Customer Needs

## Customer Needs:

The primary customer whose needs will be considered throughout the duration of this project is the team sponsor, Dr. Shayne McConomy. To adequately meet Dr. McConomy's needs, the focus of this project will be to design in accordance with SAE competition rules and requirements. Some requirements of the SAE competition rules will provide constraints in the fashion the plane will be presented in competition, specifically with design specifications such as weight, length, and wingspan. Other design constraints will limit the electronics that can be used to power the aircraftthus affecting the maximum takeoff distance and payload. A more detailed description of the rules is provided in appendix C with the statement provided by SAE and the team’s interpretation of that need can also be found in this section.

With SAE competition participation and regulations forming a portion of the needs of the customer, it is important to note that Dr. McConomy also requires the project to be primarily manufactured using light weight PLA material, with other materials only to be used where necessary.

An additional customer that will be considered in the design and build of the RC aircraft will be the SAE pilot. Considerations will be given to the specific design to provide features which will allow the pilot added maneuverability of the flight surfaces – elevator, rudder, and ailerons controls.

To challenge the engineers of this project as well as provide additional guidance, Dr. McConomy expects a significant level of innovation within the manufacturing and assembling of the aircraft.

Our customers’ needs will be of the utmost importance to the team of engineers assigned to this project and therefore plan to fully abide by SAE competition guidelines as well as design a plane with innovation composed primarily of 3D printed materials.