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<table>
<thead>
<tr>
<th>Sandy Bremer</th>
<th>Craig Severson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Coordinator/Morning Boyd Lab Supervisor</td>
<td>Teaching Lab Coordinator/Afternoon Boyd Lab Supervisor</td>
</tr>
<tr>
<td>1260A Hoover Hall</td>
<td>1260C Hoover Hall</td>
</tr>
<tr>
<td>515-294-2656</td>
<td>515-294-1715</td>
</tr>
</tbody>
</table>

2.0 General
Boyd Lab is located in room 1260 Hoover Hall. Boyd Lab has a variety of resources such as hand tools, power tools, milling and turning equipment, wood working equipment, metal-working equipment, MIG and TIG welders and a plasma cutter. Access to the lab is allowed only to students enrolled in Mechanical Engineering courses or associated with an ISU student project. Students will be allowed to work in Boyd Lab only after they have completed the requirements listed below in 4.0 Safety Training Requirements, and as long as they follow the guidelines provided in this documents.

3.0 Personal Protective Equipment
Students are required to use personal protective equipment (PPE) as follows:

- Clear lensed safety glasses with a Z87+ rating must be worn before starting any work with chemical, hand tools, power tools or equipment. Safety glasses are required in the equipment area of Boyd Lab and is clearly posted with “Safety Glasses Required” signs and black/yellow floor tape. Students are required to purchase their own safety glasses with Z87+ rating and clear lenses. Safety glasses can be purchased at the ISU Bookstore and from the vending machine in the North/East hallway of Hoover.
- Closed toe shoes must be worn at all times in Boyd Lab.
- Welding gloves, welding coat, long cotton pants, cotton shirt and welding helmets must be worn in the welding area. Welding PPE will be provided.
- Gloves should be worn when working with sharp objects such as sheet metal. Gloves will be provided.
- Equipment sign-off badges must be worn at all times. Badges will be provided. It is the student’s responsibility to maintain their own personal badge.
- Long pants and short sleeves are to be worn while operating the lathes and mills. No loose clothing is permitted while operating this equipment.
- Jewelry must be removed before operating any piece of equipment.

4.0 Safety Training Requirements
Students must be enrolled in the ME Boyd Lab Safety Course on Blackboard to have access to the training requirements listed below.

1. **Shop Safety Fundamentals – Basic Procedures and Policies** – Complete the online learning module and assessment. This requirement must be successfully completed before signing up for equipment hands-on training.

2. **Boyd Lab Standard Operating Procedures** – You are required to read this entire document. If you are unclear with anything in this document please contact a Boyd Lab Supervisor.

3. **Hands-on Equipment Training** - To operate a piece of equipment in Boyd Lab you must FIRST have Hands-On training by a lab supervisor or lab technician. Once the Hands-On training is completed the lab supervisor or technician will sign their name electronically in a box provided by the student logging onto their EH&S equipment list. You should successfully complete the hands-on training for each piece of equipment you need to complete your project. **Please ask one of the Technicians or the Lab Supervisor for training before you attempt to operate a machine you are not “signed-off” to use. If you try to use equipment and there is no record of Technician electronic sign-off your access to Boyd Lab may be revoked.** Complete the hands-on training and electronic sign-off for each piece of equipment you plan to use for your project. More equipment will appear in your list than what you will actually use. **If you’ve been trained on a machine but need to use a different process/setup that you haven’t been taught see a lab tech or supervisor before you begin.**
4. **Equipment Sign-off Badges** – Once you’ve received your hands-on training you will be signed-off electronically and your equipment badge will be stamped. You must wear your equipment sign-off badges at all times while working in the lab. The badges with appropriate stamps will be a quick indication of which equipment you will be allowed to operate.

5.0 **Iowa Good Samaritan Law**

IOWA GOOD SAMARITAN 613.17

A person, who in good faith renders emergency care or assistance without compensation, shall not be liable for any civil damages for acts or omissions occurring at the place of an emergency or accident or while the person is in transit to or from the emergency or accident or while the person is at or being moved to or from an emergency shelter unless such acts or omissions constitute recklessness.

6.0 **Boyd Lab Cleaning Policy**

*Clean the debris in your work area as you work.* Don’t leave your mess for the next person, this can cause a safety hazard. Return tools immediately after you are done using them; don’t let them accumulate in your work area, this can cause a safety hazard. **The last 10 minutes of class will be used for cleaning.** Boyd Lab needs to be safe for the next group of students.

