

# **LABORATORY SAFETY MANUAL**

## **Computer laboratory**



**BANGLADESH UNIVERSITY OF  
ENGINEERING  
AND TECHNOLOGY**

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**Disclaimer:**

The safety measures mention in this manual are applicable for general activities in the laboratory. Students and lab stuffs are asked to follow additional safety measures if it's necessary for any specific experiment.

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## Safety manual

This safety manual is applicable for Carpentry Shop . This will help both students and laboratory instructors to know about the safety features and safe work practices inside the laboratory.

### 1. Emergency

#### 1.1 What is an Emergency? (Definitions)

Sudden, unexpected, or impending situation that may cause injury, loss of life, damage to the property, and/or interference with the normal activities of a person or group and which, therefore, requires immediate attention and remedial action.

Following situations may be regarded as emergency:

- 1) A sudden, urgent, usually unexpected occurrence or occasion requiring immediate action
- 2) A state, especially of need for help or relief, created by some unexpected event

#### Emergency Contact List

Designation	Name	Phone No.
Head of the Department	Dr. Ahsanul Kabir	01711673982

Designation	Phone No.	BUET Office
BUET telephone operator(PABX)	55167100	0

#### Medical Centre:

Emergency ambulance service/Medical officer	6666
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Designation	Name	Phone No.	BUET Office
Chief Medical officer	Dr. Md. A. K.Masud	01916740809	7344
Senior medical officer	Dr. Mohammad Mashuk Elahi	01552416578	7393
Medical officers	Dr. Md. Hasib iskandar	01720960997	7893
Medical officers	Dr. Md. Mubashwirul islam	01679222750	7817

#### Fire service and civil defense:

Fire Brigade Emergency/Enquiry	199
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Place	Mobile	Phone
Polashi	01716354370	02-8628688
Mirpur Road	01730002229	02-9001055
Mohammadpur	01712970093	02-9112078

#### Police & Security:

Designation	Phone
Emergency Call	999
DMP Police Emergency	01713398311,9551188

**Directorate of Students' Welfare (DSW):**

Designation	Name	Phone No.	BUET Office
DSW	Dr. Md. Mizanur Rahman	01911346993	6135,7143
Assistant DSW	Dr. Md. Raquibul Hossain	01819557960	7224
Associate Directors	Dr. Mohammad Faisal	01794692601, 01926714764	7713, 6168

**Residential Halls: (Updated at 03/08/2019)**

Hall Name	Designation	Name	Phone No.	BUET Office
Ahsan Ullah Hall	Assistant Provosts	Dr. Md. Iqbal Hossain	01927885215	7430
Kazi Nazrul islam Hall	Assistant Provosts	Dr. Mahbub Hasan	01820291811	7833
Titumir Hall	Assistant Provosts	Dr. Md. Muktadir Billah	01840702279	7718
Sher-e-Bangla Hall	Assistant Provosts	Dr. Md. Shahinoor islam	01922544639	7933
Suhrawardy Hall	Assistant Provosts	Dr. Mohammad Khurshed Alam	01712526059	6390
Shahid Smrity Hall	Assistant Provosts	Dr. Rupak Mutsuddy	01839848062	7224
Chattri Hall	Assistant Provosts	Nishat Sultana	01757786310	7735
Dr.M.A.Rashid Hall	Assistant Provosts	Dr. Md. Shafiul Azam	01535495622	7470

**University security & others:**

Designation	BUET Office
Security Emergency Call	7777
Security officer	7482
Electricity & Plumbing	7323
Machine Room	7589
Shaheed Minar Gate(Main Gate)	7812
West Palashi ( Main Gate)	6592
Bakshi Bazar R/A Gate	7825
Dhakeswari R/A Gate	7759
Palashi R/A Gate	7692
Azad R/A Gate	7760
71,72 No. Building Gate	6330

**1.2 What to do in Case of an Emergency?*****In the event of an emergency,***

- Get out of immediate danger!
- Report situation to the instructor
- Explain the nature of the emergency.
- Provide your name and location.
- Provide the phone number from which you are calling.
- Answer all questions and do not hang up the phone until the operator is finished.

