



TEXAS TECH UNIVERSITY  
**Innovation Hub**  
*at Research Park*™

Makerspace/Prototyping  
SAFETY PLAN

**Innovation Hub at Research Park**

**Rooms 202, 202A, and others as needed**

**Responsible Individuals/Safety Officers –**

**David Dorsett, Research Facilities Manager**

**Office: 806-834-2648 Cell: 806-789-0976**

**Weston Waldo – 713-303-4757**

#### A. EMERGENCY

1. In the event of a **fire alarm**, all persons in the Innovation Hub will evacuate the building immediately and proceed to the Designated Outdoor Safe Meet Areas (DOSMA's) specified in the Emergency Action Plan, no exceptions. The Emergency Action Plan is located in the administrative office on the first floor, and can also be found on the Innovation Hub website, and all who use the hub facilities are required to familiarize themselves with this plan. Do not use the elevators to evacuate the building- always utilize the stairs. Call the fire department (911) from cell phone or another location, or from the blue emergency phone on the northwest corner of the building. Also contact the Responsible Individuals listed on the front cover of this plan. Once you have evacuated the building, please report to the Building Emergency Manager or Emergency Action Coordinators, who can be identified by their green or orange vests during standard operating hours.
2. In a severe storm or **tornado**, personnel will proceed to the first floor via the building stairs- do not use the elevators- and proceed to the back of the men's and women's restrooms on the first floor as quickly as possible. These interior rooms offer the greatest potential protection from storm debris. Contact responsible individuals and safety officers listed on the front cover of this plan. Also report to the Building Emergency Manager or Emergency Action Coordinators, who can be identified by their green or orange vests during standard operating hours.
3. In the event of an assault, personal injury, or medical emergency situation dialing **911** or **806-742-3931** will reach the Campus Police or use of the **Blue Emergency** phones located in the secured hallways on the North and South sides of each floor will connect you to authorities.
4. **Fire extinguishers** are located throughout the facility and should be readily available at any soldering station or other heat source/potential fire hazard during operation. Immediately report ANY use of a fire extinguisher to the safety officers.
5. Appropriate MSDS (Materials Safety Data Sheets) and the Lab Safety Plans are located in the main office, Room 101.

#### B. FIRST-AID

1. Eyewash stations are located in the activator labs (Rooms 120C and 120F). Main office personnel can provide access and assistance. In the event of an eye irritant, immediately use the eyewash station, hold your eye(s) in the wash station and flush for 5-10 minutes, unless otherwise instructed. Do not rub your eyes, especially if foreign matter (metal, wood, etc.) is lodged in your eye. Seek medical assistance if unable to dislodge irritant.
2. If a chemical is being brought in to the building, you must seek approval by safety officer first.
3. First Aid kit is located in Room 202 with assistance available during normal operating hours in Room 101.
4. There are two kinds of cuts and burns that need attention:
  - a. Minor cuts/burns – Minor wounds can be attended to in-house. (Example: cuts that are not deep and stop bleeding or burns that do not exhibit large blisters.) Minor cuts should be cleaned with antiseptic spray, alcohol wipes, or triple ointment. Cover with sterile Band-Aid. Minor burns should be immersed in cool (not cold) running water for 10-15 minutes until pain subsides and then apply a sterile bandage. Do not apply ice or ointments. If the wound does not heal properly, seek medical attention immediately.
  - b. Major cuts/burns – these are deep cuts or burns that will need immediate medical attention. (Example: cuts that are pulsing blood, will not stop bleeding, or are more than ¼" deep or with jagged edges or burns that develop blisters larger than 2"x2" or that remove first layer of skin.) Deep cuts should have pressure applied with a clean compress. Major burns should NOT be immersed in cool water, but covered with a clean compress and held above heart level if possible. In both cases, seek immediate medical attention.
5. Chemical Spills – Chemicals should only be used in approved laboratory areas and under proper supervision by trained personnel. The use of chemicals in the makerspace is prohibited, and should be immediately reported to the Hub Safety Officer. In the event of a spill, assess the need to evacuate the lab /studio. Look up the chemical Safety Data Sheet (SDS) and call Environmental Health and Safety (EH&S) at (806) 742-3876 (during regular business hours) or (806) 742-3328

(after hours) to report the spill and to receive additional guidance regarding proper cleanup procedures. Report all spills to the Hub Safety Officer.

**When in doubt, always seek professional medical attention – use the blue emergency box or dial 911.**



TEXAS TECH UNIVERSITY  
**Innovation Hub**  
*at Research Park*™

Makerspace/Prototyping  
SAFETY GUIDE

**Innovation Hub at Research Park**

**Rooms 202, 202A, and others as needed**

**Responsible Individuals/Safety Officers**

**David Dorsett - 806-834-2648; Cell: 806-789-0976**

**Weston Waldo - 713-303-4757**

We at the Innovation Hub at Research Park strive to create a safe and healthy environment for all to work in. The following information will help you achieve this goal while minimizing risk to yourself and others. Failure to follow safety policies, rules, procedures or directions from Innovation Hub at Research Park staff may lead to disciplinary action, removal from the facility, revocation of privileges to use the facilities, and/or serious injury.

