Revision #: 8 March 18, 2009

Customer Need #	Importance	Description
CN01	10	Must create a computer model that predicts the kinematics of an air-muscle controlled robotic arm. The kinematics of the wrist and elbow joints must be included in the model.
CN02	9	The computer model created must predict forces that would be applied to the robotic arm design if air muscles were used as the force actuating mechanism.
CN03	9	Must validate critical aspects of the design feasibility and the fidelity of the kinematic computer model using appropriate "breadboard level" physical prototype pieces (does NOT need to be complete physical prototype of arm). The breadboard pieces will also be used to develop the computer model.
CN04	9	Must design wrist, forearm, and elbow mechanisms that have the same degrees of freedom as the human arm.
CN05	8	Must develop controls software that can control both a computer model and a physical prototype. Control software must be capable of receiving displacement feedback from a virtual or physical model.
CN06	8	Must complete an analysis of the forces generated by the air muscles to integrate with the computer model
CN07	6	Motions must resemble human motions.

Importance: Sample scale (1=lowest, 10=highest)