



DECREE OF THE RECTOR UNIVERSITAS SUMATERA UTARA

ON

GUIDELINES FOR IMPLEMENTING CAMPUS SECURITY, SAFETY, AND
HEALTH IN UNIVERSITAS SUMATERA UTARA

THE RECTOR OF UNIVERSITAS SUMATERA UTARA,

Considering : that in order to increase the efficiency of protecting campus security, safety and health for employees and students of Universitas Sumatera Utara, it is necessary to stipulate the Decree of the Rector of Universitas Sumatera Utara on Guidelines for Implementing Campus Security, Safety and Health in Universitas Sumatera Utara;

- view of :
1. Law Number 1 of 1970 on Occupational Safety (State Gazette of the Republic of Indonesia 1970 Number 1, Supplement to the State Gazette of the Republic of Indonesia Number 2918);
 2. Law Number 20 of 2003 on the National Education System (State Gazette of the Republic of Indonesia 2003 Number 78, Supplement to the State Gazette of the Republic of Indonesia Number 4301) as amended by Law Number 1 of 2023 on the Criminal Code (State Gazette of the Republic of Indonesia 2023 Number 1, Supplement to the State Gazette of the Republic of Indonesia Number 6842);
 3. Law of the Republic of Indonesia Number 12 of 2012 on Higher Education (State Gazette of the Republic of Indonesia 2012 Number 158, Supplement to the State Gazette of the Republic of Indonesia Number 5336);
 4. Law Number 17 of 2023 on Health (State Gazette of the Republic of Indonesia 2023, Supplement to the State Gazette of the Republic of Indonesia Number 6887);



5. Government Regulation Number 50 of 2012 on the Implementation of Occupational Safety and Health Management System (State Gazette of the Republic of Indonesia 2012 Number 100, Supplement to the State Gazette of the Republic of Indonesia Number 5309);
6. Government Regulation Number 4 of 2014 on the Implementation of Higher Education and Management of Higher Education Institutions (State Gazette of the Republic of Indonesia 2014 Number 16, Supplement to the State Gazette of the Republic of Indonesia Number 5500);
7. Government Regulation Number 16 of 2014 on the Statutes of Universitas Sumatera Utara (State Gazette of the Republic of Indonesia 2014 Number 42, Supplement to the State Gazette of the Republic of Indonesia Number 5510);
8. Government Regulation Number 66 of 2014 on Environmental Health (State Gazette of the Republic of Indonesia 2014 Number 184, Supplement to the State Gazette of the Republic of Indonesia Number 5570);
9. Regulation of the Minister of Manpower and Transmigration Number Per.15/MEN/VIII/2008 on First Aid Kit in the Workplace;
10. Regulation of the Minister of Research, Technology and Higher Education of the Republic of Indonesia Number 46 of 2017 on Special Education and Special Services in Higher Education (State Gazette of the Republic of Indonesia 2017 number 926);
11. Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 53 of 2023 on Quality Assurance of Higher Education (State Gazette of the Republic of Indonesia 2023 Number 638);
12. Regulation of the Board of Trustees Number 1 of 2022 on the Organization and Governance of Universitas Sumatera Utara as amended by Regulation of the Board of Trustees Number 2 of 2023 on Amendments to Regulation of the Board of Trustees Number 1 of 2022 on the Organization and Governance of Universitas Sumatera Utara;

DECIDED:

To stipulate

: DECREE OF THE RECTOR OF UNIVERSITAS SUMATERA UTARA ON GUIDELINES FOR IMPLEMENTING CAMPUS SECURITY, SAFETY, AND HEALTH IN UNIVERSITAS SUMATERA UTARA.



**Universitas
Sumatera Utara**

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- FIRST** : Establishing Guidelines for the Implementation of Campus Security, Safety and Health in Universitas Sumatera Utara as stated in the Attachment which is an inseparable part of this Decree of the Rector.
- SECOND** : This Decree of the Rector come into force on the date of stipulation.



ATTACHMENT

DECREE OF THE RECTOR OF UNIVERSITAS SUMATERA UTARA

NUMBER :

DATE :

ON

GUIDELINES FOR IMPLEMENTING CAMPUS SECURITY,
SAFETY, AND HEALTH IN UNIVERSITAS SUMATERA UTARA

CAMPUS SECURITY, SAFETY, AND HEALTH
IN UNIVERSITAS SUMATERA UTARA ENVIRONMENT

CHAPTER I
INTRODUCTION

A. Background

Campus security, safety, and health have become an important part for employees and students of Universitas Sumatera Utara to ensure that work or study activities can run smoothly. Campus security, safety, and health are efforts to create a safe, healthy environment, free from accidents, diseases, and environmental pollution so as not to hinder the effectiveness, efficiency, and productivity of work or study. Campus security, safety, and health are carried out to ensure that employees and students of Universitas Sumatera Utara receive protection for security, safety, and health in carrying out work or study activities in Universitas Sumatera Utara environment.

Campus security, safety, and health must be implemented effectively, efficiently, systematically, and accountably. Thus, it is necessary to establish the Decree of the Rector on Guidelines of Campus Security, Safety, and Health in Universitas Sumatera Utara Environment.

B. Aim

Guidelines of Campus Security, Safety, and Health in Universitas Sumatera Utara aim to :

1. to protect and maintain security, safety and health in Universitas Sumatera Utara environment for employees and students of Universitas Sumatera Utara so that their performance can improve;
2. to maintain and ensure the security, safety and health of employees and students of Universitas Sumatera Utara within Universitas Sumatera Utara environment;



3. to ensure production sources are well maintained and can be used safely and efficiently; and
4. to ensure that all operational activities are carried out in accordance with internal regulations and/or applicable laws and regulations as well as security, safety and health standards.

C. Scope

The scope of guidelines of campus security, safety and health in Universitas Sumatera Utara includes:

1. Security implementation
2. Safety management; and
3. Health care services.

D. General Understanding

In this guideline, the following terms are defined:

1. Universitas Sumatera Utara, hereinafter abbreviated as USU, is a state university with a legal entity.
2. Rector is an organ of USU that leads the organization and management of USU.
3. Work Units are all academic implementers, academic support, administrative implementers, and other supporting organs within USU environment who have the authority and responsibility for using the budget.
4. USU employees, hereinafter abbreviated as Employees, are civil servants who are employed, permanent employees, and non-permanent employees within USU environment.
5. Students are learners at higher education level.
6. Campus Security, Safety and Health, hereinafter abbreviated as K4, is all activities to guarantee and protect Employees and Students in USU environment.
7. First Aid for Accidents, abbreviated as P3K, is an effort to provide first aid quickly and accurately to employees and students who experience illness or injury in USU environment.
8. A laboratory is a place where laboratory technicians work in the form of an open or closed room designed according to the needs to carry out activities related to educational, research and community service functions in USU environment.
9. A laboratory assistant is a person whose job is to assist students and/or lecturers in the laboratory in carrying out educational, research and community service activities in USU environment.
10. Security Unit, hereinafter referred to as Security guard, is a professional unit or group employed to carry out security in the implementation of security in USU environment.



CHAPTER II SECURITY IMPLEMENTATION

A. Campus Entrance and Exit Management

The entrance of USU campus is the access to USU campus area. The exit of USU campus is the access to exit the USU campus area. Vehicles entering and exiting the USU campus outside of working hours starting at 18.00 WIB and on holidays are required to report to the security officer guarding the USU campus entrance/exit. Based on this, there are rules for entering and exiting the USU campus, including:

1. every vehicle entering the USU campus must go through the USU entrance;
2. for cars (4 wheels) when entering campus, drivers must open the car windows;
3. every vehicle must park in the space provided and install a safety lock.;
4. when the vehicle is leaving campus, car drivers (4 wheels) must open the car windows;
5. officers will routinely and randomly go around to check vehicles parked in the campus area;
6. if there are valuables or keys left in the vehicle, officers will take them to the Campus Security and Safety Center;
7. the officer will ask the vehicle owner to show proof of vehicle ownership (vehicle registration certificate or motor vehicle owner's book);
8. if you can show evidence, then the valuables or keys will be handed over to their owners;
9. if you cannot show evidence, it will be handed over to the authorities for follow-up in accordance with applicable laws and regulations; and
10. when leaving the campus area, vehicles must go through the exit or route designated by officers.

B. Theft

Theft is an act that is done intentionally to take someone else's property unlawfully. Theft is a serious problem that can affect the security and comfort of the environment. Based on this, theft must be addressed immediately to reduce negative impacts and prevent other crimes.

Efforts to prevent theft can be done as follows:

1. to use Closed Circuit Television (CCTV) to monitor activities in protected areas;
2. to use an alarm that functions as a theft prevention detector;



3. to use a security system equipped with direct supervision by security officers to monitor the situation; and
4. to carry out security using patrol cars to control the situation and conditions in the campus area.

If theft occurs, what must be done is:

1. victim
 - a. the victim/campus party reported to the officer on duty about the theft incident;
 - b. the picket officer will come to the crime scene and carry out a crime scene investigation;
 - c. the picket officer will make a report containing the time and place of the incident, the victim's personal data, and the chronology of the incident; and
 - d. after the report is completed, the victim can ask for their case to be processed by the police or withdraw the case.
2. perpetrator
 - a. the perpetrator was taken to the Campus Safety and Security Center for questioning;
 - b. the picket officer will record data on the perpetrators of theft and also the evidence;
 - c. the picket officer will ask the victim whether the case is being stopped or whether the case will continue to be processed;
 - d. if the victim asks that the case be processed, the picket officer will make a report on the handover of the suspect to the police; and
 - e. if the victim asks for the case to be stopped, the victim and perpetrator must make and sign a statement.

If a loss occurs, it is necessary to pay attention:

1. types of information/reports of loss issued by 2 parties, namely:
 - a. Security guard, the type of service provided is making a certificate of loss of student ID card; and
 - b. police, the type of service provided is making a certificate of loss of identity cards, ATMs, driving licenses, jewelry, laptops and others. While passports, Vehicle Registration Certificates, and Motor Vehicle Ownership Books can only be served by the Police Sector.
2. to apply for a lost certificate, the applicant can come to the Campus Security and Safety Center.
3. to submit a photocopy of your personal data if you have one, the officer will input the applicant's personal data.
4. the certificate is issued with the signature of an officer (Security guard/police).



