Use and Basic Safety Orientation

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TOPICS

- Beaver Works Research Area Description and Overview
- Beaver Works Access Requirements
- Safety Policy and Training
- Information Technology Policy
- Evacuation and Muster Map
- Summary of Your Responsibilities
- Signature Page
Beaver Works

- **Do-it-yourself approach to projects**
  - All work is Unclassified
  - Convenient, comprehensive and ideal setting designed to facilitate innovation

- **Primary objective**
  - Encourage cross fertilization of ideas and skills
  - Foster innovation, collaboration, and creative problem solving

- **Provide students and staff with access to instruction and equipment**
  - Instruction in basic soldering and assembly
  - Equipment and stations for soldering electronic components
  - Hand tools with Safety Instruction
  - Chemical and PPE Instruction
Beaver Works Classroom/Café Area

• Beaver Works has classrooms, research, and café areas in both NE45 and Bldg 31
  – NE45 has more complete prototyping shop

• Beaver Works classroom area consists of a multi-use space. The classroom can be used as one large room or divided to host two smaller classes.
  – Each classroom has a projector (or monitors), tables, and chairs

• The Café area has a sink, microwave, coffee machine and multiple areas for sitting.
Beaver Works Research Areas

- Beaver Works is a multi-use space with areas for many different projects
  - Benches for multiple projects
  - Electronics Area
  - Software Development Area
  - Project Space and Research Testing Area
  - Cyber Bar

- All projects must be labeled with project name, POC name, email and telephone number for the project
  - Return the space to the way you found it – others use the space before and after you
  - No experiments in the lobby/café area
Beaver Works Prototyping Workshop

- Beaver Works Prototyping Workshop (NE45) is an unclassified workspace that contains multiple pieces of equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill Press</td>
<td>Mill</td>
</tr>
<tr>
<td>Band Saw</td>
<td>Powered Hand Tools</td>
</tr>
<tr>
<td>Lathe</td>
<td>Brake</td>
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<tr>
<td>Laser Cutter</td>
<td>3D Printer</td>
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<tr>
<td>Fume hood for hazardous chemicals</td>
<td></td>
</tr>
</tbody>
</table>

- Do-it-yourself approach to your project

- Facility Manager to help/train on equipment
Research Area Access

• The Beaver Works Research Area Hours of Accessibility
  – 24/7 with approved badge access
  – In order to have access, this training is required
  – Training will be given by the Facility Manager during the first class
    or by requesting a training session directly
  – General rule of General Research Area cleanliness and attire
  – For soldering stations solder instruction must be completed
    (separate training, see Facility Manager)
  – Users attend training sessions as required to operate equipment or
    must prove capability (documented training through Mobius app)
  – No access to the Prototyping Workshop until the student has been
    qualified by the Facility Manager

• Training must be given and signed off on before access
  approval is granted
Prototyping Workshop Access

- Prototyping Workshop Access Policy
  - Users must already have Access to General Research Laboratory
  - Users of industrial machining equipment must receive machine-specific training and evaluation by Facility Manager prior to being granted access. This will include going through the “Flashlight Program” if not already qualified in the Prototyping Workshop on machine-specific equipment
  - Approved users will be allowed to access the Prototyping Workshop in groups of 2 or more approved/trained users 24/7 when industrial machining equipment is in use. After hours, an authorized/trained graduate student must be present in the workshop per MIT policy
  - The number allowed in the Prototyping Workshop: Min 2 – Max 10
  - The Facility Manager will grant key access to specific industrial machining equipment when he determines that a user(s) is capable of using that specific equipment while abiding by all the safety policies and procedures. Keys cannot be given to other users without the permission of the Facility Manager
  - The Facility Manager can deny access if the policies and procedures are not followed
Prototyping Workshop Safety Policy

