Wind Challenge
Student competition team
University of appled science
Emden-Leer

Project description Winter semester 2021

Mechanical design of a blade and rotor of a small wind turbine

In this project you will work beside other members of the student competition team for small wind turbine, and learn basics of wind turbine design, wind energy and work together to design and model a wind turbine blade and rotor with the Design for Manufacturing (DFM) technic. The main goal of this project is to create a 3D model of a blade with known shape functions and adapt the design with manufacturing of sustainable material. Then the corresponding parts to connect the blade to the rotor, blade winglet, measurement sensors, and turbine shaft should be designed. The detailed 2D drawings, exploded views and the Bill of Material (BoM) tables of this project will be used by the manufacturer to produce the parts.

Main tasks/requirements:

- CAD design of free-form surface using Siemens NX, or Autodesk Inventor, or equivalent
- Learn and apply DFM technics on your design
- 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:
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