6th Project Assignment (Group 2) CAD and Fabrication Report



CAD Report:

The submarine was drafted using Fusion 360. The design was optimized for 3D printing by minimizing supports needed and using a wall thickness that corresponds to 4 line widths of a 0.4mm nozzle. Depending on the outcome of the first print, we may have to narrow down the nose cone to be able to print without most supports. A removable bracket was drafted with the purpose of hanging weights to study stability in relation to added weights. The bracket clips onto the submarine and accepts a ¹/₈ inch rod or bolt to hang weights from. The submarine is hollow and features an opening at the top for filling with water.

Fabrication Report:

The submarine STL file will be sliced in a slicer software, Cura, and then 3D printed with a Creality Ender 3. Polyactic acid (PLA) will be used as the filament. 4 outer perimeters will be used to ensure adequate strength of the submarine.

A clear plastic container will be sourced and used to hold the water and the submarine. Measuring cups will be used to fill the submarine with a specific volume of water. Lead fishing weights can be used to hang on the attached weight bar of the submarine.



