detail, minimizing errors, defects, or rework during implementation.
- Utilize appropriate tools, equipment, materials, and technologies proficiently, optimizing their capabilities and performance to achieve desired outcomes.
- Adapt and problem-solve effectively in response to unexpected challenges, obstacles, or changes encountered during the implementation process.
- Strive for continuous improvement and innovation in technical execution, seeking out opportunities to enhance skills, knowledge, and craftsmanship.

Additional Guidance:

- Invest time in deliberate practice and skill development, engaging in hands-on activities, simulations, or tutorials to refine technical proficiency.

- Seek mentorship, guidance, or feedback from experienced practitioners or subject matter experts to accelerate learning and skill acquisition.
- Stay abreast of emerging trends, best practices, and technological advancements in relevant fields, incorporating them into your technical repertoire.
- Document and reflect on your technical experiences and achievements, identifying areas for growth and setting goals for skill enhancement.

Strand C.3 – Follow the Plan and Justify Changes:

- Adhere to the established implementation plan rigorously, executing tasks or activities in accordance with prescribed timelines, sequences, and standards.
- Monitor progress closely throughout the implementation process, tracking milestones, benchmarks, and performance metrics to ensure alignment with project goals.
- Document any deviations, modifications, or adjustments made to the original plan, providing clear rationale and justification for each change.
- Respond proactively to feedback, issues, or unforeseen circumstances by adapting the plan dynamically and transparently to optimize outcomes.
- Engage stakeholders or collaborators in decision-making processes related to plan adjustments, fostering transparency, trust, and accountability.

Additional Guidance:

- Maintain open lines of communication with project team members, stakeholders, and sponsors, keeping them informed of progress, challenges, and decisions.
- Prioritize flexibility and resilience in plan execution, embracing change as an opportunity for learning, growth, and innovation.
- Establish mechanisms for reviewing and approving plan changes systematically, ensuring consistency, fairness, and alignment with project objectives.
- Continuously evaluate the effectiveness and efficiency of plan implementation, seeking feedback and insights to inform ongoing improvements and refinements

CRITERION D

Strand D.1 – Design Detailed and Relevant Testing Methods:

- Develop a comprehensive and well-structured plan for testing the solution, incorporating a variety of methods and techniques to generate relevant and actionable data.
- Design testing protocols and procedures that align closely with the defined success criteria and design specifications, ensuring comprehensive coverage of all critical aspects.
- Select appropriate testing tools, equipment, and resources to facilitate the execution of testing activities, considering factors such as accuracy, reliability, and scalability.
- Incorporate both quantitative and qualitative measures into the testing framework, enabling a comprehensive assessment of solution performance and user experience.
- Anticipate potential challenges, biases, or limitations in the testing process and implement strategies to mitigate their impact on the validity and reliability of results.

Additional Guidance:

- Employ a combination of controlled laboratory tests, field trials, user surveys, and expert evaluations to capture diverse perspectives and insights on solution effectiveness.
- Validate the reliability and validity of testing methods through pilot testing or validation studies, ensuring their suitability for the intended purpose and context.
- Leverage technology and digital tools to streamline data collection, analysis, and visualization, enhancing the efficiency and accuracy of the testing process.
- Engage stakeholders, end-users, and domain experts in the design and review of testing protocols, fostering collaboration and buy-in for the evaluation process.

Strand D.2 – Critically Evaluate Solution Success:

- Conduct a thorough and systematic evaluation of the solution's performance against the defined design specifications and success criteria, utilizing both quantitative and qualitative data.
- Analyze testing results and findings critically, identifying patterns, trends, strengths, weaknesses, and areas for improvement with rigor and objectivity.

- Evaluate the solution's effectiveness, efficiency, usability, durability, safety, and sustainability across relevant dimensions and metrics, considering diverse stakeholder perspectives.
- Synthesize evaluation outcomes into clear and actionable insights, drawing connections between observed outcomes, design decisions, and project objectives.
- Communicate evaluation findings persuasively and compellingly, using evidence-based arguments, visualizations, and narratives to convey key insights and recommendations.

Additional Guidance:

- Adopt a multidisciplinary and holistic approach to solution evaluation, integrating inputs from technical, human-centered, ethical, and environmental perspectives.
- Apply established evaluation frameworks, standards, or benchmarks to benchmark solution performance against industry best practices and quality standards.
- Engage in reflexivity and self-assessment throughout the evaluation process, challenging assumptions, biases, and preconceptions to ensure objectivity and rigor.
- Solicit feedback and validation from diverse stakeholders, including end-users, clients, experts, and peers, to validate evaluation findings and enrich insights.

Strand D.3 – Improve the Solution and Assess Impact:

- Identify opportunities for enhancement and refinement based on the evaluation findings, proposing targeted improvements, optimizations, or iterations to address identified shortcomings or limitations.
- Develop a clear and actionable improvement plan, outlining specific strategies, interventions, or modifications to enhance solution performance, usability, and value proposition.
- Consider the broader implications and consequences of solution improvements, balancing short-term gains with long-term sustainability, scalability, and ethical considerations.
- Implement improvement initiatives systematically and transparently, documenting changes, iterations, and outcomes to track progress and facilitate continuous learning and adaptation.

- Assess the impact of the solution on the target audience, stakeholders, and broader ecosystem, examining changes in behaviors, attitudes, practices, or outcomes attributable to solution implementation.

Additional Guidance:

- Prioritize improvements that align with user needs, preferences, and feedback, ensuring that enhancements are user-centric, relevant, and meaningful.
- Foster a culture of innovation and experimentation, encouraging exploration of novel ideas, technologies, and approaches to drive continuous improvement and evolution.
- Monitor and evaluate the effectiveness and sustainability of improvement initiatives over time, iterating and refining strategies based on ongoing feedback and performance data.
- Document and communicate the social, economic, environmental, and cultural impact of the solution, highlighting both positive contributions and areas for further development