Project I Description

Project Name: **Design and construction of an open-end wind tunnel**

Team Size: **4 MEE Students**

Project Overview

The goal of this project is to design and build a low speed wind tunnel with a testing section of 30cm x 30cm x 40cm with a wind speed of about 45 km/hr in the test section. The tunnel should be designed utilizing CFD simulations to prevent flow separation and minimize vorticity magnitudes upstream of the test section. In the test section, and as a part of the verification process, a cylinder will be installed in the testing chamber. The cylinder will be rotated using one or several servo motors. Pressure sensor(s) will be added to the experiment with the ability to move them around the cylinder to allow for drag testing. The whole experiment control and data acquisition must be automated using LabVIEW. The wind tunnel will be made from plywood, plexiglass, fiberglass and metal.

Project Areas

- Fluids/ Mechatronics (4 MEE Students)

Project Deliverables

Project deliverables consist of the following:

- Designing the wind tunnel using CFD
- Construction of the wind tunnel including a complete experimental set-up

Project Constraints

- NA

Advisors: Drs. Michel Khoury and Barbar Akle

Students:

Team 1	Elias Aouad Elias Assaker Mario Kallab Michel Saab
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