

Deliverable A:

Preliminary Sketch

For deliverable A, submit a preliminary sketch of your final design.

Deliverable B:

Please submit a 2-page report (Word or pdf is ok), and the coordinate data (text) file. The report should go over the design, analysis, and optimization methodology; and also present the relevant performance data and specifications for the airfoil. It should also include some relevant plots (such as pressure distribution or CL/CD curves).

Deliverable C:

A 2 page report (Microsoft Word or .pdf file), with the relevant design and analysis information, including the CosmosWorks FEA analysis. Please report on mass, maximum deflection, stress levels, material properties used, mesh and boundary conditions, and natural frequency.

Please include all relevant Solidworks CAD files (.sldprt's and .sldasm's).

Only 1 submission per team is required.

Deliverable D:

Deliverable D includes the final CAD and FEA of your wing and supports that you plan on building. It also includes the supporting airfoil analysis, if you changed anything from Deliverable B. All required specifications from Deliverable B and C are due for D.

Deliverable E:

Final Assembly, Manufacturing Report

Summary

(1) Final Solidworks parts and assembly documents. These should be "as-built". (2) A 1-pg memo describing the manufacturing and assembly process. Comment on time, effort, and any difficulties encountered during manufacturing.

Deliverable F:

Testing, Validation and Cost Estimate

Summary

Students need to upload two documents here (each 1 page). (1) Completed Testing and Verification Protocol. (2) Completed Cost Estimation report.

Deliverable G:

CDR Package

Summary

Two documents due: (1) CDR Package (Powerpoint slides package, annotated) - max 9 slides per team. (2) 1 page reflective memo per person: "What am I taking away from this class?"

Final Deliverable:

Final Airfoil

Summary

Submit your final airfoil coordinate file for verification BEFORE working on the CNC foam cutter.