



2015-2016

**MESA USA Engineering Design Competition
Prosthetic Arm Challenge**

FAQ's

1. **Safety Rule 1: Does the use of protective eye wear include a requirement to wear eye wear when using the prosthesis in competition?**

Response: Yes, however this is not a cause for disqualification. Judges will ask students to remember to follow safety procedures during testing.

2. **Is there a minimum number of Arduino components that are necessary?**

Response: No, there is no minimum but teams will be required to show documentation that the physical components are Arduino and that the programming is Arduino.

3. **How will judges verify that Arduino is being used?**

Response: Since teams must provide budget documentation for all parts used on the prosthesis, we will additionally require that documentation for the Arduino components clearly state that they are Arduino and must have a picture of the component so that judges can compare the parts on the device to the picture.

To verify the programming, at the national event teams will be asked to bring their laptop to spec check and show judges their programming so that we can look for the "Void Set-Up" and "Void Loop" functions as indicators of Arduino programming. We also ask that students add comments in their programming so judges can easily follow their programming logic/steps.

4. **In general rule 7 it states that the unencumbered hand may be used to activate Arduino components. Can you define what activate means?**

Response: In this case activation means either providing power to the system (i.e. turning a switch to on) or initiating the programming at the beginning of the task trial. Once the trial begins the unencumbered hand can no longer interact with the device and/or the Arduino components.

5. **General Question: Are immobilization devices weighed as part of the device? Please also define what it means to be a means of "immobilization."**

Response: Immobilization objects that are separate from the device itself are not considered part of the device and will not be weighed. However, immobilization objects that are part of the device will be weighed. The purpose of the immobilization is to restrict the movement of the wrist and fingers to prevent them from contributing to the function of the device.

6. **Can students use a pre-made hand and add components to it?**

Response: No, general rule 1 specifically states that teams must design, build, and operate their prosthesis.