C. Extortion

Extortion is an act committed by a person to benefit themselves and/or another party, but puts pressure on and harms the other party. Extortion is a serious problem that can affect the security and comfort of the environment. Based on this, extortion must be addressed immediately to reduce negative impacts and prevent other crimes. Efforts that can be made to prevent extortion are as follows:

1. to use Closed Circuit Television (CCTV) to monitor activities in protected areas;
2. to use a security system equipped with direct supervision by security officers to monitor the situation; and
3. to carry out security using patrol cars to control the situation and conditions in the campus area.

If extortion occurs, what must be done is:

1. victim
 - a. the victim reported the incident to the picket officer;
 - b. the picket officer will make a report containing the time and place of the incident, personal data, victim data, witness data, and the chronology of the incident;
 - c. the victim can ask for their case to be processed by the police or withdraw the case; and
 - d. if the victim asks that their case be processed by the police, the picket officer will submit the report file to the police.
2. perpetrator
 - a. the perpetrator was taken to the Campus Safety and Security Center for questioning;
 - b. the picket officer collect data on extortion perpetrators (identity of perpetrators);
 - c. the picket officer collect data on evidence;
 - d. the picket officer will ask the victim whether the complaint is withdrawn or the case will continue to be processed;
 - e. if the victim asks that the case be processed, the picket officer will make a report on the handover of the suspect to the police; and
 - f. if the victim asks for the case to be stopped, the victim and perpetrator will make and sign a statement.



D. Drug Users

A *Drug addict* is someone who repeatedly uses or misuses substances, leading to both physical and psychological dependence. Drug addiction poses a serious threat to the safety and well-being of the community. Therefore, it is crucial to address drug addicts promptly to minimize the negative consequences and prevent further criminal activity. Efforts to prevent drug use can be done in the following ways:

1. conduct education and awareness programs on the dangers of drugs through seminars, workshops, and information campaigns;
 2. conduct patrols and random checks to prevent the circulation or drug use in the campus environment;
 3. implement clear and firm policies against drug abuse, including clear sanctions for offenders;
 4. enforce laws against drug abuse on campus; and
 5. provide rehabilitation programs that assist students seeking to recover from drug addiction.
- If someone is found to be using drugs, the officer will:
1. catch the offender;
 2. secure the evidence;
 3. take the perpetrator to the Campus Security and Safety Center to document their identity and the evidence; and
 4. turn in the perpetrators and evidence to the appropriate authorities.

If someone is found to be in withdrawal, exhibiting unusual behavior such as yelling, disturbing others, or damaging property, the officers will:

1. secure the perpetrators and checking his identity;
2. check if there is evidence;
3. if there is evidence, the perpetrator is taken to the Campus Security and Safety Center;
4. If there is no evidence but the individual disturbs others or damages property resulting in loss, the officer will turn in the perpetrator and any evidence to the authorities; and
5. if there is no evidence, the officer can advise him to immediately leave USU campus.

If the officers find someone doing drug transactions, they will:

1. apprehend the offender along with any evidence, including money and/or drugs;
2. take the perpetrator, whether the seller or the buyer, or both, to the Campus Security and Safety Center;
3. document their identity and the evidence; and
4. turn in the perpetrators and evidence to the appropriate authorities.



If an officer discovers someone in possession of drugs, they will:

1. take the perpetrators to the Campus Security and Safety Center;
2. document their identity and the evidence;
3. conduct an examination to establish the intent to possess the drugs; and
4. turn in the perpetrators and evidence to the appropriate authorities.

If the perpetrator aforementioned is a student, it will be reported to the work unit that organizes affairs in the field of USU Student Affairs.

E. Immoral Acts

Immoral is an act or behavior that deviates from the norms or rules of decency that tend to occur a lot in the community. Immoral acts pose a significant issue that can impact the safety and well-being of the community. Therefore, immoral acts must be addressed immediately to minimize their negative effects and prevent further criminal activities. Efforts to prevent immoral behaviors can be done in the following ways:

1. conduct educational and awareness programs on immoral acts through seminars, workshops, and information campaigns;
2. implement a clear and firm policy against immoral acts;
3. conduct patrols and random checks to prevent immoral acts within USU campus environment; and
4. provide rehabilitation programs that assist students seeking to recover from immoral acts.

If an immoral act is found, the action that must be done is:

1. the perpetrator will be taken to the Campus Safety and Security Center;
2. If the perpetrator aforementioned is a student, it will be reported to the work unit that organizes affairs in the field of USU Student Affairs;
3. the on-duty officers will document the identity of the perpetrator;
4. both parents of the perpetrator will be contacted; and
5. The perpetrators will provide a statement pledging not to repeat their actions on campus in front of the officers.

F. Traffic Violations

In the event of violation of traffic signs within USU environment, such as exceeding the maximum speed limit (40 km/h) and vehicle engine noise, excessive vehicle engine noise, persuasive measures will be implemented, including:

1. if there is a violation of the campus speed limit, the officers must:
 - a. stop the vehicle and give an explanation to the perpetrator;
 - b. document the identity of the perpetrator and the vehicle;
 - c. gather information on the identity of the perpetrator and the vehicle registration number;



- d. Prepare an affidavit for the perpetrator to ensure they do not repeat their mistakes; and
 - e. in the event of an offense requiring settlement with the competent authorities, the perpetrator may be processed in accordance with applicable law.
2. in the event of violation of parking prohibition signs, the officers must:
 - a. document the identity of the perpetrator and the vehicle registration number;
 - b. put a sticker labeled "Rule Breaker" on the perpetrator's vehicle;
 - c. lock the wheels of the car if a similar violation occurs for the third time;
 - d. unlock the wheels when the vehicle owner reports to the officer; and
 - e. provide guidance to avoid similar violations.

G. Traffic Accidents

If you experience or witness an accident within USU area, the reporting procedure should be followed as outlined below:

1. contact the nearest security guard or come to the Campus Security and Safety Center;
2. if there is a victim of the accident, you can contact the officer to take him to USU Polyclinic/USU hospital;
3. the suspect of the accident will be taken to Campus Security and Safety Center;
4. the officer will document the personal information of both the victim and the suspect, as well as document the vehicle details of both parties; and
5. if the accident causes:
 - a. the death of the victim, then the case will be submitted directly to the Traffic Accident Unit of Medan City Police; or
 - b. mild injure or serious injure or loss of goods/equipment of the victim (eg: vehicle heavily damaged), the victim/victim's family will be asked to come to Campus Security and Safety Center and the officers will work to resolve the case amicably and obtain a statement from both parties. If the case cannot be resolved amicably, it will be handed over to the Traffic Accident Unit of Medan City Police.



CHAPTER III SECURITY IMPLEMENTATION

The safety implementation within USU campus environment is crucial to ensure the comfort and smooth operation of activities on campus. Examples of safety measures within USU environment are as follows:

A. Transportation Safety

Transportation safety refers to a state in which all necessary conditions are met to protect individuals from the risk of accidents during travel, which may be caused by human factors, vehicles, or environmental conditions. Thus, transport safety includes:

1. traffic

The correct behaviors when navigating the traffic within USU area include:

- a. must carry a valid motor vehicle license, including a driver's license and vehicle registration certificate.
- b. must pay attention and comply with existing road signs and markings;
- c. must drive the vehicle at a maximum speed of 40 km/h;
- d. must park the vehicle in a designated parking space; and
- e. must wear a helmet for two-wheeled motorists.

2. USU campus transportation

The correct behaviors while driving a USU campus transport within USU area include:

- a. a licensed driver must have a valid driver's license and always carry the necessary vehicle documentation, including vehicle registration certificate.
 - b. must wear a uniform that has been provided by USU;
 - c. must stop at a designated stop;
 - d. use a vehicle that is in operable condition, including essential lights, in accordance with the relevant traffic and highway regulations;
 - e. pay attention and support the implementation of security, order, safety, and cleanliness within USU campus environment; and
 - f. obey the traffic regulations applied within USU campus.
- ##### 3. motorcycle taxi operating inside USU campus area

The correct behaviors when riding a motorcycle taxi within USU environment are as follows:

- a. use helmets for both rider and passenger;
- b. use a vehicle that is in operable condition, including essential lights, in accordance with the relevant traffic and highway regulation;
- c. use a standard vehicle exhaust (not loud);



- d. not to ride in a low-light or rainy weather;
 - e. must carry a vehicle registration certificate and valid motor vehicle license type C.
 - f. obey the traffic regulations applied within USU campus; and
 - g. turn on the light during the day.
4. personal motorcycles

Correct behavior when driving a motorcycle is as follows:

- a. use a vehicle that is in operable condition, including essential lights, in accordance with the relevant traffic and highway regulation;
- b. use a standard vehicle exhaust (not loud);
- c. not to ride in a low-light or rainy weather;
- d. must carry a vehicle registration certificate and valid motor vehicle license type C.
- e. obey the traffic regulations applied within USU campus; and;
- f. comply with all forms of arrangements made by campus officers;
- g. not to disrupt public order;
- h. drive on the left side of the road and pass on the right side of the road;
- i. drive at a speed that complies with regulations and is not reckless;
- j. signal with lights when making a turn;
- k. when approaching an intersection, always be aware of the surrounding road conditions. make sure you can pass safely before crossing the intersection;
- l. it is forbidden to park in the bicycle lanes or sidewalks;
- m. always wear a closed helmet and a thick jacket when riding a motorcycle. This is to protect the rider's head and body in the event of a fall from the motorcycle;
- n. when reaching the destination, park the motorcycle in accordance with the relevant regulations;
- o. it is forbidden to park in the bicycle lanes or sidewalks;
- p. lock the motorcycle and make sure it is safe when you leave the motorcycle; and
- q. do not leave valuables on the motorcycle.

Motorcycle parking system on campus, includes:

- a. park the vehicle in a parking location that has been provided;
 - b. ask for proof of parking (if any) to the officer;
 - c. park the vehicle in an organized manner;
 - d. use a double security lock on the vehicle;
 - e. ensure your vehicle is securely locked;
 - f. make sure not to leave valuables in the trunk of the vehicle;
 - g. report immediately to the security guard if you see anything suspicious;
- h. provide proof of parking when the vehicle will exit the parking area;
 - i. the officer must check that the vehicle number matches the police registration number. If it matches, then the vehicle can exit the parking area. If it does not match / the rider cannot



provide the vehicle registration certificate, the officer has the right to hold the vehicle so that it does not exit the parking area; and

- j. Officers coordinate with the Campus Safety and Security Center for further actions.