7.0 **Emergency Action Plan**

**Emergency Action Plan**

**BOYD LAB – 1260 HOOVER HALL**

**Effective** MARCH 24, 2011

<table>
<thead>
<tr>
<th>Contacts</th>
<th>Name</th>
<th>Office Phone</th>
<th>Cell / Pager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency 911</td>
<td>Emergency</td>
<td>911</td>
<td>911</td>
</tr>
<tr>
<td>Professor/TA</td>
<td>Per student section</td>
<td>Per student section</td>
<td>Per student section</td>
</tr>
<tr>
<td>Morning Supervisor</td>
<td>Sandy Bremer</td>
<td>515-294-2656</td>
<td>515-290-8802</td>
</tr>
<tr>
<td>Afternoon Supervisor</td>
<td>Craig Severson</td>
<td>515-294-1715</td>
<td>563-543-1010</td>
</tr>
<tr>
<td>Boyd Lab Tech Mentors</td>
<td>Tech Mentor on duty</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**The following procedures should be used in the event of an emergency.**

**Fire**

1. Pull nearest fire alarm; notify building occupants.
2. Call 911.
3. Assist injured personnel.
4. Evacuate the building. Activate emergency shutoffs.
5. Attempt to use a fire extinguisher only if you have been trained.
6. Meet **EAST SIDE OF MARSTON HALL**

**Medical Emergency**

1. Identify the medical emergency.
2. Send someone to call 911.
3. Administer first aid, if properly trained.
4. Contact the injured person’s supervisor.
Intruder
1. If an intruder is encountered call 911. Do not try to detain.
2. Note description of the intruder.
3. Conduct a quick inventory.
4. Make departmental contacts.

Vandalism/Theft
1. Call 911.
2. Do not enter lab; treat the lab as a crime scene.
3. Beware of possible booby traps or remaining perpetrators.

Severe Weather
1. When you hear outdoor sirens or weather radio warning, PROCEED TO FIRST FLOOR RESTROOMS OR ROOMS 1213, 1227, 1233
2. Proceed to the storm shelter FIRST FLOOR RESTROOMS OR ROOMS 1213, 1227, 1233
3. Stay away from exterior doors and windows.
4. Stay in shelter until danger has passed.

Utility Outages
1. Identify in advance any critical research materials or processes that may be affected by utility outages.
2. Identify backup systems or alternate resources to employ.
3. Have backups in remote locations for data stored on computers.

Chemical Spill – Small Spills
1. Notify other personnel in the immediate area.
2. Assist with injured persons.
3. Confine and/or limit the spill.
4. Clean up the spill as seen fit. A chemical spill kit is located IN THE BOYD LAB TOOL CRIB – ASK TECHNICIANS FOR ASSISTANCE

Chemical Spill – Large Spills
1. Dial 911.
2. Pull the fire alarm.
3. Evacuate the area and secure the entrances.

Environmental Chemical Spill
1. Dial 911.
2. Pull the fire alarm.
3. Evacuate the area and secure the entrances.
4. Contact EH&S at 294-5359; after hours DPS.
5. EH&S will contact the appropriate regulatory agencies.
9.0 Procedures for Submitting Job Requests

9.1 Machining Job Requests
1. Go to the Mechanical Engineering Dept. webpage at http://www.me.iastate.edu
2. Click on Undergraduate Program, Fabrication Labs and then Boyd Lab
3. Click on Forms
4. Click Machining Job and complete form.
5. To upload your drawing files follow these instructions: Go to My computer->Tools->Map Network Drive->Type in Server name: \orgfiles.iastate.edu\engr\Teams\Groups\boyd
6. Find the appropriate folder or make a new folder and upload your drawing or part files. Copy the file location onto your Machining Job request.
7. Print completed Machining Job Request form and print copies of drawing and part files.
8. Get your Instructor’s/Advisor’s signature
9. Submit the Machining Job request form into the tan trays outside Lab Supervisor’s office (1260C Hoover) in Boyd Lab – label any project materials with masking tape and sharpie and submit with job request.
9.2 Rapid Prototype Job Requests
1. Go to the Mechanical Engineering Dept. webpage at http://www.me.iastate.edu
2. Click on Undergraduate Program, Fabrication Labs and then Boyd Lab
3. Click on Forms
4. Click on Rapid Prototype Job and complete form.
5. To upload your drawing files follow these instructions: Go to My computer->Tools->Map Network Drive-> Type in Server name: \orgfiles.iastate.edu\enr$\Teams\Groups\boyd
6. Find the appropriate folder or make a new folder and upload your .STL file. Copy the file location onto your Rapid Prototype Job request.
7. Print completed Rapid Prototype Job request and print copies of drawing and part files.
8. Get your Instructor’s/Advisor’s signature
9. Submit Rapid Prototype Job request form into the three-sided black spinning rack outside Lab Supervisor’s office (1260C Hoover) in Boyd Lab.

10.0 Procedures for Storing Projects

**ME270 Project Storage**
ME270 lockers are located in 1360 Hoover-Caterpillar Lab along the West wall. There are two large totes per locker and each team is assigned ONE tote. *Projects must be stored in the assigned tote.*

**ME415 Project Storage**
ME415 Teams are assigned storage lockers on the East wall of 1360 Hoover - Caterpillar Lab. Please see your Instructor or the Lab Supervisor to discuss your team’s storage needs if your project doesn’t fit in a locker.