

Department of Engineering Technologies, Safety, and Construction (ETSC)

Safety Policy

Adopted by the ETSC Department on October 19, 2012

Effective Date: September 18, 2017

ETSC Faculty Review and Feedback [March 13, 2017, June 26, 2017, and September 18, 2017]

ETSC Department Chair Review [July 26, 2017 and September 25, 2017]

CEPS Dean / CWU EH&S Department Review [August 15, 2017 and September 25, 2017]

Provost Review [September 7, 2017]

PURPOSE

This document provides environmental, health, and safety requirements for the Department of Engineering Technologies, Safety, and Construction (ETSC) at Central Washington University (CWU). It is intended for all students, staff, faculty, and visitors that perform research and use facilities, equipment, and tools in the CWU ETSC laboratories.

The CWU ETSC laboratories covered by this policy include, but are not limited to:

CAD Labs (118, 120)	Woods Lab (108)	EET Labs (204, 207)
Construction Labs (103, 105)	Metallurgy Lab (127)	Tech Ed Lab (208)
Interdisciplinary Lab (106)	Power Lab (131)	Safety Labs (229, 230)
Machine Lab (107)	Foundry (132)	Faculty Research (212)

ETSC is committed to providing a safe and healthful environment for students, staff, faculty, and visitors to engage in productive endeavors associated with the Hogue Technology Building (Hogue), ensuring the protection of people, property, and the environment.

GENERAL POLICY

- This document applies to academic use of the facilities and equipment within Hogue.
- The safe conduct of laboratory activities within Hogue is the responsibility of all faculty, staff, and students.
- This document applies to all students (undergraduate and graduate), faculty, and staff working in departmental shops/labs/facilities and touring field locations.

DEFINITIONS

Authorized – An authorized lab participant can help others during a lab emergency and has met the following requirements:

- has received applicable lab safety training
- has passed applicable lab safety tests
- has submitted a signed copy of the ETSC Lab User Policy Agreement (Appendix A) to the course instructor, which is kept in the lab-specific safety notebook

Competent – A competent person can identify existing and predictable hazards in surroundings or working conditions which are unsanitary, hazardous, or dangerous to people, and who will take prompt corrective measures to eliminate them. Competence is determined by documented training and/or experience.

Qualified Buddy System – In a qualified buddy system, at least two trained and authorized people must be present in a lab when the lab is in use. The responsible/competent course instructor or competent designee for the specific lab must be on the premises of Hogue and periodically check on lab users when Qualified Buddy lab participants are students.

Safety Data Sheet (SDS) – A document required for hazard communication purposes, that is used to communicate hazards of chemicals in a consistent user-friendly, 16-section format. SDS shall be available for every chemical and mixture used in the ETSC Department. SDS explain the properties of each chemical; the physical, health, and environmental hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical.

Trained – A trained lab participant has received training from lab staff or staff-approved individuals. The training will be appropriate for the specific tools or equipment to be used in each lab, and includes knowledge of all lab safety procedures, emergency response procedures and contact information.

FACILITIES

Emergency Contacts

Below is a list of emergency phone numbers for the CWU campus and Ellensburg.

Table 1. Emergency phone numbers

Contacts	Phone Number
Fire / Emergency Medical Service	911
CWU Environmental Health & Safety	509-963-2338
CWU Campus Police	509-963-2958
CWU Student Medical Clinic	509-963-1881
CWU Student Counseling Clinic	509-963-1391
CWU Sexual Assault Response Coordinator	509-963-3233
CWU Crisis Line	509-925-4168
KVH Hospital – 603 South Chestnut	509-962-9841

To report an accident in an ETSC lab, fill out the online “Accident Reporting” form:

<http://www.cwu.edu/~web/cwu-accident-report/>

To report an unsafe condition/hazard, fill out the online “Report an Unsafe Condition or Hazard” form:

<http://www.cwu.edu/~web/report-hazardous-condition/>

To review the various CWU Environmental Health & Safety programs, policies, and procedures:

<http://www.cwu.edu/facility/programs-plans>

Laboratory Use Guidelines

- All ETSC lab users must follow the “General Safety Requirements for Laboratories” outlined in this document, at minimum.
- All ETSC lab users must complete and sign the ETSC Lab User Policy Agreement prior to conducting work in an ETSC laboratory (see Appendix A).
- Generally, laboratory use is only during business hours. For the purpose of this policy, regular business hours are defined as 8 am to 5 pm, Monday through Friday, during the academic year.