5. personal car

Personal car is one of the alternative vehicles that can be used within USU campus area. However, due to the limited parking space and to help reduce air pollution on campus, it is strongly advised to use public transportation. Correct behaviors when driving using a car as follows:

- a. use a vehicle that is in operable condition, including essential lights, in accordance with the relevant traffic and highway regulations;
- b. must carry a vehicle registration certificate and valid motor vehicle license type A.
- c. pay attention and support the implementation of security, order, safety, and cleanliness within USU campus environment; and
- d. obey the traffic regulations applied within USU campus; and;
- e. always give priority to USU cars or transportation that are passing through. This applies to all road users within USU environment;
- f. never overtake a vehicle or transportation while it is stopped. This is to avoid the risk of getting hit or bumping into other highway users who pass in front of cars or transportation;
- g. motorists may overtake a car or transportation when it is running by signaling in advance. The signals include using light *indicators* and honking the horn twice.
- h. wear safety belts while driving; and
- i. park in accordance with applicable regulations.

Car parking on campus, includes:

- a. park the vehicle in a parking location that has been provided;
- b. Park in reverse parking position. It is strongly advised to ensure easy evacuation during an emergency.
- c. use double security locks on vehicles;
- d. recheck that the car doors and windows are securely locked;
- e. do not leave valuables such as laptops, jewelry and other items in the vehicle in the vehicle;
- f. any damage or loss to the vehicle is the responsibility of the vehicle owner; and
- g. report immediately to the security guard if you see anything suspicious

6. bicycle

USU campus provides cycling facilities to promote a pollution-free and healthy environment on campus. The procedures for borrowing and using USU bicycles are as follows:

- a. Bicycle users are active USU employees or students;
- b. Students who cannot show their student ID card are not allowed to borrow bicycles;
- c. bicycles should only be used on designated bicycle lanes;



- d. While in use, the bicycle is the responsibility of the borrower; and
- e. Students (borrowers) or employees are considered to have fulfilled their responsibilities once the bicycle has been returned to the bicycle management officer.

Therefore, the correct behaviors when riding a bicycle are as follows:

- a. make sure the bicycle is in good condition to ride. Check tires, brakes, saddle, and other components before riding a bicycle;
- b. not to cycle in a low-light or rainy weather;
- c. cycle on the designated bicycle lanes;
- d. must pay attention to road conditions when crossing the highway. Make sure no other vehicles will pass;
- e. do not listen to music at a high volume when cycling; and
- f. always park the bicycle in the parking lot that has been provided, and make sure the bicycle is safe and locked or make sure there are officers on duty.

7. pedestrian

Students living or staying in boarding houses near the USU campus who walk to campus are also not exempt from the risks and dangers of traffic around USU campus. Crossing highways and roads within the campus area also poses a risk of accidents for pedestrians. Therefore, the correct walking behaviors, namely:

- a. do not walk in dangerous places, such as deserted and dark streets;
- b. walk on the sidewalk;
- c. do not cross the road recklessly or carelessly, cross in *zebra cross*; and
- d. do not walk while joking excessively/while listening to music / while using a cellphone or any item that can divert attention from the road.

B. Building Safety

Building Safety means meeting the necessary requirements to protect everyone from the risk of accidents." Therefore, should be considered based on its functionality, which includes:

1. corridor

- a. use the available corridors as a link between buildings.
Do not cut paths that can damage the campus environment;
- b. walk carefully in the corridors; do not run, as it can endanger both yourself and others; and
- c. do not sit around corridors or stairs, as they can hinder the passage of others.

2. stairs

- a. use the stairs provided effectively. Do not rush when going up or down the stairs;
- b. use *handrail* to hold on when going up or down the stairs; and



- c. bring luggage according to ability and capacity.
3. *elevator*
 - a. use *elevator* wisely. Due to limited number *elevators*, it is highly recommended to use the stairs to go up or down to the next floor;
 - b. watch your step when going inside the *elevator*. Do not force entry if the *elevator* is already full;
 - c. the first person to enter the *elevator* should press the door opening button and hold it until the last person enters the *elevator*;
 - d. when you reach the floor, proceed with caution. Individuals not exiting on that floor should make way for those who are and hold the door open button until the last person has exited or entered;
 - e. Individuals who are just about to enter the *elevator*, must put people who want to go out first; and
 - f. if the *elevator* suddenly stops:
 - 1) stay calm;
 - 2) press the emergency button if there is one. If it does not exist or does not work, you can shout for help, or use your cellphone to contact your building officer or colleagues who are considered to be able to help to contact the relevant parties; and
 - 3) do not force to open the *elevator* door. Wait for the building technician to come to free you.
4. electricity

Any building equipped with electrical installations including their electrical resources must be guaranteed to be safe, reliable and environmentally friendly. As stipulated in the applicable provisions, every installation, control, and distribution of electrical equipment wiring in buildings must meet the Indonesian national standard 04-02252000 or the latest edition of the general requirements of electrical installations. Emergency power sources generally must also be planned and can work automatically if the main power source does not work. Electrical power supplied to operate the emergency electrical power system is obtained from at least two sources of electrical power, which include:

- a. state electricity company; or
- b. emergency power source form batteries, generator, and others.

Based on that to create safety in the building, employees or students are invited to be able to use electricity wisely, such as:

- a. turns off lights, air conditioners and other electrical equipment that is not in use;
- b. do not overload the electrical load extension cord. Use according to the number of holes available;
- c. tidy up electrical cables so that they do not hang down on the floor and cause people to trip, even if necessary cover them with duct tape;
- d. do not install or unplug electricity with wet hands; and



e. unplug all electrical cables when going on a long vacation.

5. lightning protection

Based on the safety requirements aspect, every building must be equipped with a lightning protection system installation that protects the building, people, and equipment inside from the dangers of lightning strikes. The lightning protection system that is designed and installed must also be able to significantly reduce the risk of damage caused by lightning strikes to the building and the equipment it protects, as well as protect the people inside. The requirements for lightning protection system components are divided into two, including the following:

- a. external lightning protection system which is useful for protecting buildings against the danger of direct lightning strikes; and
- b. internal lightning protection system, which is useful for preventing the spread/continuation of dangerous lightning currents in building structures through an equipotential bonding system or distance separation (electrical insulation) by creating protection zones.

6. explosives

Every building equipped with an explosive detector including its antidote source must be guaranteed safe, reliable, and environmentally friendly. Those are the five building safety requirements regulated in Law Number 28 of 2002 concerning Buildings. In general, the inspection of the suitability of a building is carried out by means of visual observation of the physical condition of the building against several components, including architecture, structure, and utilities (mechanical and electrical equipment in the building) including mechanical and electrical, fire, and fulfillment of accessibility facilities for the disabled or disabled.

7. ergonomics/work comfort

- a. when working indoors, pay attention to ergonomic/comfort conditions while working. Sit with your back close to the back of the chair. In order not to get tired quickly, the footrest must be in accordance with the length of the leg or do not hang down;
- b. do activities in a room with sufficient lighting so that your eyes don't get tired quickly;
- c. if you have been using a computer/laptop for more than 2 hours, take a 2-minute break by looking 20 meters ahead, and stretch tired muscles such as the neck, waist, and hands;
- d. some conditions sometimes force us to take items that are far above our heads. Use a ladder to make it easier to take the item; and
- e. maintains the tidiness, cleanliness and beauty of your work space.



C. Safety in the Laboratory

Laboratory Safety is a preventive and repressive effort against accidents that are the result of design, systems, and processes and activities in the Laboratory. Based on this, Laboratory Safety includes:

1. personal protective equipment

Personal protective equipment is an important part of efforts to maintain safety in the USU environment. Here are some examples of common safety equipment:

- a. face shield;
- b. hair tie;
- c. chemical resistant gloves;
- d. heat resistant gloves;
- e. protective glasses;
- f. laboratory coat;
- g. medical masks;
- h. respirator mask; and
- i. closed shoes.

2. warning

Warnings are an effort to maintain safety in the USU environment, including:

- a. all chemicals, electrical equipment, magnets, biological materials, radioactive materials, and extreme temperatures must be clearly labeled with warning signs; and
- b. all chemicals in the Laboratory must be labeled with identity information and the date of purchase or the date when the material was stored in the container currently used. This applies to all chemicals, both hazardous and non-hazardous.

3. storage

Storage is an effort to maintain safety in the USU environment including:

- a. all storage areas must be clearly defined and separated from routine work areas; and
- b. all gas cylinders must be chained securely or attached to a stationary object to prevent the cylinder from falling accidentally.



4. household

Household is an effort to maintain safety in the USU environment including:

- a. corridors and exits must be easily accessible and must not be obstructed by equipment or objects stored in the Laboratory; and
- b. when leaving the room, turn off all lights and electrical equipment that are not in use and lock the door.

5. waste disposal

Waste disposal is an effort to maintain safety in the USU environment, including:

- a. spilled materials must be cleaned up immediately using the spill equipment located in each laboratory;
- b. disposal of materials used for cleaning must be carried out immediately in accordance with waste disposal guidelines;
- c. each Laboratory worker is responsible for waste disposal which is carried out as quickly and safely as possible in accordance with department procedures; and
- d. any sharp object that comes into contact with infectious materials or dangerous biological materials must be disposed of by wrapping it in paper and wrapping it in a plastic bag before being thrown into the trash.

6. operation

Operations are an effort to maintain safety in the USU environment including:

- a. laboratory members and equipment must be protected from temperature, electricity, and chemical hazards during equipment operation;
- b. electrical contacts must not be overloaded. Electrical cables must be kept in good condition. Any cables on the floor must be protected from Laboratory traffic by using cable bridges;
- c. equipment and operations must be properly installed on a safe, permanent, and horizontal surface to prevent objects from accidentally falling;
- d. a fume hood should always be used when working with flammable solvents or toxic gases. Hazardous or irritating fumes must be vented outside the building. Work with the gas hose lowered as far as possible. This will allow the ventilation system to work more effectively;
- e. exits must provide a free and unobstructed exit; and
- f. personal items and those not related to practicum may not be placed in the corridor.

7. personal safety practices

Personal safety practices are efforts to maintain safety in the USU environment including:

- a. contamination from food, drinks and cigarettes is a potential route for exposure to toxic substances.
- b. smoking is not permitted in the Laboratory premises.



