STANDARD OPERATING PROCEDURES FOR BOYD LAB
1260 Hoover Hall

INDEX

1.0 Contact Information

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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

Contacts:	**Name**	**Office Phone**	**Cell / Pager**
Emergency 911	Emergency	911	911
Professor/TA	Per student section	Per student section	Per student section
Morning Supervisor	Josh DeLarm	515-294-8368	515-540-9048
Afternoon Supervisor	Craig Severson	515-294-1715	563-543-1010
Boyd Lab Tech Mentors	Tech Mentor on duty		

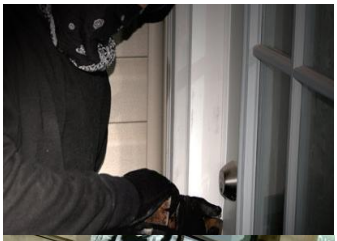
The following procedures should be used in the event of an emergency.

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.
4. Notify lab contacts.

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

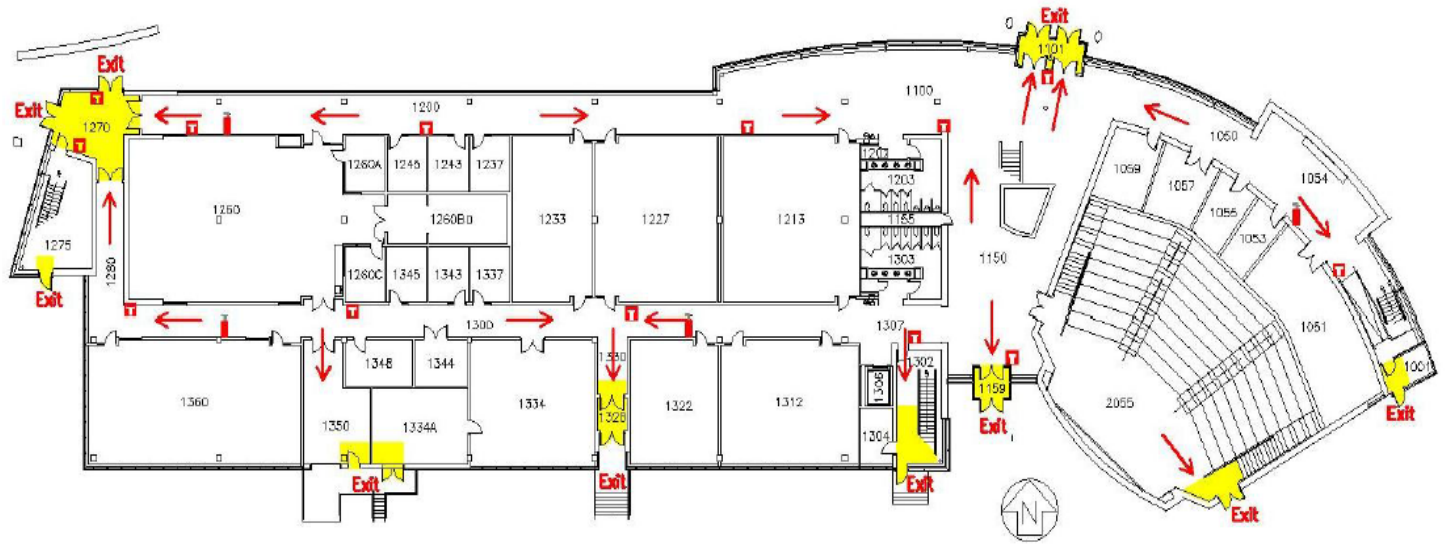
1. Dial 911.
2. Pull the fire alarm.
3. Evacuate the area and secure the entrances.

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.

8.0 Emergency Evacuation Map

Hoover Hall First Floor Emergency Evacuation Map



Key

Exits ▭ Exit Direction → Fire Extinguisher Fire Alarm Pull Station

Evacuation Guidelines

- In case of fire or other emergency requiring evacuation, activate the nearest fire alarm pull station.
- Exit in a calm and orderly fashion. Once you have evacuated to a safe location, immediately call 911.
- Assist injured personnel, if time permits, and make sure all doors are closed and hazardous work operations are shut down as you exit.
- Help any physically impaired individuals in need of assistance.
- In case of evacuation, meet on the east side of Marston Hall.

Safety Guidelines

- Familiarize yourself with the location of exits, alarm pull stations, and fire extinguishers.
- Attempt to control a fire yourself with a fire extinguisher only when the fire is small and you have been trained.
- Keep fire doors closed to prevent the spread of smoke and fire.

Severe Weather

- In the event of a tornado, proceed to a first floor restroom, interior classroom (1213, 1227, or 1233), or eastern portion of the south hallway. Keep away from exterior doors and windows.

6/10/09

9.0 Procedures for Submitting 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 Job Submissions
4. Complete online form. Please note if the job is a machining job or a rapid prototyping job.
5. To upload your drawing files follow these instructions: Go to My computer->Tools->Map Network Drive->Type in Server name: \\my.files.iastate.edu\engr\teams\Groups\boyd. For the username type "IASTATE\" followed by **your** net ID. For Example: "IASTATE\netID". Use **your** net ID password for the password.
6. Find the appropriate folder or make a new folder and upload your drawing or part files. Copy the file location onto your Job request.
7. After submission, a quote will be generated by Boyd Lab and emailed back to you.
8. Get your Instructor's/Advisor's signature as well as an account number. Note: the person signing off of the job request needs to be the person that hold the account.
9. Drop off the complete quote form along with the project material to Boyd Lab.
10. You will be emailed when the job is complete.

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 in 0095 Black Engineering. Please see your Instructor or the Lab Supervisor to discuss your team's storage needs if your project doesn't fit in a locker.