Project Title — •]Pv v D} oo]vP }(^µ•š]v o D]Œ}PŒ] ^Ç•š u (}Œ Z u}š

Project Summary: The project is focused on designing a sustainable and efficient power generation solution for the remote communities in Canada. The need for this design arises from the fact that these areas primarily rely on diesel, a non-renewable fossil fuel, for their electricity production. The design further emphasizes the critical need for renewable energy alternatives in the regions, particularly in British Columbia, Nunavut, and Northwest Territories, aiming to reduce the high electricity costs, offer more power accessibility and significantly diminish the emissions linked to diesel generation.

The design will incorporate a DC microgrid model that utilizes either Project Clients: dZ}u • t}} U]Œ š}Œ }(

W}š vŸ o dZ Œ‰WšvŸ o … ðÀ ƒ Ð$ ÞÌÙ First Term (SEE 410W)

1. Project Proposal: Outline the project, clearly defining the problem of energy supply in remote communities in Canada, and identify the goals of developing a sustainable DC Microgrid System.
2. Project Management Plan: Set timelines, allocate responsibilities, develop a budget, and draft a communication plan to ensure a smooth, efficient execution of tasks.
3. }v ‰šµ o •]PvW 'v Œš v Àoµš uµošŒ]‰o •]Pv•}(š energy efficiency, cost-effectiveness, and sustainability, to select the most suitable model for implementation
4. Detail Design: Develop the chosen design in detail, determining specific equipment, materials, and technologies needed.

Second Term (SEE 411):

1. Revised Detail Design: Review the detailed design from SEE 410W, making necessary adjustments or improvements based on updated data or new requirements.
2. User or Technical Manual: Create a clear, concise manual for the end users on how to operate and maintain the system safely and effectively.
3. The Digital Prototype: Build a digital twin of the DC Microgrid System, ensuring it meets the design specifications and objectives.
4. Project Economics and Sustainability Report: Conduct a cost-benefit analysis of the design, assess the potential environmental and economic benefits of the system, ensuring it aligns with sustainable energy practices. Comparing the different technologies for baseload and energy storage and an assessment of carbon footprint.
5. Final presentation