- c. not permitted to store or consume food or drinks in the Laboratory.
 - d. always pay attention to equipment and provide information regarding laboratory safety procedures to laboratory visitors.
 - e. wash your hands thoroughly before leaving the laboratory area.
 - f. never leave the Laboratory area or touch objects while wearing gloves that may be contaminated with unsafe substances.
 - g. always wear closed shoes in the laboratory.
 - h. never work alone in the Laboratory. Make sure someone else is present in the Laboratory if emergency assistance is needed.
8. working with chemicals

Working with chemicals requires safe and balanced work practices to reduce risks, protect the safety and health of workers in the Laboratory, and the surrounding environment. In this case, information is needed about the hazards of the materials contained therein. This information must be provided and easily accessible to all Laboratory users. The following are steps that can be taken to work with chemicals safely:

- a. the manufacturer's label must be kept attached. Never remove or damage the label before the container is empty. If a chemical is transferred from one container to another for storage, the new container must be labeled with the name of the material, its chemical content and hazard warnings;
- b. material safety data sheets, all chemical manufacturers and distributors must conduct a hazard evaluation of their products and include the information in a material safety data sheet. All material safety data sheets must be stored in one location in the Laboratory; and
- c. separation of chemicals, chemicals that are not compatible with each other should not be stored in the same location. Storing chemicals in alphabetical order, without considering compatibility, can increase the risk of dangerous reactions, especially if an accident occurs that results in the packaging breaking. The following are general steps used to understand the use of chemicals:
 - 1) acidic material
 - a) mineral acids, including phosphoric, hydrochloric, nitric, sulfuric, and perchloric acids may be stored in cabinets designed for corrosive acids. These cabinets, made of non-metallic materials, have no metal interiors, are lined with acid-resistant materials, and the cabinet floor is designed to contain acid spills;



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- b) volatile acids, such as oleum or *fuming nitric acid*, should be stored in a special, ventilated cabinet, such as the bottom of a fume hood, especially if the packaging has been opened. Concentrated mineral acids can be very reactive;
 - c) Concentrated acids can even react violently with dilute solutions of the same acid, if mixed rapidly. For example, concentrated sulfuric acid mixed rapidly with 1 molar sulfuric acid will release a large amount of heat. Acids of different concentrations should be stored separately. If stored in the same cabinet, use plastic trays/buckets to keep them away from each other in the same cabinet;
 - d) acetic acid is an organic acid and should be stored separately from mineral acids. Because acetic acid is flammable, it should be stored together with other flammable liquids;
 - e) Picric acid can form explosive salts when reacting with various types of metals. Picric acid crystals are also explosive; and
 - f) Perchloric acid is a very strong oxidizer and should be kept away from all organic materials, including wood.
- 2) Unstable chemicals such as ethers, some ketones, and olefins can form peroxides when exposed to air or light. Since these materials may be packaged in non-airtight conditions, peroxides can form even before the package is opened. Some chemicals, such as dinitroglycerin, are sensitive to shock and can decompose quickly or explode if shaken or stirred. These materials become increasingly sensitive to shock with increasing storage time. For potentially unstable chemicals:
- a) on the label, write the date the package was received and the date the package was first opened;
 - b) after 6 months from the first time the packaging was opened, discard the packaging and its contents; and
 - c) discard unopened packaging after 1 year of receipt, unless an inhibitor has been added to it.
9. prevention of chemical spills
- Chemical spills can be avoided. Prevention of chemical spills is essential to reduce the risk of accidents and hazards that can arise from exposure to hazardous chemicals. Here are steps that can be taken to prevent spills:
- a. place chemical containers in a fume cupboard or work table that can reduce the possibility of being accidentally knocked over;



- b. put all unused materials in appropriate storage areas and keep the work area clean and free of unnecessary objects;
- c. pay attention to which direction you are going, so as to prevent spillage;
- d. avoid moving chemicals through room corridors when many people are passing by, such as during class changes;
- e. move chemicals using chemical transport equipment or wheelbarrows; and
- f. place a sheet that can absorb chemicals on the table or fume cupboard where chemical spills are likely to occur.

10. transfer of chemicals

Chemical transfer requires very careful and specific handling to reduce the risk of spills or exposure to chemicals. Chemical spills and exposure can occur if the material is moved incorrectly. To avoid this, there are steps that must be considered in moving these chemicals:

- a. use a means of transporting chemicals contained in bottles such as a wheelbarrow or secondary container (*secondary container*) when moving chemicals stored in breakable containers (especially if they are more than 250 ml) through corridors or between buildings. Secondary containers made of rubber, metal or plastic equipped with carrying handles and large enough to accommodate the entire contents of the container if the container is broken;
- b. moving B3 materials in individual packaging exceeding four liters between buildings is strongly discouraged;
- c. when moving around the Laboratory, anticipate sudden turns or changes in direction. If you stumble or fall while carrying glassware or chemicals, try to throw them away from yourself or others;
- d. people who move chemicals must know the dangers of the chemicals they are carrying and how to handle them in the event of a spill; and
- e. when carrying a gas cylinder, the cylinder must be tied to a cart and its valve must be protected with a cap. Never lift or roll a gas cylinder to move it.

11. Treatment if exposed to chemicals

Handling exposure to chemicals requires very careful and specific steps. When you are exposed to chemicals, there are steps you can take to handle it:

- a. all incidents must be reported to the head of the Laboratory, supervisor or principal researcher;
- b. handling of inhalation of chemicals includes:
 - 1) immediately close the container, open the window or increase ventilation and move to fresh air;



- 2) if symptoms such as headache, nose or throat irritation, dizziness or nausea persist, contact a medical professional immediately. Explain the chemical inhaled; and
 - 3) check the material safety data sheet to find out what health effects will occur, including those that do not occur immediately.
- c. handling of chemicals that come into contact with clothing or skin includes:
- 1) rinse immediately with water for no less than 15 minutes except for Hydrofluoric Acid, solids flammable or phenol >10% (ten percent). For large exposures it should be used safety shower;
 - 2) when rinsing immediately remove contaminated clothing and jewelry. Every second counts. Do not waste time because of politeness issues;
 - 3) be careful when removing the shirt or *sweater* without buttons, to prevent contamination of the eyes;
 - 4) read the material safety data sheet to find out any consequences that will arise later;
 - 5) discard contaminated clothing or wash it separately from other clothing; and
 - 6) leather materials cannot be decontaminated and must be discarded. For solids *flammable* that comes into contact with the skin, first remove as much of the substance as possible from the skin and then follow the procedure above. For hydrofluoric acid, rinse with water for 5 minutes. Use calcium gluconate 2.5% (two-point five percent). If not available, continue rinsing for 15 minutes. Then immediately seek medical help at the nearest hospital emergency unit.
- d. handling of chemicals that come into contact with the eyes includes:
- 1) immediately flush the eyes with water for at least 15 minutes. The eyes should be forced open during rinsing and the eyeballs should be rotated so that the entire surface is rinsed. It is better to use an eye shower (*water wash fountain*) so that the hands are free to keep the eyes open;
 - 2) if an eye spray is not available, flush the eyes with water, rinsing from the nose outwards so as not to contaminate eyes that are not exposed to the chemical;
 - 3) remove contact lenses during rinsing. Do not waste time removing contact lenses before rinsing. Do not attempt to rinse and reinsert contact lenses; and
 - 4) seek medical attention immediately regardless of the severity of the visible effects. Explain what chemicals you were exposed to. If possible, bring the material safety data sheet.
- e. Handling of chemicals that are accidentally swallowed includes:
- 1) immediately go to the emergency unit of the nearest hospital; and
 - 2) do not force vomiting.



12. working with gas

Working with gases requires caution, many types of gases are used in the Laboratory and all must be handled with care. Gas handling must also be adjusted to the gas classification and its properties such as:

- a. flammable gas (flammable gas): hydrogen (H₂), carbon monoxide (CO), ammonia (NH₃), hydrogen sulfide (H₂S), methane, propane;
- b. oxidizing gas (oxidizing gas): air, oxygen (O₂), ozone (O₃), Lauric Aldehyde (Cl₂), nitrogen monoxide (NO), nitrogen dioxide (NO₂);
- c. gas can explode (explosive gas): a mixture of flammable and oxidizing gas;
 - d. inert gas (inner gas): Nitrogen (N₂), helium (He), Ar;
 - e. liquefied/solidified gases: Nitrogen (N₂), helium (He), LPG, dry ice;
- f. poisonous gas (toxic gas): CO, CO₂, NH₃, halogens (Cl₂, F₂), hydrogen halide (HF, HCl), H₂S, HCN, arsine (AsH₃), phosgene, silanes, ozone;
- g. corrosive gas (corrosive gas): Cl₂, HCl, ozone (O₃); and
- h. high pressure gas, many gases are stored in high pressure cylinders so that incorrect handling can result in serious accidents.

13. handling of high-pressure gas

High-pressure gases pose a danger, the danger lies in the gas itself and the large amount of energy contained in the pressurized cylinder. Large cylinders weighing 130 lb or more can pose a danger of injury if they hit the feet or hands. Based on this, here are the steps that must be taken to prevent accidents with high-pressure gases:

- a. high pressure gas should be stored in a standing condition and tied one by one to avoid the risk of falling. Separate the Oxygen bottle from the Acetylene bottle and do not mix them. The storage place should be in a fireproof, safe, ventilated, cool location, and protected from direct sunlight;
- b. only trained and properly trained personnel should transport gas cylinders. Do not drag or pull the cylinder on the ground/floor, and ask for help from colleagues if the cylinder is too heavy;
- c. before using a gas cylinder, read the material safety data sheet first. Make sure the label is clear from the authorized agency, and never assume the type of gas in the cylinder if there is no label. Never trust the color of the cylinder, if necessary return it to the supplier if there is no label



- d. to ensure the use of appropriate personal protective equipment, such as oil-free gloves, to avoid hazards; and
- e. to ensure proper handling of high-pressure gas waste in accordance with applicable safety standards. Never store gas waste in an open area exposed to direct sunlight or other heat sources.

