MILESTONE 4 (TEAM) – COVER PAGE

Team Number: Mon-11

Please list full names and MacID's of all *present* Team Members

Full Name:	**MacID:**
Mohammad Bilal	Bilalm14
Shreya Gopalakrishnan	gopals4
Iris Lin	lini8

Any student that is ***not*** present for Design Studio will not be given credit for completion of the worksheet and may be subject to a 10% deduction to their P-1 grade.

MILESTONE 4 (STAGE 2) – REFINE THICKNESS REQUIREMENT

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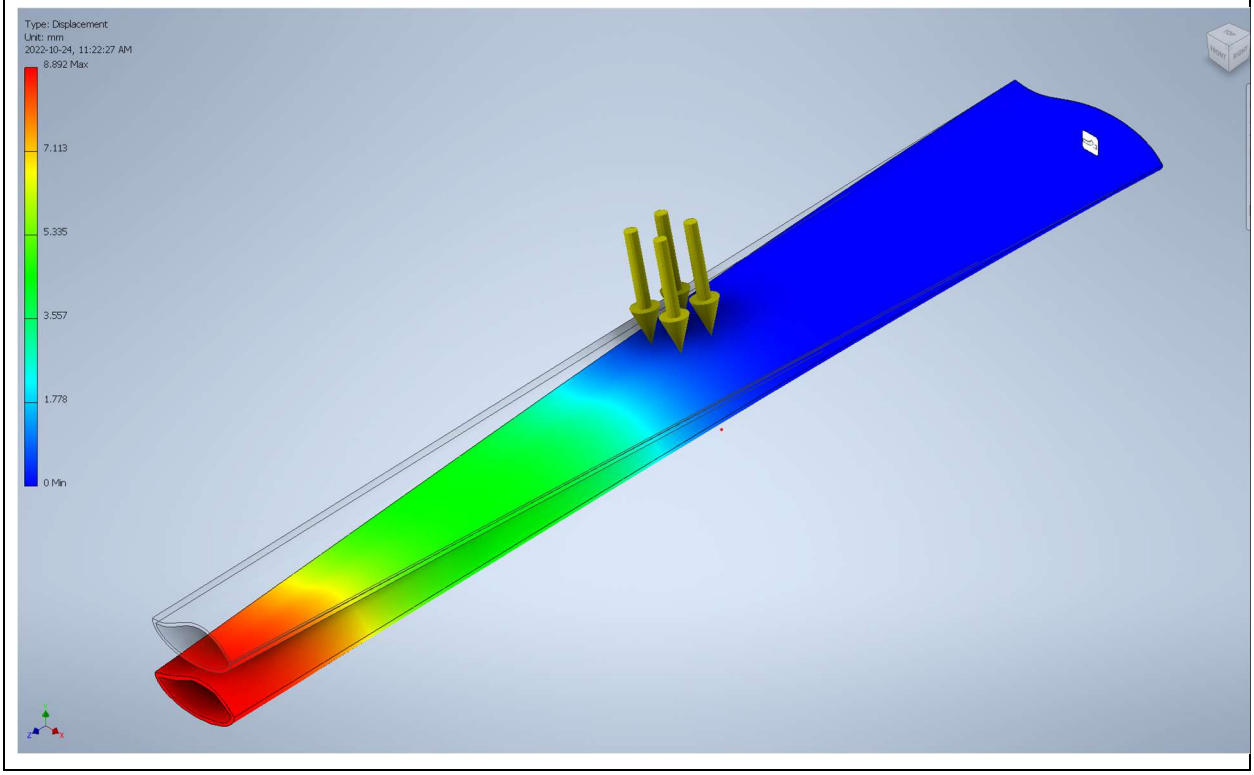
1. Refine Thickness Requirement to Satisfy Deflection Constraint

Refined turbine blade thickness *t* (mm):	27

Insert screen captures of the refined deflection simulation and provide evidence that the deflection satisfies the design constraint.

8.892 mm is the max deflection.



MILESTONE 4 (STAGE 3) – PEER INTERVIEW

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1. Peer Interview Notes

Discuss what you have learned from another group.

Group 12 was commissioned to build a clean wind turbine for the government of Sweden. The country wishes to gravitate towards clean energy to fight climate change. Group 12's primary objectives were to minimize CO2 emissions and energy usage & production. Energy usage during production tends to be the main producer of greenhouse gases so limiting how much energy goes into production will reduce the amount of GHGs. The material they chose was *medium carbon steel* as it was the most practical of their top three options (the others being bamboo and wood). Bamboo is the most sustainable but steel is more sensible given their objectives. Medium carbon steel is weather resistant and so requires less maintenance and care (which is important considering there will be *many* wind turbines per wind farm). It's often used in construction because it's also recyclable (so it can be reused in other ways), lightweight, and low-cost. And although wood performed best for mpi, that only considered the environmental aspects of the material and neglected actual functionality, at which the medium carbon steel won. They decided on a final thickness of 25 mm which resulted in a maximum deflection of 9.5 mm when they ran their simulation. Our group's objectives differed in that minimal size and cost did matter. For them it did not because they were assigned wind farms and government funding. Our top priority was to make the wind turbines functional and affordable for the average homeowner. However, as both our materials were in the metal family, we had similar benefits. Low alloy steel is also weather resistant, lightweight, and low-cost.

Note: Please be mindful that you are expected to write a short reflection on what you have learned from the other team in your final deliverable.