All after hours or holiday use of this building must be arranged for in advance and scheduled with the room coordinator. See the ETSC Building Use Policy for additional information.

- After hours or holiday use of laboratories shall require the supervision of competent instructor(s) or staff.
- The responsible/competent course instructor or competent designee for the specific lab must ensure users are trained in equipment or tool operation and verify that the Qualified Buddy System is being used.
- Competent instructors or staff must periodically check the students in the lab to ensure compliance with lab safety requirements. When the work is complete, the competent instructor or staff must inspect and lock the lab.

SAFETY

The ETSC Department is committed to providing an academic environment in which recognized hazards are eliminated or controlled. The objectives behind this commitment to safety and health are as follows:

- Work shall be conducted so that it enhances the personal safety and health of students, faculty, staff, and visitors.
- Classroom, laboratory, and project work shall be conducted in a manner that protects people, the environment, the equipment, and the public.
- Everyone is expected to conduct their daily tasks in a manner that is consistent with the objectives of this policy as well as any environmental, health, and safety regulations or guidelines practiced by CWU.
- ETSC Department safety policies and standard operating procedures are intended to supplement and enhance existing university safety policies and programs, and will be reviewed regularly.
- Faculty and staff shall comply with all aspects of this policy. Failure to do so could result in disciplinary action up to and including termination.

Safety Committee

In order to fulfill the above objectives, the ETSC Department has established a safety committee. The ETSC Department Safety Committee's (ETSC-SC) mission is to act as a resource to ETSC, thereby assisting with protection of the safety and health of students, faculty, staff, and visitors, as well as ETSC equipment and facilities (see committee by-laws in Appendix B). A representative of the CWU environmental health and safety department will be a member of the ETSC-SC.

Laboratory Safety Training Guidelines

- Information, training, and supervision are provided as an integral part of instruction for courses with a lab component. Lab- and task-specific training on potential hazards and accident prevention shall be provided by the competent instructor or designee.
- Following all training, the instructor shall verify student "competence" in safe operating procedures (SOPs) for equipment and tools prior to allowing the student to use the Qualified Buddy System.
 - If a student is unable to show competence in operating equipment or tools according to the SOP or manufacturer's instructions, the instructor shall retrain the student under question.

- All training shall be documented using a Lab-Specific Training Sign-Up Sheet or equivalent form. This sign-up sheet shall be kept on file by the course instructor in the lab-specific safety notebook. A sample Lab-Specific Training Sign-Up Sheet is provided in Appendix C. Each signed copy of the training sheet is to be kept in each respective lab during the course of the class, and maintained in the lab-specific safety notebook.
- Student non-compliance will result in suspension from the laboratory and may be cause for revocation of laboratory privileges. Exceptions to these regulations will require the prior written approval of the Department Chair or designee.

General Safety Requirements for Laboratories

General safety requirements for ETSC laboratories will be continuously enforced by the competent instructor or designee. Non-compliance may result in suspension from the laboratory, at the discretion of the competent instructor or designee. The ETSC Department believes understanding inherent hazards and learning how to work safely is an integral and important part of the academic process.

All personnel (faculty, staff, student employees and students) are expected to:

- Read, understand, and comply with the ETSC Department Safety Policy.
- Know the location of exits, evacuation routes, and emergency equipment (e.g., eyewash, fire extinguisher, spill kit, safety shower, SDS) and how to use them.
- Wear appropriate clothing for hazardous laboratory environments, which includes long pants and closed toe shoes.
- Wear the appropriate personal protective equipment (PPE) for the specific laboratory and task being conducted. PPE requirements are posted outside the doors of each lab, when applicable.
- Maintain unobstructed access to all exits, fire extinguishers, electrical panels, emergency showers, and eyewashes.
- Understand that horseplay or other acts of carelessness are prohibited.
- Perform no unauthorized experiments, tasks, or jobs, and perform given experiments, tasks, or jobs only according to the instructor's directions. No hazardous equipment may be used without proper training and demonstrated competency.
- Not damage, mutilate or willfully misuse equipment, tools or facilities.
- Cooperate with safety requests from university faculty and staff.
- Use the correct tools and equipment for the job. Follow all tool and equipment-specific operating procedures as well as specific safety procedures and/or policies as required.
- Operate only the equipment that you have been trained and authorized to use.
- Report defects/breakage in laboratory equipment and equipment safeguarding to room coordinator.
- Equipment must be used in accordance with manufacturer guidelines.
- Understand that willful violation of lab safety rules or safe working practices will result in suspension from the laboratory and may be cause for revocation of laboratory privileges.
- Use the required safety equipment and PPE, including gloves when handling any hazardous or toxic agent. Gloves shall be removed before leaving the lab and entering public areas.