14. prevention of fires, burns, and explosions

Preventing fires, burns, and explosions requires very careful and specific steps to reduce the risk of accidents and hazards. Here are some steps that should be followed:

- a. to prevent the formation of explosive mixtures, gas leaks must be prevented, and room ventilation must be adequate. Ensure that the room where experiments are conducted has sufficient ventilation and an exhaust fan;
- b. to avoid fire triggers such as fuels, oxidizing gases, and sources of ignition. Fire sources that can cause fires are not only open flames but also high-temperature equipment or materials, static electric sparks, or collisions; and
- c. to provide planning and training for personnel near the gas source to ensure everyone knows what to do in the event of a gas leak. Safe evacuation routes must be prepared, and measures must be taken to prevent any ignition sources that could trigger a fire/explosion

Based on the above, entering the Laboratory requires preparation and procedures that must be followed to ensure safety and the success of experiments. The following are the steps that must be taken when entering the Laboratory:

1. those who wish to enter the Laboratory must first obtain permission from the Laboratory staff;
2. laboratory staff must provide a safety induction to anyone new entering the Laboratory;
3. familiarize yourself with the types of hazards and risks related to chemicals, biology, electricity, ergonomics, fire, and falling objects;
4. use personal protective equipment (PPE);
5. do not use your mouth for pipetting;
6. do not reuse needles;
7. perform activities in the Laboratory according to the equipment, such as using chemicals inside fume hoods and using secondary containment;
8. maintain good housekeeping;
9. dispose of hazardous waste in the appropriate place, such as in waste bags;
10. inside the Laboratory, it is prohibited to: eat and drink, use cosmetics/apply makeup, smoke, wear contact lenses (especially when near flammable materials), and wear jewelry;
11. for those who frequently enter the Laboratory, regular health check-ups are recommended;



12. after working in the Laboratory, it is recommended to wash your hands properly;
13. if an accident occurs in the Laboratory, provide first aid to the victim, use the Emergency Shower for 15 minutes, or use an Eyewash if it involves the eyes, and utilize the First Aid kit; and
14. report any incidents or accidents that occur in the Laboratory.

D. Safety for Activities Outside the USU Campus

USU is committed to ensuring the Occupational Safety and Health (K4) of staff or students conducting activities/research both on and off campus. The following are important considerations for staff or students engaged in activities/research at external facilities/organizations outside of USU.

1. organizational preparation includes:
 - a. the organization/committee leadership is required to inform the Campus Security and Safety Center about activities involving staff or students that take place outside of USU or at external institutions;
 - b. the organization/committee leadership must ensure that adequate K4 supervision is provided for the staff or students at the facility/organization associated with the activity/research; and
 - c. the organization/committee leadership must ensure that any activities/research conducted by staff or students outside USU have been approved by the Head of the Campus Security and Safety Center.
2. individual preparation includes:
 - a. obtaining permission from parents/family/supervisors;
 - b. ensuring that your body is in good health, and if unwell, immediately report to the committee/supervisor;
 - c. bringing sufficient personal equipment and supplies;
 - d. bringing personal medications; and
 - e. informing family or friends once a day."
3. Activity execution
 - a. the organization/committee leadership must communicate regularly with the institution involved in the activity to monitor the safety and health performance of the USU staff or students; and
 - b. if an accident or incident occurs as a result of their activity/research, the organization/committee leadership is required to report it to the Campus Security and Safety Center within 24 hours.



E. First Aid (P3K)

First Aid (P3K) is an effort to provide temporary help and care for accident victims before they receive more comprehensive assistance from medical professionals. First Aid is divided into general first aid and specific first aid.

1. First aid

First aid can be carried out through the following procedures:

- a. assess the situation; check the surrounding conditions to determine whether it is safe to provide first aid or not.
- b. perform Circulation Airway Breathing by immediately compressing the victim's chest to check if the victim is conscious or not. However:
 - 1) if there is no response/breathing, perform cardiopulmonary resuscitation (CPR) using:
 - a) a combination technique of external chest compressions and rescue breaths for:
 - (1) adults: 30 chest compressions & 2 rescue breaths (4 cycles); and/or
 - (2) children and/or infants: 5 chest compressions & 1 rescue breath (20 cycles).
 - b) using the rescuer's mouth which consist of:
 - (1) mouth to CPR mask; (2) mouth to personal protective equipment; and
 - (3) mouth to mouth/nose.
 - c) using a bag-mask device
 - 2) if there is a response/breathing, immediately check the blood circulation by:
 - a) checking the victim's pulse; and
 - b) checking if there is any wound that is bleeding. If there is a wound that is bleeding, cover or apply pressure to the wound to stop the bleeding.
 - c. open the airway by tilting the forehead and lifting the chin. If there is an obstruction in the mouth, remove it using the index finger;
 - d. check breathing by:
 - 1) look > observe if the victim's chest is rising and falling;
 - 2) listen > listen for any breathing sounds; and/or
 - 3) feel > feel if there is any airflow coming from the nose or mouth.
 - e. call for help: if necessary, immediately call professional medical assistance by dialing the appropriate emergency number, or shout for help, look for medical personnel or authorities, or take the victim to the student health center clinic or USU Hospital;
 - f. maintain the victim's comfort: While waiting for professional medical assistance to arrive, maintain the victim's comfort by providing emotional and physical support.
 - g. evacuate the victim to a safer place or position them in the recovery position.

2. first aid for special conditions

First aid for special conditions includes:

 - a. fainting



If someone experiences an incident that results in unconsciousness/fainting, the steps to take are:

- 1) lay the person down with their legs elevated.
 - 2) provide a stimulating smell (such as smelling salts) or press the area between the thumb and index finger on the victim's wrist using your index finger and thumb.
 - 3) loosen their clothing.
 - 4) ensure the person breathes in fresh air.
 - 5) check for other injuries.
 - 6) offer a sweet drink once the person has regained consciousness.
 - 7) take the person to the USU clinic or USU Hospital.
- b. asthma

If someone experiences an incident that results in an asthma attack, the steps to take are

- 1) calm the person.
 - 2) help the person sit leaning forward and rest.
 - 3) make sure the person has access to fresh air.
 - 4) if the person has medication, assist them in taking and using it.
- c. sprains/strains/muscle tension

If someone experiences an incident that results in a sprain, strain, or muscle tension, the steps to take are:

- 1) elevate the affected body part higher than the rest of the body to prevent swelling and internal bleeding.
 - 2) apply ice to the affected area for 10 minutes, then remove it for 10 minutes, and continue alternating every 10 minutes. Perform this treatment for 1-2 days.
- d. nosebleed

If someone experiences an incident that results in a nosebleed, the steps to take are:

- 1) pinch the bridge of the nose for about 5 minutes. Usually, the blood will clot after this period. Breathe through your mouth temporarily while doing this.
 - 2) avoid cigarette smoke, as it can dry out the lining inside the nose and make the delicate blood vessels prone to rupturing.
 - 3) avoid taking aspirin, as it can thin the blood.
 - 4) if the bleeding does not stop for a long period, immediately go to the USU clinic or USU Hospital for further treatment.
- e. heat exhaustion

If someone experiences an incident that results in heat exhaustion, the symptoms can include:

- 1) rapid breathing
- 2) weak pulse
- 3) cool skin



- 4) pale complexion
- 5) weakness
- 6) thirst
- 7) dry tongue

For the symptoms above, the steps to take are:

- 1) move the person to a shaded area.
 - 2) loosen their clothing.
 - 3) elevate their legs.
 - 4) provide oxygen and offer water if the person is conscious.
- f. epilepsy

If someone experiences an incident that results in an epileptic seizure, the symptoms can include:

- 1) sudden blank stare
- 2) muscle spasms
- 3) sudden fall, momentary rigidity, and arched back
- 4) foaming at the mouth, sometimes with blood
- 5) bluish and swollen face and neck
- 6) no response
- 7) loss of bladder control.

For the symptoms above, the steps to take are:

- 1) protect the person from injury.
- 2) do not try to restrain or fight the seizure.
- 3) protect the person's tongue from being bitten by placing a spoon or other hard object in their mouth.
- 4) place them in a stable position.
- 5) treat any injuries resulting from the seizure.
- 6) if the seizure has passed and the person falls asleep, maintain their airway and let them rest.
- 7) keep them away from stress and avoid creating any feelings of embarrassment.

F. Standard Contents of a First Aid Kit

Based on regulations regarding first aid in the workplace, the contents of a first aid kit should include:

1. sterile gauze pads
2. bandages (width: 5 cm)
3. bandages (width: 10 cm)
4. adhesive tape (width: 1.25 cm)
5. quick bandages
6. cotton (25 grams)
7. triangular bandage/mittela



8. scissors
9. safety pins
10. disposable gloves (pair)
11. mask
12. tweezers
13. flashlight
14. eye wash cup
15. clean plastic bags
16. distilled water (100 ml saline solution)
17. povidone iodine (60 ml)
18. 70% alcohol
19. first aid manual for the workplace
20. accident report book and forms
21. contents list of the first aid kit

G. Hazardous Chemicals in the Laboratory

In general, hazardous chemicals are categorized into 3 groups, including:

1. toxic or poisonous chemicals

These are substances that can cause harm or pose dangers to human, animal, or environmental health if exposed or used improperly. Toxins can come from various sources, including industries, nature, and human activities. Some examples of toxic or poisonous chemicals include:

- a. heavy metals: for example, lead, mercury, arsenic, and cadmium. These toxins can cause damage to organs such as the brain, heart, and kidneys;
 - b. pesticides: chemicals used to kill pests such as insects, weeds, and fungi. Incorrect usage can lead to environmental pollution and health risks for humans and animals;
 - c. biological toxins: such as snake venom, insect toxins, or fungal toxins that can cause harmful reactions in the human body if exposed;
 - d. industrial chemicals: For example, ammonia, formaldehyde, sulfuric acid, and others. These toxins can cause irritation to the skin, eyes, and respiratory tract if inhaled or in contact with the skin;
 - e. toxic organic compounds: for example, chemicals found in paints, organic solvents, and other volatile organic compounds. Prolonged exposure or inhalation can potentially cause health issues such as respiratory irritation or even internal organ damage.
2. corrosive chemicals

Corrosive substances are chemicals that can cause damage or corrosion to materials they come into contact with, such as metals, plastics, or fabrics. This corrosive property often occurs because these chemicals have high acidity or



alkalinity levels, allowing them to damage or destroy other materials. Some examples of corrosive chemicals include:

- a. acids: such as sulfuric acid, nitric acid, and hydrochloric acid. Acids have corrosive properties that can quickly damage metals and other materials.
 - b. bases: for example, sodium hydroxide (bleach) and potassium hydroxide. Bases also possess corrosive properties that can cause damage to various materials.
 - c. oxidizing compounds: such as hydrogen peroxide, which can have corrosive properties depending on its concentration and usage; and
 - d. cleaning compounds: some cleaning agents, like sodium hypochlorite (bleach) or ammonia, can also be corrosive depending on their concentration and type.
3. flammable materials

Substances that have the ability to ignite easily when exposed to fire, heat, or sparks. This property can pose a serious hazard if not handled carefully or stored properly. Some examples of flammable materials include:

- a. fuels: such as gasoline, diesel oil, kerosene, and natural gas. These fuels are highly flammable and can cause a rapidly spreading fire if exposed to flames or sparks;
- b. organic solvents: examples include acetone, ethanol, methanol, and other organic solvents. These solvents are highly flammable and can form explosive mixtures if exposed to fire;
- c. gases: gases such as propane, butane, and liquefied natural gas are also flammable materials that can cause fires or explosions if there is a leak and they come into contact with fire; and
- d. organic chemicals: some organic compounds like essential oils, resins, and certain organic polymers can also have flammable properties depending on storage conditions and their usage.

