

## **Design of yaw system for small wind turbine**

In this project you will work beside other members of the student competition team for small wind turbine, members and learn basics of wind turbine design, wind energy and work on the design and implementation of a yaw system for the small wind turbine. The main goal of this project is to develop the current design to include a wind direction measurement sensor such as a wind vane and steer the turbine to the proper direction. The design includes the 3D modelling in CAD software with the Design for Manufacturing (DFM) considerations and the computer simple simulations to validate the design. This project will later lead to passive and active yaw controller design project.

Main tasks/requirements:

- CAD design and implementing the yaw mechanism components to the current model of turbine using Siemens NX together with Simcenter3D, or equivalent
- Learn and apply DFM technics on your design and validate the design by simple simulations
- Preparation of the report of your work including 2D drawings, exploded views, and BoM
- Contribution to the final report of the team for the competition
- Contribution in preparation of the wind turbine
- Participation in weekly team meetings (online for remote students)
- Teamwork and communication with other team members
- Intermediate English knowledge or above

For more information about our team, visit the page:

<https://www.hs-emden-leer.de/studierende/fachbereiche/technik/projekte/wind-challenge>

Contact person for application or more information:

Mohsen Forghani

mohsen.forghani(at)hs-emden-leer.de