

Device Modification

This category is for devices engineered and/or modified by students to serve a specific purpose or meet a specific goal. Device and parts do not have to be new. However, the device must be fully functional.

Area	Minimal	Partial	Mastery
Documentation - 10% Did student(s) include citations for sources and permissions for non-student produced materials?	None of the required documentation present.	Some or most required permissions present.	ALL required permissions present OR none needed.
Complete and Functional - 15% Did student(s) complete the entire project?	Project does not work at all.	Project functions but lacks certain features that would help the project be fully functional.	Device is fully functional and serves a specific purpose or accomplishes an intended goal.
Creativity - 20% Did student(s) use a higher level of creativity throughout the design process and oral presentation? (Nervousness should NOT count against the student)	Minimal levels of creativity shown in the project design and oral presentation.	Students displayed lower levels of creativity in the design process and/or oral presentation. (Nervousness should NOT count against the student)	Student displayed a high level of creativity throughout the entire design process. Device concept is unique and creative. The oral presentation is unique, well-planned, and creative. (Nervousness should NOT count against the student)
Understanding - 25% Did student(s) demonstrate a solid understanding of the design process for project development?	Student displayed little to no understanding of the software or the design process..	Student is unable to answer certain questions about the device, specific modifications, or parts of the design process.	Mastery in the design and engineering process. Student is able to answer specific questions about their device and the specific modifications made to the device.
Intended Purpose - 30% Did all elements of the project work together to serve the intended purpose?	No elements of the design fit the intended purpose of the device.	Some elements of the design are unnecessary or do not fit the intended purpose of the modification(s). Finished device is not aesthetically pleasing.	Device meets a specific, real-world purpose. Appearance and physical design of the device enhance the student's purpose of the device. The chosen modifications are appropriate to the overall goal of the project. Finished device is aesthetically pleasing.