- See Beaver Works Safety Policy (SP) BW001 for general rules
- Prototyping Workshop rules
  - Personal Protective Equipment (PPE) is required (safety glasses, gloves)
  - Never work alone – the Prototyping Workshop uses the 2-person rule
  - Must sign in and pick up a “Panic” button that is to be worn at all times in the workshop
  - Guarding required to be utilized
  - Keep hearing unobstructed for awareness
  - Safety glasses must be worn at all times
  - Wear ear protection when necessary
  - Long hair must be pulled back
  - No loose jewelry or clothing – including ties or necklaces
  - Badges must be removed and placed in a designated location
  - Must wear appropriate shoes (flat and toes must be covered)
  - Gloves must be worn when necessary (never around equipment with rotating parts)
  - Never leave a machine running unattended
  - Never use a rag near moving machinery
  - Never use damaged machinery or tools – report any issues to the Facility Manager
  - No food or drinks near equipment or fume hood
  - Dial x100 in case of Emergency
Safety Policy and Training

- Fire extinguisher locations (NE45)
  - Main Entrance: straight back to the windows center
  - Research Area: next to eye wash station
  - Small Classroom: inside door on the wall side
  - Prototyping Workshop: Chemical work room in the back of the area

- Emergencies
  - If there is an emergency in the building dial 100
  - If you need police dial 911
  - After an emergency, must contact Lincoln or MIT Security/Medical Department to fill out any required paperwork
Beaver Works IT Resources (NE45)

- Approved use of BW IT resources located in the NE45 Research Area and Prototyping Workshop

- Users of the Beaver Works Center are obligated to use the IT resources in accordance with applicable laws, MIT and Lincoln Laboratory Policy

- IT use:
  - Must follow policy against harassment, and its standards of honesty and personal conduct
  - Must be responsible, ethical and professional
  - Must be limited to Beaver Works business and incidental personal use
  - Must Not be used for the benefit of personal businesses or other organizations unless permitted by policy or otherwise authorized
NE45: Evacuation Plan / Telephone Locations

- Evacuation Routes/Muster Location
  - Refer to map below (a map is posted on the Main Entrance as well)
  - In case of evacuation please muster in the Quad Area outside

![Evacuation Map]

- = Exit
= Telephone
= Fire Extinguishers

Lincoln Laboratory
Massachusetts Institute of Technology
NE45: Muster Location

- Muster Location
  - In case of evacuation please muster in the Quad Area outside at indicated locations:

= Beaver Works Muster Location

= Exit

- 400 Tech Sq
- 500 Tech Sq
- 300 Tech Sq
Bldg 31: Evacuation Plan

Café Area

Research area

Classroom area

Screen 1

Screen 2

Driveway to muster location

Alley

To Exit

to muster location
Bldg 31: Muster Location

- Muster Location
  - In case of evacuation please muster outside at indicated location

= Beaver Works Muster Location

★ = Exit
Your Role and Responsibilities

• Users
  – Complete general and work area-specific training
  – Be familiar with hazards of chemicals you are using, and with signs and symptoms of overexposure
  – Promptly report chemical exposures, accidents, incidents, and near misses to the Facility Manager
  – Seek help at MIT Medical Department if injured at Beaver Works
  – Clean up facility after each use
  – Minimize food or drink in the Research Area
  – Know where to find the first aid kits, fire extinguishers and telephones
Conclusion

- Safety is the #1 priority and will be incorporated into all aspects of training and usage.

- Students and staff will have access to instruction, equipment and tools not commonly available.

- Primary Objectives
  - Be safe
  - Encourage cross fertilization of ideas and skills
  - Foster innovation, collaboration, and creative problem solving

- With this training you have access to Research, Café and Classroom areas but not access to the Prototype Shop.

- This training does not grant you access to use hand tools, chemicals, soldering stations or machine shop tools.
  - For access to these individual sections of the Facility you must complete specific training for each.
  - Contact the Facility Manager or Business Manager with questions on how to access to specific training needs.
Form

https://mit-bhsi.formstack.com/forms/beaver_works_training