**Spring 2021 Semester Senior Design Plan**

1. Generate and send baseline Q = mCpdT performance map for varying mass flow rates and power levels
   1. January 20, 2020
2. Form different simple geometries using equations for heat exchanger if the simple heat exchanger doesn’t perform well enough and plot their heat transfer properties (playing with surface area in the convection equation) \*Assumes constant heat flux\*
   1. February 10, 2020
3. After power depositions are narrowed down to 2 or 3, analyze the geometry needed to achieve the performance, namely surface area, and mass flow rate
   1. February 30,2020
4. Obtain quotes to manufacture heat exchanger after designs are accepted
   1. March 15, 2020
5. Send to MSFC to be tested
   1. March 30, 2020
6. Validate test results
   1. Month of April, 2020
7. Additional field research work

Additional Tasks:

* If simple heat exchangers don’t achieve desired performance, develop more complicated and unique shapes to maximize surface area
* Use ANSYS after designs are selected (simple or complex) to validate predicted performance
* Look into induction coil design if complex heat exchangers are chosen