The complete Texas Tech University Chemical Hygiene Plan and other helpful documents can be found online at <http://www.depts.ttu.edu/ehs/Web/Default.aspx>

Records of Employee / Student /Member/ Guest training are maintained by Innovation Hub at Research Park staff and may be requested via the main office.

### **Training and Access**

- All who wish to utilize the Hub Makerspace/Prototyping facilities must sign the Safety Training Form BEFORE they can participate in any hands-on activities.
- Every individual that comes into contact with any tool, equipment, or related material must complete the Texas Tech University shop safety training module and have appropriate training for each piece of equipment used. There are NO EXCEPTIONS to this requirement. Register by emailing [safety@ttu.edu](mailto:safety@ttu.edu) and providing the full name and R-number of the user to Texas Tech University Environmental Health and Safety. If the user does not have an R#, please notate such in your email and request further instructions.
- Access is controlled by key card activated locks. Do NOT prop any door open, silent alarm may be activated. All doors must be kept closed and locked when the room is unoccupied to help keep unauthorized access from occurring as well as minimize odors and ventilation issues. Any individual found in an area he/she is not authorized to occupy may be subject to disciplinary and/or criminal action and removal from the facility and revocation of privileges to use the facilities. Also, any individual found to have knowingly granted access to an unauthorized individual will be held liable to the maximum extent allowed by law and Texas Tech University policies, and may have all privileges revoked without refund or notification.
- Key card access requests will only be approved by Innovation Hub at Research Park staff after all forms and training have been satisfactorily completed.

### **Safety Planning**

- Always have more than one person present when working with machinery or hazardous processes/materials.
- Do not work when impaired by illness, drugs, alcohol, lack of sleep, or other impairments that may affect your judgement or safety.
- Personal safety is typically of more concern when fewer people are around in the evenings and weekends. Always be aware of your surroundings, know who is and is not around you. Keep your ears open by keeping music low and not using headphones. Consider threats/hazards for each activity and address any safety concerns before proceeding.
- Users are expected to incorporate health and safety planning into their processes while in the Innovation Hub at Research Park.

### Before use

- Users must be properly protected with appropriate goggles, masks, ear protection, etc., during any hazardous activities while working in any of the Innovation Hub at Research Park lab, studios, classrooms, etc.
- Loose fitting clothing that is not secured, hanging jewelry, or other entanglement hazards are not allowed. Closed toe shoes and pulled back hair are required in these rooms at all times.
- Users may not use mechanical, electrical, or other equipment or supplies without prior training and instruction in the proper usage and safety procedures.
- Use of equipment or procedures not listed in this guide is prohibited without consent of the Hub Responsible Individual/Safety Officer.
- Any questions or comments regarding safety issues in the facility should be addressed to the Innovation Hub at Research Park Safety Officer.

### Equipment use and operation

- **ALL EQUIPMENT:** Safety glasses must be worn at all times and by all individuals in the vicinity where work is being performed. Long hair **MUST** be kept in a secure manner, away from moving parts, flames, and equipment so as not to get caught or snagged. Proper training and safe guards are required. Loose clothing is not allowed, as it may pose a safety hazard. Improper use, or use other than as intended may be unsafe and is prohibited.
- **HAND TOOLS:** Hammers, screwdrivers, pliers, etc. Although not traditionally considered as dangerous, hand tools still pose a threat to user safety. Do not use damaged tools, or tools with signs of abnormal wear. Use tools only for the intended purpose (Screwdrivers are not pry bars). More information is available at <https://www.osha.gov/Publications/osh3080.pdf>
- **SANDING:** Do not operate the sander with your face at the same level as the belt/pad. Upon completion, sander and surrounding area must be thoroughly vacuumed and cleaned of debris.
- **DRILL PRESS:** Drill presses can be potentially dangerous machinery if not handled correctly. When using the large drill press, the work must be pinned with vises and c-clamps to the bed of the drill. Surrounding students must be warned prior to engaging drill. Be wary of kickback. Never try to stop a piece of material that has been snagged by the drill. Simply turn the machine off and stand back until rotation ceases. Upon completion, drill press and surrounding area must be thoroughly vacuumed and free of debris
- **SOLDERING:** Soldering is a potentially dangerous activity if done improperly. Avoid breathing fumes and solder. Operate the tool in a responsible manner so as not to burn yourself or others and keep flammable materials away from the soldering area. After you have finished soldering turn off all equipment. Clean up the area after soldering utilizing a wet sponge with at least 3 rinses. Wiping area once will **NOT** be sufficient to clean all residue from surfaces. Failure to clean properly could result in contamination issues. Return all tips and other accessories to the appropriate location.
- **3D PRINTERS:** The Makerbot 3D printer is considered generally safe. Users should not touch the filament extruder during or shortly after any heated print or warm up period. Prints of unauthorized, illegal, or harmful items will not be tolerated. Printing of food containers, or food related products, should be thoroughly investigated and may not be completed with ABS or colored filament. Always confirm each step of the process is safe and will not cause later health concerns. Please read [owner's manual](#) prior to use. Any alterations or non-standard printing must be pre-

approved by the Hub Safety Officers prior to printing.