H. Laboratory Accidents

Work accidents in the laboratory can happen, and if an accident occurs, the steps to be taken can vary depending on the type of accident or its severity. Below are initial first aid responses in the laboratory:

1. minor injuries should be treated immediately as they can become serious. These minor wounds must first be cleaned before applying any medication, and then covered or bandaged with cloth or similar material; and
2. major injuries, such as burns or wounds caused by damaged materials, must receive medical attention promptly by using available first-aid medications. If the required medication is not available, the injured person should be taken to the nearest hospital immediately, and the patient should not move excessively.

It is important to remember that workplace safety in the laboratory is crucial. Training and knowledge of first aid procedures and other emergency actions are



essential for effectively handling accident situations. To prevent laboratory accidents from recurring, always adhere to the safety procedures established in the laboratory and ensure that staff or students understand the applicable first-aid protocols.

I. Wound Treatment

1. Burns caused by acidic substances

Burns from acidic substances can occur when a person is exposed to strong acids, such as acid solutions, sodium or potassium metals, bromine, or phosphorus. Acids have corrosive properties that can damage skin tissue and even penetrate deeper layers. The following are the first aid steps and treatment for burns caused by acidic substances:

- A. exposure to acid solutions: if someone experiences an incident where they come into contact with an acid solution, the following steps should be taken:
 1. Wipe the affected skin area with a cloth and/or dab it gently with cotton;
 2. Wash the burned skin area with water;
 3. Rinse the burned skin area with a 1% Na_2CO_3 (sodium carbonate) solution;
 4. Wash the affected skin area again with water; and
 5. Dry and apply levertran ointment to the burned skin area.
 - b. exposed to sodium or potassium metal, if someone experiences an incident that causes the person to come into contact with sodium/potassium metal, the following can be done:
 - 1) clean the metal which sticks on skin exposed to sodium/potassium metal should be removed immediately;
 - 2) wash the skin exposed to sodium/potassium metal with water for 15-20 minutes;
 - 3) neutralize skin exposed to sodium/potassium metal with 1% (one percent) acetic acid solution;
 - 4) dry and apply Levertran ointment to skin that has come into contact with sodium/potassium metal; and
 - 5) cover the wound with sterile cotton or cotton soaked in picric acid.
 - c. exposed to bromine, if someone experiences an incident that results in the person being exposed to bromine, the following can be done:
 - 6) wash the skin exposed to bromine with a solution of liquid ammonia; and
 - 7) cover the wound with Na_2CO_3 paste.
 - d. exposed to phosphorus, if someone experiences an incident that results in the person being exposed to phosphorus, the following can be done:
 - 8) wash the skin exposed to phosphorus with water; and
 - 9) wash the skin exposed to phosphorus with a 3% (three percent) CuSO_4 solution.
2. burns from hot objects

Burns from hot objects are a common type of injury that requires prompt and



proper treatment. Burns from hot objects can occur in:

- a. wounds on the skin, the following can be done:
 - 1) wash the wound with water;
 - 2) soak/compress the wound in ice water immediately; and
 - 3) dry and apply Levertran ointment to the burnt skin.
- b. Eye injuries can occur due to:
 - 1] exposed to splashes of acid solution, if someone experiences an incident that results in the person being splashed with liquid acid solution in the eye area, then the following can be done:
 - a) wash it with clean water continuously; and
 - b) wash it with a 1% (one percent) Na_2CO_3 solution.
 - 2] exposed to splashes of alkaline solution, if someone experiences an incident that results in the person being splashed with alkaline solution in the eye area, then the following can be done:
 - a] wash it with clean water continuously; and
 - b] wash it with a 1% (one percent) solution of boric acid using an eye wash glass.



3. *shock* caused by electricity

Dealing with electrical shock is an emergency measure that requires proper knowledge and skills. If there is an accident caused by electrical current, the first step is to turn off the electricity before trying to help the victim who has come into contact with the electric current. If not possible, protect your hands with rubber gloves or dry material or wool before touching the victim for further treatment.

4. poison gas

Dealing with toxic gas is a very important action to maintain safety in the workplace or in USU environment. The following are general steps that can be taken to deal with toxic gas:

- a. when exposed to toxic gas, maintain personal safety by immediately leaving the area affected by the toxic gas. Use appropriate personal protective equipment (PPE) such as respiratory masks, protective clothing, and gloves;
- b. immediately evacuate people from the area affected by the poison gas to a safe place outside the danger zone. Use safe evacuation routes and avoid breathing toxic gases as long as possible;
- c. immediately seek professional medical help by calling the appropriate emergency number. Provide clear information about the type of toxic gas involved if possible;
- d. if possible and safe to do so, ensure that the area exposed to toxic gas is adequately ventilated to reduce the concentration of toxic gas in the air;
- e. provide first aid to victims who may have been exposed to poisonous gas. First aid measures may include:
 - 1) if the victim is not breathing, perform cardiopulmonary resuscitation;
 - 2) If eye or skin irritation occurs due to contact with toxic gas, immediately rinse with clean water and take other first aid measures as needed; or
 - 3) If the victim is conscious, give him water to drink, give him milk to drink, and give him an emetic (only if there are no signs of burning in the mouth and lips).
- f. provide antidotes as a further step to eliminate toxic substances; and
- g. Once the situation is safe, document the incident in detail, including information about the toxic gases involved and the rescue actions that were taken. Evaluate the incident to understand its causes and preventative measures that can be taken in the future.

It is important to remember that dealing with toxic gases requires the right knowledge, skills and equipment. Always follow established safety procedures and ensure that personnel working in potentially toxic gas environments are properly trained in such emergency measures.



J. Emergency state

An emergency is an abnormal or uncontrolled condition that has the potential to cause loss of life or damage including fire, accidents, technical problems, earthquakes and other disasters that can cause danger or can threaten life, which requires immediate action to protect humans, buildings, equipment and environment from any damage. The following are types of emergencies, consisting of:

1. fire

Fire is a disaster that can occur at any time, including due to short circuits, gas explosions, lightning strikes, and others. Fires can be classified based on the source of the fire. Knowledge of fire classes is needed so that the type of fire extinguisher used is effective in dealing with the fire. The following are commonly used fire classes:

- a. Class A fires are fires caused by non-metallic solid materials such as paper, plastic, cloth, wood, rubber and so on. The types of fire extinguishers suitable for extinguishing Class A fires are liquid fire extinguishers, foam fire extinguishers and dry chemical powder fire extinguishers;
- b. Class B fires are fires caused by flammable liquids such as oil (gasoline, diesel, oil), alcohol, paint, solvents, methanol and so on. The types of fire extinguishers suitable for extinguishing Class B fires are carbon dioxide (CO₂) fire extinguishers, foam fire extinguishers and dry chemical powder fire extinguishers;
- c. Class C fires are fires caused by electrical installations with voltage. The types of fire extinguishers suitable for extinguishing Class C fires are carbon dioxide (CO₂) fire extinguishers and dry chemical powder fire extinguishers;
- d. Class D fires are fires caused by flammable metals such as sodium, magnesium, aluminum, lithium and potassium. This type of fire requires a special light fire extinguisher to extinguish it; and
- e. Class K fire is a class of fire caused by cooking oil (vegetable oil, animal oil) or fat that is usually used in the kitchen. The type of light fire extinguisher that is suitable for extinguishing Class K fires is light fire extinguishers such as wet chemical powder fire extinguisher and carbon dioxide (CO₂) fire extinguisher.



Based on applicable regulations, every building and environment must be equipped with a fire protection system. The fire protection system in buildings and the environment is a system consisting of equipment, accessories and facilities that are installed or built in buildings that are used for the purpose of active protection systems, passive protection systems and management methods in order to protect buildings and their environment from fire hazards.

The application of passive protection systems is also based on the function/classification of fire risk, room geometry, installed building materials, and/or the number and condition of occupants in the building. While the active protection system is based on the function, classification, area, height, volume of the building, and/or in the building. An active fire protection system is a complete fire protection system that consists of a manual or automatic fire detection system, a water-based fire extinguishing system such as sprinklers, standpipes, and fire hoses, and a chemical-based fire extinguishing system such as light fire extinguishers and special extinguishers. Meanwhile, what is meant by a passive fire protection system is a fire protection system that is formed or built through the regulation of the use of building materials and structural components, compartmentalization or separation of buildings based on the level of fire resistance, and protection against openings.

Steps to take to save yourself if a fire occurs in USU environment are as follows:

- a. when you hear the fire alarm sound:
 - 1) When the alarm rings, remain calm and wait for further instructions from the building supervisor or via Public Announcement (PA) or megaphone system (TOA).
 - 2) If instructed to evacuate, stop what you are working on, leave your belongings and leave through the emergency exit or the exit designated by the building supervisor or security guard to the assembly area.
 - 3) if you are on the 2nd, 3rd, or higher floors, do not jump through the window.
 - 4) If you are trapped in smoke from a fire, then continue towards the emergency stairs while taking short breaths, try to creep or crawl to avoid the smoke, do not turn around because you will collide with the people behind you.
 - 5) If you have to force your way through a cloud of smoke, hold your breath or cover your nose and mouth with a wet cloth, and quickly get to the emergency exit.
 - 6) close the door when leaving the room.
 - 7) Immediately follow the evacuation route to the nearest gathering place.
 - 8) do not use the lift/elevator as an exit in an emergency.
 - 9) Wait at the gathering place and wait for further information from the building supervisor or security guard.



