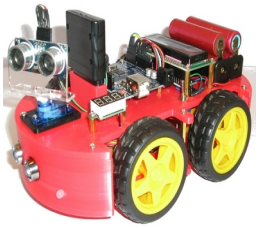
Museum of Radio & Technology
Huntington, West Virginia



The Arduino Mars Rover Project. Rev.2

The Arduino Mars Rover is a STEM project designed so each student achieves a basic understanding of an Arduino micro controller system. The project covers the construction and discussion of the rover sub-systems as micro controller, sensors, and remote control. The course focuses on the assembly of mechanical and electrical components to complete an operational Arduino Mars Rover that the student can keep.

Mars Rover Assembly Schedule

Day	Time	Topic
1	10:00 – 12:00 Lunch 1:00 – 3:00	Introduction Arduino Mars Rover project. Identifying and inventorying and components in the Arduino Mars Rover kit. Discussion of the rover system block diagram, connections and functions. Begin assembling of the lower chassis with motors, h-bridge, wheels, and lighting components.
2	10:00 – 12:00 Lunch 1:00 – 3:00	Wiring the H-Bridge, attaching the mounting hardware. Discussion on using LEDs and Ohm's Law. Assembling upper chassis with the control electronics.
3	10:00 – 12:00 Lunch 1:00 – 3:00	Wiring the upper chassis. Demonstration and operation of a 3d printer. Assembling & integration the upper and lower chassis.
4	10:00 – 12:00 Lunch 1:00 – 3:00	Final assembling and wiring. Discussion of the Arduino IDE, loading, compiling, and flashing micro code. Programming & testing.
5	10:00 – 12:00 Lunch 1:00 – 3:00	Rover Testing and Final Assembly. Rover Races!

Safety Policy

Students are expected to show up to laboratory sessions wearing the proper attire. This consists of closed toe shoes and long pants. Safety glasses are required while working with power tools, soldering irons and hand tools. Students with long hair will need to secure loose hair with a hair tie. No loose or dangling jewelry.