Project I Description

Project Name: **Design and Construction of a Morphing Wing Micro Vertical-Axis Wind Turbine for Optimum Performance**

Team Size: **4 MEE Students**

Project Overview	
Wind is an ideal alternative to fossil fuels as a renewable, non-polluting and local resource. Wind power produced by wind turbines today is more than ever before and is increasing every year. In this project, the surface of the wind turbine blades changes its geometry during rotation. Numerical work will be carried out to find out the optimum path and geometry change for maximum performing micro vertical-axis wind turbine (VAWT). This will be achieved through the use of ANSYS commercial software. The project involves selection of material, mechanism design, instrumentation, construction, and testing.	
Project Areas and Majors	
Fluids (2 MEE Student)	Kinematics/Instrumentation (2 MEE Student)
Project Deliverables	
Project deliverables consist of the following: o Investigate change in the camber of the wing as a function of the path o Investigate change in the angle of attack as a function of the path o Investigate change in the twist (3D) as a function of the path o Design and Build a working prototype that fits in LAU water channel	