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- b. when seeing/there is a fire in the building area:
- 1) immediately notify the officers and other occupants (if necessary, shout that there is a fire);
 - 2) If the fire is still small, then immediately extinguish it using a fire extinguisher (APAR) or other extinguishing media, if you are sure you can use it, but if you are in doubt it is better to forget the intention;
 - 3) If the fire has grown large, immediately activate the fire alarm manually;
 - 4) inform the building supervisor or someone else about the fire. The building supervisor or security guard will go to the location to check the conditions and assess the situation;
 - 5) immediately exit through the emergency exit to the assembly point closest to you; and
 - 6) Call Medan Fire Department on (061) 4515356 or call the fire brigade emergency service call center on 113 (one one three) as soon as possible if the fire cannot be extinguished.
- c. when a fire occurs in the Laboratory area:
- 1) If clothing is on fire, the victim must lie down and roll over or if there is a cloth, wet the cloth first then cover the fire so that it can be extinguished quickly. Never let the victim run around because it will cause a bigger fire.
 - 2) If a small fire occurs, such as a burning solution in a beaker or in a water bath, cover the affected area with a sack or wet cloth.
 - 3) If there is a big fire, use a light fire extinguisher. Then immediately turn off sources that can cause fire, such as electricity, gas, stoves, and keep flammable materials away.
 - 4) If a fire occurs due to flammable substances (organic solvents), do not use water to extinguish the fire, because it will cause the fire to grow bigger and spread following the water. To extinguish it, use sand or a light fire extinguisher.
- d. when seeing/there is a fire in USU environment:
- Use a light fire extinguisher to extinguish the fire. The procedure for using a light fire extinguisher is generally known as Pull, Aim, Squeeze, Sweep (PASS) with more detailed information as follows:
- 1) *pull*, at this stage, pull the seal or safety pin on the existing fire extinguisher. When pulling this safety pin, do not press the handle or grip of the fire extinguisher. If pressed, you will have difficulty removing the safety pin;



- 2) *aim* or point, aim or direct the hose to the base of the fire. Don't forget to make sure the tube is standing straight;
- 3) *squeeze* or press, press the valve or handle until the flame goes out or until the contents of the tube are finished; And
- 4) *sweep* or make sweeping motion, move the tip of the nozzle in a sweeping motion from side to side or from left to right as if sweeping.

In the process of extinguishing a fire using a light fire extinguisher, there are several important aspects that need to be paid attention to. Of all these aspects, personal safety is the main aspect that must be considered. These aspects include:

- a. extinguish the fire yourself or by calling the firefighters. If the fire is still small, you can try to extinguish it using a light fire extinguisher. However, if the fire is very large with thick smoke that blocks your view and there is a possibility that you are trapped in the fire, then immediately leave the area and call the firefighters;
- b. If the fire occurs outdoors, pay attention to the wind direction. Do not spray the fire against the wind;
- c. To be effective and to maintain safety, keep a distance between you and the fire source. The ideal distance is about 1 (one) - 1.5 (one point five) meters. During the process of extinguishing the fire, continue to sweep. When the fire starts to shrink, you can approach but make sure to continue to sweep from left to right continuously; and
- d. pay attention to the type of burning object. This is to ensure that you are using the right cylinder and cylinder contents. Not only that, by knowing the type of burning object, you can also estimate the risks involved. Some types of objects are very susceptible to explosion, and in this case, you must be extra careful.

2. Earthquake

Earthquake protection in USU buildings or environments involves measures designed to reduce the risks and negative impacts that can result from earthquakes. The steps taken to save yourself if an earthquake occurs in USU environment are as follows:

- a. if the earthquake alarm rings:
 - 1) stay calm and don't panic; and
 - 2) follow the instructions given or announced by the building supervisor or security guard.
- b. during an earthquake:
 - 1) if possible, leave the building immediately;
 - 2) if it is not possible to get out (the exit is far away or on the top floor), stay calm, do not run out;
 - 3) protect your body, head, neck and eyes under a table, corner of a room or wall. Wait until the shaking stops and it is safe to leave the building;
 - 4) avoid partitions, glass, windows, hanging shelves, filing cabinets, lights, cables and office equipment that can easily fall (typewriters, computers, etc.); and
 - 5) If you are in an alley or corridor, drop to the floor, with your back to the wall, protect your head with your arms and protect your neck with your clasped hands.

- c. there was an earthquake vibration in the elevator:
 - 1) if possible, immediately exit the elevator at the nearest floor, seek shelter and move away from the glass area, move close to the floor with your back to the wall, or find another safe place;
 - 2) If it is not possible to get out, press the emergency button provided, then lower your body to the floor, protect your head and neck, and stay calm;
 - 3) do not force the elevator door open. Wait for the building staff to come and free you; and
 - 4) In the lobby, seek cover and stay away from glass areas, keeping yourself close to the floor with your back to the wall.
 - d. There is an earthquake vibration outside the building:
 - 1) stay away from buildings and areas where objects may fall, electrical cables or the risk of electric shock (electro cut/short);
 - 2) stay away from tall trees or tall structures that can easily fall/collapse, such as power poles, flagpoles, signs and boards; and
 - 3) be aware of flooding, which can cause electrical hazards.
 - e. earthquake evacuation:
 - 1) follow the building supervisor or security guard's orders, especially instructions for a safe evacuation route to the assembly area;
 - 2) do not use the elevator, use the stairs;
 - 3) report to the building supervisor/security guard/nearest officer if there are any injuries, missing persons, fire or smoke, and/or other dangers that arise after an earthquake;
 - 4) do not use the telephone, except to report an emergency if your building supervisor or security guard is not present;
 - 5) help the building supervisor or security guard to reduce other potential hazards after an earthquake; and
 - 6) don't make the situation worse by being careless and taking action on your own, you may put yourself in danger.
3. bomb threat

If you receive information regarding a bomb threat aimed at USU, the following should be done:

- a. be calm, natural, and don't panic;
- b. notify the building supervisor or nearest security guard;
- c. building supervisors or security guards must report to the Campus Safety and Security Center;
- d. the building supervisor or security guard announces that all building occupants must be evacuated, but does not announce that there is a bomb threat, to reduce panic or confusion;
- e. the Campus Safety and Security Center contact the police, report the threat and ask for information to be tracked;
- f. if the evacuation alarm rings, immediately evacuate to the assembly area;
- g. do not touch or interfere with objects/goods in any way. If you find suspicious objects/goods, report them immediately to the building supervisor or security guard; and
- h. do not enter the building before being informed by the building supervisor or

- security guard that the building is clean and safe.
4. sink
- Drowning in campus area can happen and requires special attention to prevent similar incidents in the future. The steps to take when someone drowns or sees someone drowning in USU environment are as follows:
- a. the officer report to the officer on duty about the drowning incident;
 - b. the officer makes efforts to provide assistance to the victim;
 - c. the officer takes first action at the incident scene and collect eye witnesses in the field;
 - d. the officer asks for information from witnesses regarding the time and place of the incident, personal data, victims, witness' data, and the chronology of the incident; and
 - e. the officer makes a drowning accident report.
5. evacuation routes and assembly points

Evacuation routes are specially designed rescue routes by connecting all areas to a safe area as a Gathering Point for everyone who is in the area. Evacuation routes are one form of emergency response efforts to mobilize residents from the threat of danger to a safer place when a disaster occurs. This evacuation route is used as a rescue measure from all disasters such as fires, earthquakes and floods. The faster the evacuation time that can be done, the greater the number of people who survive the disaster.

Evacuation routes are designed to find the shortest path using existing roads so that the time needed to reach a safe area can be shorter or faster. The assembly point is a gathering place on the evacuation route. With this point, people will easily find a safe place during an emergency.

Chapter IV HEALTH ADMINISTRATION

The health administration within the USU campus is essential for improving the quality of health services and welfare on campus. The standards for occupational health are outlined in the Regulation of the Minister of Health of the Republic of Indonesia Number 48 of 2016 concerning Occupational Safety and Health Standards for Offices. In principle, the leaders of USU are responsible for implementing health improvements within the USU environment. Based on this, the health administration on the USU campus can be carried out by:

A. USU Sehat

USU Sehat is a movement for healthy living within the USU environment through a comprehensive health approach to create a learning, working, socializing, and cultural environment that is more health-conscious, promoting well-being and empowering individuals to reach their full potential. USU Sehat is a university that is not only physically healthy but also mentally, environmentally, and behaviorally healthy. Achieving the USU Sehat can be realized through collaboration with all parties, starting with healthy behavior. Some pillars in the implementation of USU Sehat include:

1. establishing health-promoting policies which is a crucial pillar in implementing the USU Sehat program is the development of health-friendly policies. Health-promoting policies will encourage employees and students to adopt healthy behaviors in their daily lives. Policies applied by USU in this pillar include weekly exercise recommendations, smoking bans, drug, and alcohol bans.
2. providing comprehensive health services as the provision of comprehensive health services is the second essential pillar in the development of USU Sehat. Comprehensive health service facilities will strengthen health programs. USU provides health services for all employees and students, healthy canteen facilities, as well as guidance and counseling services.
3. promoting behavioral changes among employees and students as the third pillar, which is fundamentally crucial in developing a healthy campus, focuses on efforts to promote behavioral change. These changes are not limited to certain parties but should involve everyone, including employees and students, to prevent early risks of diseases that could affect the entire campus. Efforts to promote behavioral change among employees and students include regularly conducting health literacy campaigns.

The implementation of USU Sehat is based on:

- a. free areas of drug, tobacco, and alcohol;
- b. creating a healthy, safe, and disability-friendly environment;
- c. physical activity;
- d. healthy eating habits;
- e. mental health;
- f. health literacy (including driving safety, helmet use, safe sexual behavior, and

social interactions); and
g. violence, bullying, and harassment-free areas.