- **SPRAYING:** Spraying of any kind is prohibited in this facility. All flammable and combustible liquids and gasses must be stored in a yellow flammable cabinet when not in use. After any work sessions all flammables and combustibles must be returned to flammable cabinets. Lockers or open shelves are not acceptable storage for flammable or combustible liquids or gasses. **NO EXCEPTIONS!** Written approval is required from the Safety Officers prior to any flammable materials being used at the Hub.
- **MSDS:** There are no chemicals or other materials requiring Safety Data Sheets in the facility at this time. Chemicals and related materials cannot be stored or used in this lab without the consent of the Hub Safety Officer and the Safety Data Sheets being added to a SDS file to be maintained in the main office, Room 101. All solvents and corrosives must be barcoded into the inventory system by Environmental Health and Safety, including any that are student purchased. For details contact the Safety Coordinator.
- **DAMAGED EQUIPMENT:** If a student damages or breaks a tool or piece of equipment, he/she must immediately report it to a safety officer. This is imperative for the safety and stability of the lab. Mistakes are obviously understood, but persistent negligence will be met with severe consequences. Failure to report damaged equipment greatly increases the likelihood of injuries. In the event of damaged equipment, it is mandatory that the user put a sign on the broken equipment indicating the malfunction, the date/time, and the identity of the user.

#### Facility

- Food and drinks are not allowed to be stored or consumed in areas where equipment is operated.
- Housekeeping (clean work areas) is to be maintained to provide a safe and cooperative work space. Aisles and exits are to be kept free of slip, trip and fall hazards. Bench tops are to be free of storage and clutter.
- Extension cords are allowed for temporary use only and must be picked up at the end of class or work periods. Except as approved by safety officers, no cord shall be routed through a doorway or other entry point.
- No equipment should be left operating without constant supervision. Always supervise 3D printing for the initial 5 to 10 minutes and regularly monitor throughout the printing process.
- Sharp objects, such as Exacto knife blades, utility knife blades and saw blades must be disposed of in an approved "Sharps" container, never the regular trash.
- Wall Installations/Mountings must be pre-approved by the Hub Administration. If in doubt, ask first.
- Never stand on anything other than a ladder or stepstool to increase your reach. Climbing on chairs, stools and tables frequently leads to falls and injuries.
- Nothing can be hung or stacked closer than 18" (in the vertical dimension) to a fire sprinkler. Do not hang anything from any pipes, sprinkler heads or conduit. If you need to hang objects get approval from the Hub Administration first.
- Pets and animals are not allowed in buildings. Service animals for persons with disabilities are only permitted in compliance with section 7 of Texas Tech University OP 34.22. Please consider service animal safety and comfort in using these rooms/equipment.
- No smoking inside the building or within 20 feet of any doorway. No alcohol is permitted in any Innovation Hub at Research Park facility or event, except as approved, in writing, by the President of Texas Tech University pursuant to Texas Tech University Operating Policies. Illegal drugs are

strictly prohibited.



# **Innovation Hub at Research Park**

## **Safety Training Form**

### **Release, Assumption of Risk, and Hold Harmless Agreement**

- I am aware of the dangers associated with processes used in this space, and the possibility of injuries while using this facility. I agree to assume responsibility for my own safety and the safety of my property while I am in this lab.
- Additionally, I hereby state that I have been trained by the instructor, supervisor, or designated individual in the correct use of the equipment I will be using while in this area, and in the proper use of safety equipment associated with the use of such equipment.
- I agree to follow all safety signs, warnings, and instructions given by the instructor, supervisor, or designated individual. I agree to never remove or otherwise defeat the guards on any equipment, except with the full awareness and permission of the shop supervisor.

**In consideration for being allowed to use the above mentioned facility and equipment, I hereby release and hold harmless Texas Tech University, its Board of Regents, officers, agents and employees of the Innovation Hub at Research Park, its officers, agents and employees, from any and all liability due to injury arising or resulting from any act or omission, neglect, or otherwise of said Texas Tech University officers, advisors, agents and employees and other officers or members of the Innovation Hub at Research Park, or any other person or other participant in said activity while using this lab. The terms hereof shall also serve as a release and an assumption of risk for my heirs, executor and administrator, and for all members of my family and may be plead as a bar to litigation.**

**I also agree to indemnify and hold Texas Tech University, its Board of Regents, and all of the University's officers, agents, and employees above mentioned, harmless from and against any and all damage to property which may occur while I am in this lab.**

\_\_\_\_ I have read and understand the Safety Plans for all areas used in these spaces. I am 18 years of age or over and have read this document and accept its terms.

Safety Officer \_\_\_\_\_ Year \_\_\_\_\_

Student Printed Name \_\_\_\_\_ R# \_\_\_\_\_

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

**This form must be completed and turned into the Innovation Hub at Research Park office or via email to [innovationhub@ttu.edu](mailto:innovationhub@ttu.edu) before any equipment, processes or materials are used.**

8.1.16