

September 19<sup>th</sup>, 2017

To Whom This May Concern:

Each semester, Purdue University School Aeronautics and Astronautics offers an Aircraft Design course, AAE 451, aimed to expose students to aircraft design principles, emerging aerospace technologies, advanced manufacturing operations, and variant aerospace platforms relevant to the aerospace industry today. During the fall semester especially, AAE 451 is oriented to explore small unmanned aircraft systems (SUAS) design and select low-altitude operations. Each student is given the opportunity to explore and grow in fundamental aerospace disciplines (e.g. aerodynamics, dynamics and controls, propulsion, structures) and project management to produce efficient aerospace products on-demand.

Ujjwal was a student from the fall 2016 semester of AAE 451 and he exemplified high aptitude for design and project management during team and individual assessments throughout the course. His team consisted of the most diverse students in the class. Despite communication challenges, his team was able to produce the most innovative aircraft of the course. Ujjwal and his teammates produced an aircraft consisting of a foamboard fuselage, fiberglass reinforced Styrofoam wings, commercial-of-the-shelf (COTS) propulsion system [selected to design specifications], and 3-D printed mechanisms and parts. Ujjwal and his teammates address the Request for Proposal (RFP) for the course to produce an aircraft with a deployable wing capable of tube-launch operations. He and his teammates received satisfactory in majority of the deliverable categories and was the only team of six teams total to achieve flight on the first day of testing. Ujjwal displayed great poise and leadership to propel his team to achieve the highest marks of all teams participating in the RFP despite aircraft redesign due to destruction during pre-flight.

Ujjwal, by the end of the course, became more proficient in aircraft design and project management and is well-equipped to make a difference for any aerospace related organization in the future.

Best Regards,

*Brandon Sells*

Brandon Sells  
Teaching Assistant, AAE 451 – Fall 2016  
School of Aeronautics and Astronautics, Purdue University