# ABSTRACT

This project encapsulates one of many areas that make up the UTP Formula SAE vehicle for entry into its second Formula SAE competition. The aim of this project is to design and analysis of a drive train system for a small, lightweight and single cylinder race For UTP Formula SAE (UTP-FSAE), including brakes and wheels which would optimize performance and reliability in the competition. To begin the project, many different drive train systems and components were researched to gain the knowledge and understanding required to select an appropriate system . Investigation into the drive train system in 2006 vehicle was also conducted along with the review of the competition rules and regulations. The development of the vehicle is a team project and therefore required good communication and cooperation among team members to design a successfully competitive race car. The most viable , best drive train systems were analyzed for comparison . A differential was considered to the optimum option to implement into the car for future years when resources are available .The solid rear axle design chosen for this year's car was critically analyzed for stress and fatigue. The remaining drive train components including sprockets , bearing , CV assembly and wheel hubs were all sourced and designed to complete the assembly

## ACKNOWLEDGEMENTS

First of all the author likes to express most gratitude to Allah, the Almighty for giving me time to undergo and complete my Final Year Project.

Utmost appreciation to the University Teknologi PETRONAS management for giving me the opportunity to involve and complete this thesis. I also likes to express my deepest gratitude to AP Dr Setyamartana Parman who plays an important role of supervising and guiding through this report. Without his advice and motivation, it would be hard and difficult for the author to complete the project within the time professionally. Deepest appreciation is also given to Program Head of Mechanical Engineering, Dr Ahmad Majdi bin Abdul Rani , and all Mechanical Engineering Department lecturers for their support of this endeavor.

Thank also to all fellow UTP-FSAE team members which helping the author so much in completing this project. Without their help, this project may not be finished as it is. Their inspiration had caution author to effectively carry out the project.

Appreciation and gratitude is given to all individuals who have helped in making this paper and projects possible. Last but not least, also thanks to my family who made all the contributions and sacrifices during carrying out this project, they deserved my heartfelt thanks too.

A million thanks to each and every one of you.

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