

Description of Permit Upgrades

Laser	The laser permit upgrade will teach you how to safely operate the Makerspace's laser cutter.
Woodworking I	The Woodworking 1 upgrade is an additional amount of training individuals can take to learn the proper use of a variety of woodworking saws (table saw , panel saw , circular saw , track saw, and miter saw).
Woodworking II	The Woodworking 2 upgrade is an additional amount of training individuals can take to learn how to safely use a variety of woodworking equipment (Jointer , Thickness planer , biscuit joiner , and router).
Woodworking III	The Woodworking 3 upgrade is an additional amount of training individuals can take to learn how to safely use a wood lathe.
Welding I	The Welding 1 upgrade is an additional amount of training individuals can take to learn how to safely setup and use plasma torches and MIG welders .
Welding II	The Welding 2 upgrade is an additional amount of training individuals can take to learn how to safely setup and use a TIG welder .
Welding III	The Welding 3 upgrade is an additional amount of training individuals can take to learn how to safely setup and use a MIG spool gun to weld aluminum.
CNC Mill I	This upgrade is self-taught and will cover basic conversational programming along with the standard canned programs (circular, rectangular pockets, rectangular frames, and bolt hole patterns) on the ProtoTRAK EMX controllers (staff will be available to answer any questions). ProtoTRAK EMX controllers are available on all Eisen mills. Training at the machine will entail working through the CNC Mill 1 Lab Instructions to complete part A and then, from a print alone, completing part B .

CNC Mill II	This upgrade will introduce individuals to 2 axis machining using CAM software generated G-code on a 2 axis CNC mill of their choice (Trak DPM or Tormach).
CNC Mill III	This upgrade will introduce individuals to 3 axis machining using CAM software generated G-code on a 3 axis CNC mill of their choice (Trak DPM or Tormach).
CNC Lathe I	This upgrade will introduce individuals to basic conversational programming along with the standard canned programs (e.g. taper, radius, fillet, drill, bore, arc, thread, groove) on the CNC lathe of their choice (Bridgeport or Southwest).
CNC Lathe II	This upgrade will introduce individuals to 2 axis machining using CAM software generated G-code on a 2 axis CNC lathe of their choice (Bridgeport or Southwest).