Final Year Projects at SIT-UofG

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University of Glasgow Singapore
• In partnership with Singapore Institute of Technology (SIT)
• Delivers undergraduate programmes in:
  • Mechatronics and Mechanical Design Engineering (2011)
  • Aerospace Systems and Aeronautical Engineering (2012)
  • Computing Science (2013)
• Deliver in-country undergraduate honours degree programmes to the same high standard as those of University of Glasgow in the UK
• Develop research and development collaboration with industry and other organisations in Singapore
Integrating Research into Teaching: Final Year Projects using Finite Element Analysis

Single Cylinder Diesel Engine

Articulated Bus

Wind Turbine Blade
FEA: Crankshaft of a Single Cylinder Diesel Engine
CFD Analysis: Inlet System and Combustion Chamber of a Single Cylinder Engine
CFD Analysis: Combustion Chamber

Spiral Inlet Manifold

Inlet Valve

Outlet

Deep Troidal Bowl

Combustion Chamber

Random Air Motion
Finite Element Analysis of an Articulated Bus
Finite Element Analysis of an Articulated Bus
Fluid-Structure Interaction of a 100m Wind Turbine Blade
CFD Analysis of WTB

1. Creating Fluid Medium
   - Enclosure
   - Blade

2. Mesh of boundary Layer

3. Defining Boundary Conditions
   - Outlet
     - Pressure = Atmosphere
   - INLET
     - Velocity = 11.3m/s

4. Pressure Distribution (Results)
One-Way FSI

1. FEA Geometry
2. Mesh Model
3. Boundary Conditions
4. Imported Pressure
5. Structural Results
Thank You