**Before meeting, outline for what to discuss on 2/8/2021**

Points of discussion:

- Finalized Project Proposal

- Target/Ideal timeline

- ME files/updates

- AUV Physics

Moving forward:

- Generate AHP for which sensor is best

- Finalize constraints with ME team

- they have hydrodynamic concerns

- Select and order sensor

**Group Meeting Notes 2/8/2021**

Patrick Hawn is ME at Metafab Inc where he is a project manager, and he was last year’s capstone team for CAD work for UAV. ME team is developing 2 nose cones one to replace leaky one and one for echosounder.

One nose cone with multiple caps. One for echo sounder and one for passive transducer array.

Wiring: both teams need to work together on how to fit echo sounder in nose cone with the

Hydrophone array attachment on exterior of UAV. The ME team is developing a mount for hydrophone on the outside of the nose cone.

The existing altimeter is epoxied facing down. The exact make and model is on Slack. Removal of altimeter may destroy nose cone.

EE team

Nolan may have found a paper about how AUV’s movement works.

<https://journals.sagepub.com/doi/full/10.5772/10536>

Think about it in geometric terms first. Just in curvature and don’t look too much into currents etc.

There are acoustically transparent materials (epoxy or elastomer) that can make up the tip of the nose cone. The current ME concern is that the material might be too thick which would limit how narrow they can make the nose. Since we want it to be more hydrodynamic.

Nobody on ME team with CFD (computational fluid dynamics)

Ping echo sounder is exterior and the big bulky cord will take up a large amount of nosecone.

Action items for the next meeting. ME and EE meet every week. Maybe every other week for Drew.

Want to know:

1. Turning radius at full speed.
2. Max velocity of 3 m/s is different from top speed of 12 knots (6.17 m/s).
3. Stopping distance when at full speed.