B. USU Green Campus

The green campus initiative at USU is referred to in the Rector's Regulation Number 3 of 2019 on the Implementation of the Green Campus Movement at USU, which includes:

1. maximizing energy and water savings across the entire USU campus to support the national energy-saving program and USU's green campus movement. The energy-saving target is a 20% reduction in electricity consumption and a 10% reduction in water consumption, as well as controlling the use of subsidized fuel for official vehicles in line with national targets.
2. implementing the energy and water-saving is carried out across the USU Campus through activities aimed at conserving electricity, fuel, and water, based on the Regulation of the Minister of Energy and Mineral Resources. This includes saving 20% (twenty percent) of electricity, 10% (ten percent) of water, and controlling the use of subsidized fuel for official vehicles.
3. implementing energy-saving measures across the USU campus through the following activities:
 - a. promoting the use of environmentally friendly and energy-efficient lighting;
 - b. using lighting based on needs, while also striving to maximize the use of natural lighting over electric lighting;
 - c. turning off the power (lights and other electrical equipment) once the work in the room is completed;
 - d. conducting regular, periodic, and scheduled maintenance of electrical networks/installations as needed, and repairing any damage to the electrical network;
 - e. promoting energy diversification such as the use of solar energy (solar cells), wind, biogas, and other renewable energy sources; and
 - f. encouraging the use of eco-friendly and resource-efficient machines/electronic equipment.
4. implementing water conservation across the USU campus are implemented through activities such as:
 - a. reducing water usage in toilets by using flush systems with controlled water volume.
 - b. promoting the use of environmentally friendly and resource-efficient water installation equipment.
 - c. conducting regular, scheduled maintenance of water installations/networks and fixing any leaks or damage.
 - d. encouraging water conservation through recycling methods like rainwater harvesting.
5. fuel and emission control steps across the usu campus are implemented through activities such as:
 - a. urging that official vehicles at usu do not use subsidized fuel.
 - b. collecting data on all official vehicles and the types of fuel they use.
 - c. regulating fuel efficiency for all official vehicles on the usu campus.

- d. promoting the use of bicycles on campus and developing bike lanes at usu.
- e. maintaining and repairing bike stations and shelters at usu.
- f. encouraging the use of both four-wheeled and two-wheeled vehicles by utilizing usu shuttle buses, campus bicycles, and usu parking lots.
6. prohibiting the use of single-use plastic water bottles and plastic bags on campus.
7. Paper-saving measures throughout USU, including:
 - a. Efficient use of HVS (houtvrij schrijfpapier) paper.
 - b. Encouraging double-sided paper usage.
 - c. Reducing the use of tissue paper.
8. Sorting waste and hazardous materials according to type for easier transportation and processing at USU's integrated waste management facility.
9. Submitting monthly energy usage reports (electricity, water, gas, telephone, and fuel) before the 20th of each month. Soft copies should be sent via email to sirenbang@usu.ac.id, and hard copies should be delivered to the Secretariat of USU Green Campus (Bureau of Information Systems, Planning, and Development), which will then be reported to the Rector of USU.

C. Clean Water Provision

Clean water is a critical resource used by humans for consumption and daily activities, including sanitation. To maintain the availability of clean water, efforts that can be made include:

1. Implementing water conservation measures like rainwater harvesting systems at USU.
2. Using automatic sensors for water usage to reduce water consumption (e.g., hand washing taps or toilet flush systems).
3. Establishing written policies on the wise use of water on the USU campus.
4. Placing water-saving labels on each water tap.

D. Management of Domestic and Laboratory Liquid Waste

1. domestic liquid waste management:

Based on its characteristics, domestic wastewater consists of Black Water and Grey Water. Black Water is produced from toilets, while Grey Water comes from kitchen waste, handwashing stations, ablution water, and bathrooms. Additionally, laboratory activities also generate liquid waste. Proper management of domestic and laboratory liquid waste is necessary to reduce the spread of infectious diseases and prevent surface water and groundwater pollution. The following are steps for managing domestic liquid waste:

- a. reducing the amount of liquid waste generated by implementing water-use efficiency.
 - b. reusing water (water reuse) from domestic wastewater, such as reusing ablution water from the usu mosque to water plants.
 - c. carrying out integrated domestic wastewater treatment from bathing, washing, and toilet activities in each unit at usu.
 - d. collecting liquid waste from laboratory activities with special treatment before processing it in a wastewater treatment plant.
2. laboratory liquid waste management

a. minimizing waste a waste minimization program that can be implemented in the laboratory includes:

- 1) chemical management, which can be carried out by:
 - a) selecting appropriate suppliers; if necessary, look for suppliers willing to take back expired materials.
 - b) avoiding excessive purchases to prevent storing expired materials or centralizing purchasing.
 - c) storing materials according to their characteristics.
 - d) properly and clearly labeling materials with waterproof, permanent labels.
 - e) storing materials in a safe place at the appropriate temperature.
 - f) conducting periodic checks in storage rooms for damage or chemical spills.
 - g) using the "first in, first out" system for chemical withdrawal from storage.
 - h) preparing reagents according to needs.
- 2) Planning a sampling program to ensure that no excessive test samples are taken.
- 3) Selecting methods that use environmentally friendly materials.
- 4) Choosing appropriate equipment for preparation and analysis that minimizes chemical use and reduces waste generation.
- 5) Recycling or Reusing Chemicals, for example:
 - a) Finding companies or laboratories that can utilize chemicals.
 - b) Recovering solvents.
 - c) reusing distillation cooling water.

b. waste management

waste management that can be implemented in the laboratory includes:

- 1) collection, such as:
 - a) dividing waste into several categories.
 - b) labeling waste containers.
- 2) transportation
waste containers in the laboratory are transported/moved to the storage room when they are 75% full, then replaced with new containers and sequentially numbered.
- 3) storage
if waste cannot be processed immediately, it must be stored and packaged according to hazardous and toxic waste storage procedures based on minister of environment and forestry regulation no. 6 of 2021 on the procedures and requirements for the management of hazardous and toxic waste.
- c. waste disposal procedures
waste disposal procedures are steps that must be followed to ensure that waste is generated, handled, and disposed of safely and in accordance with applicable regulations. The following waste disposal procedures must be followed by students (practicals and research), lecturers, and laboratory assistants:
 - 1) laboratory assistants ensure the location and facilities for temporary waste disposal in the laboratory.
 - 2) waste is separated according to its type: solid waste, strong acid liquid waste, and strong base liquid waste.
 - 3) strong acid and base liquid waste must be diluted to a neutral **ph** before being disposed of in a designated sink.
 - 4) students and other laboratory users dispose of research waste in designated places.

- 5) laboratory assistants oversee the separation of hazardous laboratory waste from waste that can be disposed of in general waste areas.
- 6) cleaning staff collect waste that can be disposed of in general waste areas.
- 7) once a wastewater treatment facility is available, hazardous waste is collected in one location and then handed over to the waste management entity appointed by the faculty/usu.
- 8) the laboratory head is responsible for monitoring proper waste disposal.

E. Management of Hazardous and Toxic Waste

The management of hazardous and toxic waste is a series of activities that include the storage, collection, utilization, transportation, and processing of hazardous and toxic waste, including the landfilling of processed waste. Efforts to manage hazardous and toxic waste can be carried out as follows:

1. identify the sources of hazardous and toxic waste generated.
2. determine the characteristics of the hazardous and toxic waste.
3. providing containers: provide suitable containers for hazardous and toxic waste.
4. providing temporary storage: establish a temporary storage area for hazardous and toxic waste.
5. choosing a third party to cooperate in the transportation of hazardous and toxic waste.

the storage of hazardous and toxic waste management must meet established standards, including:

1. storage conditions:
 - a. in good condition, without leaks, rust, or damage.
 - b. made from materials compatible with the waste characteristics.
 - c. maximum container capacity of 25 liters.
 - d. capable of securing the waste stored within.
 - e. clearly labeled with symbols that correspond to the waste characteristics.
 - f. equipped with a strong cover during transportation.
2. storage hazardous room:
 - a. the design and size of the storage room must be appropriate for the characteristics and quantity of hazardous and toxic waste generated.
 - b. protected from rainwater ingress, both directly and indirectly.
 - c. constructed without a ceiling and equipped with adequate ventilation to prevent gas accumulation; screens or other materials should be installed to keep small animals out of the storage area.
 - d. adequate lighting for storage or routine inspections; if using electric lights, switches must be installed on the outside of the building.
 - e. the exterior of the storage area must be marked with appropriate symbols as required by regulations.
 - f. the floor must be waterproof, smooth, strong, and free of cracks.
 - g. waste processing must be conducted outside the laboratory.
 - h. collected waste should be transported to the waste management facility through collection, storage, packaging, and transportation stages in accordance with applicable regulations.

F. Waste Management

Waste management at USU has been implemented in an integrated manner, featuring a centralized waste processing facility located at Gate 4 of the USU campus. Waste management is conducted independently, starting from collection, transportation, and processing. USU has a comprehensive waste processing unit equipped with technologies such as composting bins, incinerators, and pyrolysis systems.

Steps that can be taken in waste management include:

1. reducing waste: implement waste reduction practices in every usu unit, such as avoiding single-use beverage containers during meetings or using personal water containers.
2. minimizing food packaging: decrease the consumption of food that comes with packaging.
3. reducing paper use: reduce paper consumption by using double-sided printing.
4. providing segregated waste bins: supply at least four types of segregated waste containers in each usu unit based on waste characteristics.
5. avoiding water drain disposal: prohibit dumping waste in water drainage systems.
6. educating on proper waste disposal: provide education on the importance of disposing of waste properly.
7. training cleaning staff: educate and socialize with cleaning staff in the usu environment to prevent waste burning practices.

G. Sanitation and Cleanliness

1. toilets

Guidelines for the use and maintenance of toilets include:

- a. walk carefully inside the toilet facilities.
- b. use the designated toilets correctly: sit on the sitting toilet and squat on the squatting toilet to maintain campus facilities and ensure personal safety.
- c. Flush the toilet thoroughly after use.
- d. Turn off the tap and lights in the toilet when not in use.
- e. Do not dispose of trash in the toilet, such as tissues or sanitary pads.
- f. Wash hands with soap after using the toilet.
- g. Conduct regular cleaning of the toilets.
- h. Ensure proper ventilation in the toilet to maintain humidity levels, preventing the growth of mold, bacteria, and other living organisms.
- i. Use environmentally friendly toilet cleaners.

2. handwashing facilities

- a. each work unit within usu must provide handwashing facilities.
- b. handwashing stations must be easily accessible to staff and students.
- c. each work unit must ensure the availability of water and soap for the handwashing facilities.
- d. all staff and/or students are encouraged to wash their hands with soap before engaging in any activities.

CHAPTER V
CLOSING

This Rector's Decree serves as a guiding framework for the implementation of K4 USU. The establishment of K4 USU enables the effective execution of its principles within the university environment by both staff and students, thereby fostering a work atmosphere that is safe, secure, and comfortable.