***If the emergency has cause injury to a person,***

- Provided it is safe for you, stay with the victim!
- If the victim is conscious, ask what the problem is.
- If the victim is unconscious, check for breathing and bleeding. Do not move the individual until trained personnel arrive or an immediate threat to life exists. Only trained individuals should administer first aid and CPR.
- Keep the victim still, comfortable, and ventilated.
- Protect the victim from any disturbances.
- Search for any emergency identification (i.e. ID)
- Wait for emergency help to arrive. Never leave the victim alone if possible.
- Once the emergency responders have arrived, stay out of the way of emergency personnel and emergency vehicles!

***What to do in case of a fire or smoke?***

All situations related to fire should be taken seriously. If you hear or see anything uncertain, evacuate the building!

***If fire or smoke is discovered anywhere on or about the campus:***

- Leave the area where the fire is located, isolating it as well as possible by closing doors and windows around it.
- Activate the fire alarm switch.
- Do not attempt to retrieve valuables.
- Do not use Elevators /lifts .
- Never attempt to fight a fire larger than wastebasket size. Even a small fire can generate enough smoke to cause serious injury. Never attempt to fight a fire by yourself. Call for help. Always stay between the fire and the exit.

***If you can't evacuate:***

- Find a safe location and call emergency.
- Crawl to the door on hands and knees, so you can breathe the fresher air near the floor.
- Seal your room against entering smoke.
- If it's still smoky in your room, breathe through a wet towel that covers your nose and mouth. Breathe only through your nose.
- Clear flammable debris from the window.

**1.3 FIRE EXTINGUISHER INSTRUCTIONS (PASS)**

**P \* PULL** safety pin from the handle

**A \* AIM** at the base of the fire

**S \* SQUEEZE** the trigger handle

**S \* SWEEP** foam side to side



#### **1.4 What if you or people are trapped in a burning building?**

- The universal sign for a person trapped in a burning building is to hang clothing or a sheet out of the window of the room where you are trapped. The firefighters then will know where you are trapped.
- If you are aware that someone is trapped in a burning structure, inform the firefighters immediately.
- Do not re-enter the building alone.
- If you are trapped, stay low to the ground as you try to exit. Do not open any doors that feel hot. Use wet towels or clothes to protect you from flames and smoke.
- If your clothes catch fire, STOP, DROP, AND ROLL!!!

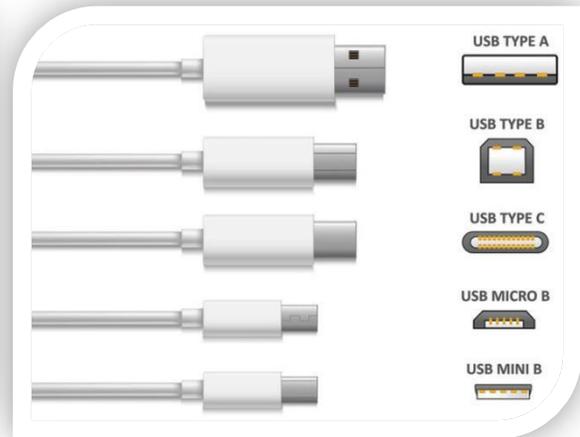
#### **2. Lab Rules:**

1. Lab users must sign in and out of the lab.
2. NO FOOD, DRINK, OR USE OF TOBACCO IN ANY FORM is allowed in the labs.
3. Telephones are NOT for personal use.
4. TURN OFF CELL PHONES! If you need to use it, please take it to the hallway.
5. The only game allowed is Solitaire.
6. Children under the age of 16 must be accompanied and supervised by an adult. If supervision does not occur, or the situation becomes disruptive, the adult and child(ren) will be asked to leave.
7. Lab users should maintain professional and courteous communication. Electronic devices should be used on a professional level. No obnoxious or belligerent behavior will be tolerated.
8. Please operate the equipment with respect and care.
9. Activities in the lab(s) that are considered by the lab aides to be abusive to the software, hardware, and/or personnel may result in expulsion from the lab(s) and denial of future use of the lab(s).
10. Excessive use of paper and materials may require reimbursement to the lab. Paper being discarded should be placed in a recycle container.
11. The lab aides are here to help when they can and to maintain the labs' operation. However, the lab aides are not here to do your work for you. The lab aides will refer students to their instructors at the lab aides discretion.
12. Software may be installed by Computer Labs staff only. Do not install any software on your own. Files not put on by Computer Labs staff will be routinely removed.
13. Do not modify any software or files. Do not overwrite the operating system, modify the autoexec.bat or config.sys or any other system parameters.
14. For any hardware, software, printer, paper, or ink problems, please contact a aide.
15. College policy requires compliance with all U.S. copyright laws. Copying software without appropriate authorization violates these laws. Illegal use of materials in the labs is grounds for denial of use of the labs and confiscation of illegally used materials.
16. Any failure to follow these lab rules may result in the loss of your lab privileges.



