UQ BE(Hons)/ME Industry Placement Project Scope (Electrical)

Commencement:	Semester 1, Year		
Project Start Date:	**xx/yy/year**	Project End Date:	**xx/yy/year**
Company Name:	PowerTech	Address:	Street address

ESSENTIAL INFORMATION			
Project Title:	**Review of power factor correction techniques, including passive and active methods.**		
Is there a $17,000 scholarship available?	Student will be employed directly by PowerTech		
Student on-site Supervising Engineer name:		Student on-site Supervising Engineer phone:	
Student on-site Supervising Engineer title:	Engineering Manager	Student on-site Supervising Engineer email:	
Preferred engineering discipline:	Electrical	Location of Project placement:	Brisbane
Is the project subject to IP/confidentiality constraints? e.g. is an embargo required on the Student's final report to limit access by a third party?	No	If yes, what are your requirements e.g. NDA and embargo for 6 months	Nil
If an internal document review is required prior to student submission, please outline how this will be managed	No internal review required		

ORGANISATIONAL BACKGROUND (MAX. 100 WORDS)

PowerTech Solutions is a leading provider of electrical power systems and solutions for industrial and commercial sectors. We specialize in designing and manufacturing high-quality electrical equipment, including transformers, switchgear, and control systems. With a strong focus on innovation and sustainability, our products are known for their reliability, energy efficiency, and compliance with industry standards. We have a team of experienced engineers and technicians who are committed to delivering cutting-edge solutions that meet our clients' power requirements. PowerTech Solutions operates globally and has a strong presence in the energy sector.

PROJECT MOTIVATION/BUSINESS DRIVER (MAX. 150 WORDS)

PowerTech Solutions is constantly striving to improve the efficiency and performance of our electrical power systems. We believe that implementing advanced power factor correction techniques can significantly enhance the energy efficiency of our products. By optimizing the power factor, we can reduce reactive power losses and improve the overall power quality. This project aims to investigate different power factor correction methods and their impact on the performance and energy efficiency of our electrical power systems. By implementing effective power factor correction techniques, we can offer more energy-efficient solutions to our clients, reduce energy costs, and minimize environmental impact.

PROJECT AIM (MAX. 100 WORDS)
The aim of this project is to explore and evaluate various power factor correction methods to improve the energy efficiency and performance of PowerTech Solutions' electrical power systems.
PROJECT SCOPE AND POTENTIAL METHODOLOGY (MAX. 200 WORDS)
Conduct an in-depth literature review on power factor correction techniques, including passive and active methods. Analyze the existing electrical power systems used by PowerTech Solutions and identify potential areas for power factor improvement. Design and simulate different power factor correction circuits using appropriate simulation software. Evaluate the performance and energy efficiency of these circuits through computer-based simulations and laboratory experiments. Based on the findings, propose recommendations for the implementation of effective power factor correction techniques in PowerTech Solutions' electrical power systems. Document the methodology, simulation results, experimental data, and provide guidelines for future implementation.
REQUIRED DELIVERABLES (MAX. 100 WORDS)
Literature review on power factor correction techniques, simulation models and results, experimental test reports, analysis of power factor correction impacts on energy efficiency and system performance, recommendations for power factor correction implementation, project documentation including methodology and findings.
KEY STAKEHOLDERS (MAX. 100 WORDS)
PowerTech Solutions (Project Sponsor), Project Supervisor/Mentor, Electrical Engineering Department, PowerTech Solutions' R&D Team, PowerTech Solutions' Design Team.
OTHER COMMENTS INCLUDING HEALTH CONSIDERATIONS (E.G. NOT SUITED TO ASTHMA SUFFERS)