- Never violate or ignore any warning signs or barricades.
- Never walk or stand under suspended loads.
- Ensure that all chemicals are clearly and currently labeled with either the manufacturer’s original label, or the substance name, concentration, date, and name of the individual responsible.
- Secure all compressed gas cylinders and ensure the labels are legible.
- Ensure that all electrical equipment used near a water source is GFCI-protected.
- Avoid using extension cords whenever possible; if you must use one, inspect it prior to use and ensure the grounding plug is not damaged.
- When using compressed air, use only approved nozzles and never direct the air towards any person.
- Understand that if you are leaving a lab unattended after regular business hours, you must turn off all ignition sources and lock the doors.
- Be cautious when lifting heavy objects – lift comfortably, avoiding any unnecessary bending, twisting, reaching out, and excessive weights.
- Report any incidents, near misses, injuries, or illnesses to the course instructor or department chair. Incident and Hazard Report forms are also available through CWU Environmental Health and Safety online reporting.
- Report and clean up any spills immediately.
- Understand that if you are not sure how to perform your assigned task safely, stop and contact your immediate supervisor or course instructor.

An assessment of PPE required for each task/tool/equipment must be conducted, as shown below:

Table 3. Sample PPE assessment matrix.

Activity	Eye Protection (safety glasses)	Ear Protection (ear plugs)	Hand Protection (gloves)	Other Activity in Vicinity
Reading plan in dry lab	NA	NA	NA	None
Weigh soil sample in wet lab	X	X	X	None
Cutting metal	X	X	X	None
Pouring metal	X	X	X	None

Lab Use and Occupation

Labs are normally closed on all non-instructional days (i.e., finals week, holidays, breaks). Lab use during non-instructional days must be coordinated with the competent instructor or designee and the room coordinator. Building and lab maintenance will be performed during the closures.

During normal instructional days:

- All lab doors will be locked when the lab is not in use.
- All required PPE shall be worn for work conducted in specific laboratories, as indicated on the laboratory door. PPE assessment for laboratories and tasks is the responsibility of the competent instructor or designee. Consideration should be given to other activities that could pose a hazard.

Other requirements of laboratory use are detailed below.

- Each lab shall have safe operating procedures (SOP) or job hazard analysis (JHA) documentation, as well as equipment-specific SOPs that are used for training each equipment user.
- Laboratories will be available for trained and authorized student use on instructional days during regular class time. Additional lab time may be scheduled with instructor permission (or with knowledge of room coordinator). The course instructor is responsible to brief students on all SOPs, enforce the use of SOPs, clean-up activities, and room/equipment security. Students are responsible to comply with all SOPs and PPE requirements.
- When a lab is being used for a class or other instructional use, it will only be available for students currently enrolled in the course that is in session **unless permission is provided by the instructor**. Students wanting to use the lab outside of scheduled class/lab time will need to coordinate such use with the individual instructor.
- Use will be restricted to those students having completed and passed course work incorporating specific lab equipment. The course instructor(s) shall be responsible to maintain a list of trained and authorized students meeting these requirements in each lab-specific safety notebook, in compliance with FERPA requirements. Lists will be active for a minimum of four (4) years on a revolving basis following the grade postings from the previous quarter.
- Lab use by students at any given time is permitted only for students using the Qualified Buddy System and with permission of the instructor.
 - The person operating the equipment must be trained, authorized, and competent in equipment operation.
 - The Qualified Buddy System requires that the second person present in the lab is trained and authorized as well.
 - Competent instructors shall notify lab users if the Qualified Buddy System does not apply to a specific teaching laboratory (for example: the Machine Lab has additional requirements beyond the Qualified Buddy System). Any additional lab use requirements shall be explained to lab users in applicable courses.
 - The competent instructor or designee that unlocks the door to a lab for student use outside of scheduled class time is responsible for verifying lab users are trained and authorized in safety, relevant SOPs, clean-up, and room/equipment security. The competent instructor or designee is also responsible for monitoring lab users periodically and to enforce applicable safety policies and procedures.
- All lab users (faculty, staff, students, and visitors) have a responsibility to stop any unsafe acts and report any unsafe conditions observed in ETSC laboratories.
- Any hazardous material brought into the lab must be approved by the room coordinator or competent instructor.
 - Material must be labeled with the owner's name and contact information.
 - Appropriate SDS for the substance must be provided and the material/substance must be properly disposed of at the end of the quarter.
 - Any material left past the end of the quarter becomes the property of the university.