**Computer lab (CE,BUET)**

A computer lab is a space which provides computer services to a defined community. Computer labs are typically provided by libraries to the public, by academic institutions to students who attend the institution or by other institutions to the public or to people affiliated with that institution. Users typically must follow a certain user policy to retain access to the computers.



**Computer with cables and connectors**

There are also several “shapes” for USB connections:

**Type A** supports USB 1.0, USB 2.0, USB 3.0, USB 3.1.

**Type B** supports USB 1.0, USB 2.0, USB 3.0, USB 3.1.

**Type C** (i.e. USB-C) supports USB 3.1, USB 3.2, USB 4.x.

**Mini** supports USB 2.0.

**Micro** supports USB 2.0.

Note: If you buy an adapter from one USB type to another, the data transfer rate will be limited by the slowest connection between the two endpoints and the two devices that are connected together.

Note: The Mini-USB and Micro-USB variants are most often used with smaller, portable devices like PDAs, phones, and digital cameras. The standard USB connectors are more often used on devices that tend to remain plugged in, like external hard drives, keyboards, and mice.

#### 4. Physical safety symbols

	<p><b>Symbol for Gloves</b> Gloves must be worn while working in the laboratory. It is important to choose the appropriate type of glove.</p>
	<p><b>Symbol for Boots</b> Closed toe shoe that cover the entire feet must be worn all time while working in the laboratory.</p>
	<p><b>Symbol for Protective Clothing</b> Apron must be worn while working in the laboratory.</p>
	<p><b>Symbol for Safety Glasses</b> Safety glass must be worn while working with chemicals.</p>
	<p><b>Symbol for Breathing Masks</b> Use breathing mask while working in an area with potentially contaminated air.</p>
	<p><b>Symbol for Face shields</b> Face shields must be worn when executing experiments that carry the potential of causing an explosion inside of the hood.</p>
	<p><b>Symbol for Hearing Protection</b> There is a wide variety of hearing protection devices available. Use one according to your need in the laboratory</p>
	<p><b>Symbol for Wash Hands</b> Hand washing is a primary safeguard against inadvertent exposure to toxic chemicals or biological agents. The wash hands safety sign lets lab personnel know to wash their hands.</p>
	<p><b>Symbol for Food &amp; Drink Prohibited</b> No food and drink is allowed inside the laboratory. Especially during class hours.</p>

	<p><b>Symbol for Fire Extinguisher</b> it's important that every lab be prepared with the correct fire extinguisher, inspection requirements, and training.</p>
	<p><b>Symbol for No Open Flames</b> Open flame devices carry with them the risk of unintentional fire and serious consequences when not used appropriately. So be careful about open flame.</p>
	<p><b>Symbol for Poison/Toxic Material</b> The toxic material symbol indicates the presence of substances that may harm an individual if they enter the body.</p>
	<p><b>Symbol for Explosive Hazard</b> The exploding bomb symbol will appear on chemicals in the lab that have explosive properties</p>
	<p><b>Symbol for Flammable &amp; Combustible Substances</b> The flammable and combustible symbol signifies substances that will ignite and continue to burn in air.</p>
	<p><b>Symbol for recycling storage</b> The recycling sign is used in labs to indicate where recyclable items are gathered and sorted.</p>

## 5. Reference

1. <https://www.labmanager.com/lab-health-and-safety/2017/09/science-laboratory-safety-and-hazard-signs-meanings>
2. <http://www.healthcareinspirations.com>
3. *Laboratory Safety Policies and Procedures, The University of Connecticut*
4. <https://www.wikipedia.org>
5. <https://www.thesprucecrafts.com/safety-rules-every-woodworker-should-know-3536833>
6. <https://www.wikihow.com/Handle-an-Emergency-Situation>
7. <https://emergency.vt.edu/ready/guides/building-fire/building-fire-during.html>