Western Engineering

MME 4499 – Mechanical Engineering Capstone Project Proposal Document

Name of Sponsor	Fluidesign

Title of Project

Carbon Fibre Sweep Rigger Design

Brief Project Description

Sweep Riggers

- Using FEA, propose a layup on the carbon rigger to achieve stiffness and weight comparable t o the aluminum rigger
- Based on proposed layup Fluidesign can make prototypes for physical testing
- Students must design a method to test the vertical deflection of the rigger (apply an upwards force on the end of the rigger while the rigger is fixed by the holes with bol ts)
- Based on stiffness and weight measurements students must recommend best carbon layup f or part.

Constraints

- Do not make any design changes to part as Fluidesign is not planning on making new mold for carbon sweep riggers

Bonus:

- Using FEA propose a new design that increases the stiffness and reduces weight of the part. (If large improvements are seen Fluidesign may make new mold in future)

Desired Project Deliverables

Lay-up schedule for sweep rigger along with associated CAD drawings and physical prototype.