Students will be charged for items lost or not returned. Students shall not be issued "lab" keys under any circumstances.

Lab Physical Conditions

Each lab will be equipped with a labeled and accessible first aid kit and applicable spill response materials. Each lab will be equipped with a safety notebook (physical or electronic) containing the following:

1. Safety Data Sheets
2. List of students qualified to use lab for each course (Responsible party: Course Instructor)
3. ETSC Building Use and Safety Policies
4. Lab specific safety procedures and SOPs (Responsible party: Course Instructor)
5. Available emergency phone numbers

This ETSC Safety Policy document APPROVED BY:

<i>ETSC Department Chair</i>	
Name:	
Signature:	Date:
<i>CWU Environmental Health and Safety Manager</i>	
Name:	
Signature:	Date:
<i>Dean of the College of Education and Professional Studies</i>	
Name:	
Signature:	Date:

Appendix A – ETSC Lab User Policy Agreement

Please use the following checklist to ensure the minimum training requirements for work in each ETSC teaching laboratory are met. Lab users must initial each applicable line or write “N/A” when not applicable to the specific laboratory. The responsible/competent course instructor or competent designee for the specific laboratory must maintain this signed record.

Laboratory Orientation: The following items have been reviewed with me:

- _____ Location of and information in the ETSC Department Safety Policy
- _____ Emergency evacuation routes and nearest fire alarm pull station
- _____ Location of and proper use of safety shower and emergency eyewash stations, when applicable
- _____ Location of first aid kit and explanation of when and how to report first aid injuries
- _____ Location of and use of spill kits and how to report a hazardous materials spill, when applicable
- _____ Location of PPE, information on obtaining PPE, and training on how to use PPE
- _____ Lab-specific requirements related to handling of hazardous materials, when applicable
- _____ Lab-specific requirements related to disposal of hazardous waste, when applicable
- _____ Location of Safety Data Sheets (SDSs) for hazardous materials present in the lab, when applicable
- _____ Location of highly hazardous materials, equipment, or processes, when applicable
- _____ Review of standard/safe operating procedures (SOPs) or job hazard analyses (JHAs) for highly hazardous materials, equipment, or processes, when applicable

This laboratory orientation was conducted for the following lab(s):

- | | | |
|------------------------------|----------------------|------------------------|
| CAD Labs (118, 120) | Woods Lab (108) | EET Labs (204, 207) |
| Construction Labs (103, 105) | Metallurgy Lab (127) | Tech Ed Lab (208) |
| Interdisciplinary Lab (106) | Power Lab (131) | Safety Labs (229, 230) |
| Machine Lab (107) | Foundry (132) | Other: _____ |

I have read the ETSC Department Safety Policy and I understand its contents. I agree to abide by applicable environmental, health, and safety regulations or guidelines as explained in the training I have received. I understand that violations of environmental, health, and safety regulations may result in disciplinary action, up to and including suspension from the laboratory.

Last Name	First Name
Signature	Date

Instructor Name: _____
 Instructor Initials: _____ Date: _____

Appendix B – ETSC Safety Committee Charge

Charge: The ETSC Department is committed to providing an academic environment in which recognized hazards are eliminated or controlled. The ETSC Department Safety Committee (ETSC-SC) mission is to act as a resource to ETSC, thereby assisting with protection of the safety and health of students, faculty, staff, and visitors, as well as ETSC equipment and facilities.

