Sustainable Design
And Enterprise

Mechanical Engineering 8936
Engineering Project Proposals For Winter 2009

Team Members (print name/student #)**:**

1. Keith Wakeham
2. Huai-Wei Tang
3. Ron Ryan
4. Lee Downer

NB: Authorization is required for anything other than 3-4 students.

Project Supervisor:

I have read this project proposal and agree to act as a technical project supervisor for this student design team during the Winter 2009 academic semester.

_____ _____

(Print Name) **Signature**

Project Title:

Hydrogen Combustion Engine

Project Description:

Determine the viability of running an existing gasoline combustion engine on hydrogen through the development of a computer simulation model.

Project Methodology (i.e. how will you solve this problem)**:**

Find and develop a gasoline combustion model into an accurate mathematical computer model in simulink. Develop this model to allow the simulation of other fuels, specifically hydrogen. The model is then adapted to a production engine and developed into a transient combustion CFD model to determine viability.

Project Requirements/Specifications (i.e. what is a successful solution) **:**

A successful solution would be having similar power output and efficiency running on hydrogen to that of the engine running on gasoline in the computer model.

Project Deliverables (i.e. reports, presentations, virtual prototypes, functioning prototype, etc.) **:**

-Simulink model that is based on engine geometry and fuel that gives power output and torque curves for an engine along with efficiency.

-CFD model based on a chosen production engine

-Document proposing the required changes to convert a production engine on hydrogen

Please attach a timeline for the various stages/tasks of the project in Gantt Chart format including major project milestones.

Signatures:

The above statements accurately reflect the nature and scope of the project we intend to pursue in for our Term 8 design course.

1._____ 2._____

3._____ 4._____

Date: _____