The ETSC-SC committee is charged with the following responsibilities:

- Maintain the department safety and building policies and SDS records
- Require compliance with regulatory requirements
- Improve safety awareness
- Perform workplace inspections upon request
- Review injury and illness records
- Review safety concerns
- Make advisory recommendations on safe methods and practices to the Department Chair

Membership and Chair: The ETSC-SC will be chaired by a tenured or tenure-track faculty member from ETSC. The Committee Chair and the members will be appointed by the Department Chair for four-year terms. The Department Chair shall have the option of reappointing members to additional terms. The Committee Chair level of effort is expected to be one work load unit; committee members' level of effort is expected to be one-half work load unit. The composition of the ETSC-SC will be as follows (five members):

- ETSC Department Chair
- One CWU Environmental Health & Safety Department representative
- One faculty representative (can be ETSC-SC Chair)
- One faculty member from the Safety and Health Management Program (can be ETSC-SC chair)
- One department lab technician

Meetings: The Committee will meet at least once per quarter for one hour to review safety-related concerns and injury/illness data for activities within ETSC. Written minutes shall be maintained by the Committee Chair and copies will be sent to ETSC personnel. Copies of minutes shall be maintained in the Department office and shared network drive. Meetings will be held at Hogue Technology Building, 3rd Floor Conference Room (300N). A quorum of >50% is needed for a meeting to proceed.

Inspections: Safety inspections of ETSC facilities should be conducted on at least a quarterly basis by ETSC-SC members or their designee. This will be done prior to the quarterly meeting and the results will be discussed during the meeting. Inspections shall include, but are not limited to: fire extinguishers, first aid kits, eye wash stations, student PPE compliance, hazard communication, facility signage, chemical safety, etc. Safety concerns shall be recorded using the ETSC Safety Inspection Form, which is provided in Appendix D. Copies of the inspection forms will be forwarded to the ETSC Department Chair.

Training: Training sessions for ETSC personnel will be conducted according to state and federal regulatory guidelines. Training sessions may include topics such as: evacuation procedures, first aid and CPR, fire safety, building safety, equipment safety, lab safety procedures, hazard communication, etc.

Appendix C – ETSC Department Lab Specific Training Sign-up Sheet (Sample)

(Please attach training agenda/slides)

Name (Printed): _____

Room: HT127

Signing below signifies that I will follow all tool and equipment specific operating procedures as well as specific safety procedures and/or policies including personal protective equipment (PPE) as required by the instructor. If I have any additional questions concerning safe work practices, other policies covered in this training or other work tasks, I will contact my instructor or his designee immediately. If I am not sure how to perform my assigned task safely, I will stop and contact my instructor immediately. I fully understand I am only allowed to use the machines that have been initialed by both myself and the instructor.

Student Signature _____ **Date** _____

By initialing below, I acknowledge being educated and trained in the machine specific safety guidelines.

Machine	Student initial	Instr. Initial	Date Trained	Date Approved
General Safety	_____	_____	_____	_____
Tinius UTS	_____	_____	_____	_____
Instron UTS	_____	_____	_____	_____
Furnaces & HT	_____	_____	_____	_____
Corrosion Power	_____	_____	_____	_____
Injection Molder	_____	_____	_____	_____
Drape Molder	_____	_____	_____	_____
Hot Press	_____	_____	_____	_____
Rotomolder	_____	_____	_____	_____
Impact Tester	_____	_____	_____	_____
Creep Tester	_____	_____	_____	_____
Fatigue Tester	_____	_____	_____	_____
Cut-off Saw	_____	_____	_____	_____
Belt Sander	_____	_____	_____	_____
Band Saw	_____	_____	_____	_____
Table Saw	_____	_____	_____	_____
Wide Belt	_____	_____	_____	_____
Vacuum Bags	_____	_____	_____	_____
Microscopes	_____	_____	_____	_____
Hardness Tester	_____	_____	_____	_____
Polishing Eqt	_____	_____	_____	_____

Appendix D – ETSC Safety Inspection Form(s)

[Pending development in Fall 2017 and Winter 2018]