# Crisis and Management Handout
# 2026-2025

**Faculty of Pharmacy**
**Ain Shams University**

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**Faculty Vision (2024-2029)**

Faculty of Pharmacy, Ain Shams University, a pioneering faculty in pharmaceutical education, scientific research locally, regionally, and globally embracing innovation and knowledge investment to solidify its role in supporting sustainable development and community service.

**Faculty Mission (2024-2029)**

Faculty of Pharmacy - Ain Shams University as an educational, research and service institution is committed to graduating pharmacists who are scientifically and intellectually qualified, capable of innovation, and equipped to keep pace with global advancements in healthcare, and prepared to compete in local, regional, and global labor market, thereby supporting the national economy and serving the community in alignment with global developments.

**Faculty's Strategic Path and Objectives (2024-2029)**

| Strategic path | Strategic objectives |
|---|---|
| 1.Innovation in education and learning. | 1.1 Utilizing Artificial Intelligence in Education, Learning, and Assessment<br>1.2 Developing Students' Innovation Skills<br>1.3 Upgrading Undergraduate Programs to Foster Innovation, Competitiveness, and Labor Market Needs<br>1.4 Enhancing Students' Summer and Experiential Field Training<br>1.5 Internationalizing Educational Activities and Student Exchange Programs<br>1.6 Aligning Postgraduate Programs with Regional and Global Advancements in Pharmacy |
| 2.Linking scientific research to sustainable development | 2.1 Increasing Human, Material, and Financial Resources for Scientific Research<br>2.2 Supporting Research Focused on Sustainable Development |
| 3. Strengthening social responsibility | 3.1.Organizing Awareness and Medical Convoys to Boost Community Engagement and Public Health<br>3.2 Promoting Applied Research Addressing Local, Regional, and International Community Challenges<br>3.3 Marketing Specialized Unit Services to Expand Community Outreach<br>3.4 Expanding Graduate Employment Opportunities<br>3.5 Providing Continuous Pharmacy Education for Graduates<br>3.6 Supporting Women's Empowerment and Integrating People with Specia Needs into the Faculty Community |
| 4. Supporting local, regional, and international collaboration | 4.1 Establishing Partnerships and Collaborations with Egyptian and Global Academic/Industrial Pharmacy Communities to Support Innovation<br>4.2 Activating International Agreements for Joint Scientific Research with International Universities<br>4.3 Attracting International Students |

| Strategic path | Strategic objectives |
|---|---|
| | 4.4 Strengthening Ties with Local, Regional, and International Funding Institutions<br>4.5 Encouraging International Publication and Improving the University's Global Ranking in Pharmacy |
| 5. Developing human, material, and financial resources | 5.1 Offering Training Programs for Academic Faculty, Teaching Assistants, and Administrative Staff<br>5.2 Modernizing the Faculty's Infrastructure<br>5.3.Developing the Faculty's Self-Generated Financial Resources |
| 6. Governance | 6.1 Aligning with Egypt's Vision 2030 for Administrative Reform<br>6.2 Promoting Transparency, Fairness, and Non-Discrimination |
| 7.Continuous improvement of quality systems | 7.1. Enhancing the Use of Technology and Artificial Intelligence in Quality Management Systems.<br>7.2. Sustaining Local Institutional Accreditation per National Authority for Quality Assurance and Accreditation in Egypt.<br>7.3. Sustaining International Accreditation for Undergraduate Programs per American Council for Pharmacy Education Quality Criteria.<br>7.4. Programmatic Accreditation of the Faculty's Undergraduate Programs in Accordance with the Standards of the National Authority for Quality Assurance and Accreditation in Egypt |

**Vision, mission and objectives of the crisis & disaster management unit (CDMU)**

**Unit vision:**

The concept of safety becomes a priority for the faculty's employees, ensuring the creation of a conducive environment and occupational health at a level that enables the faculty to achieve its goals and vision and perform its mission smoothly and easily and within the framework of its time plan.

**Unit mission:**

Establishing and consolidating the concept of safety and security and activating its mechanisms by establishing an effective internal system and preparing a work team trained and capable of instilling the values and principles of safety for all to stabilize the internal faculty community.

**Strategic objectives of the unit:**

1. Creating a safe, risk-free and fortified environment.
2. Establishing an integrated system for safety requirements in the faculty and working to develop it.
3. Activating the role of safety in the faculty while attracting and qualifying human competencies to carry out the training process.
4. Preserving lives and property by applying safety requirements.
5. Developing plans to protect faculty facilities in emergency and disaster situations, God forbid.
6. Establishing periodic evacuation and shelter plans and coordinating this with the competent authorities inside and outside the university.
7. Activating the role of awareness through participation and holding exhibitions to educate faculty members by introducing them to the duties and safety work to protect themselves and those around them

**Board of Directors of the Unit**

- Chairman of the Board of Directors; Mr. Professor Dr. / Dean of the Faculty
- Vice Chairman of the Board of Directors; Mr. Professor Dr. / Vice Dean for Community Service and Environmental Development
- Members
    - Faculty Secretary
    - Head of the Security Unit at the Faculty
    - Head of the Civil Defense Unit at the Faculty
    - Doctor / Medical Clinic Doctor at the Faculty
    - Heads of the administrative departments concerned
    - Representative of the Faculty Students

**Requirements for operating CDMU in the Faculty**

1. Preparing an operations room for crisis and disaster management equipped with modern communication devices (telephone - fax - wireless - computer - printer)
2. Preparing an illustration of the faculty's facilities and installations showing the buildings, facilities and playgrounds, specifying the fire, electricity, sewage, water, natural gas and telephone networks.
3. A crisis logs in which the faculty documents all situations that it considers crises or disasters that threaten the entity of the faculty and serves as the faculty's memory.

4. A crisis management awareness team in addition to the organizational structure of the crisis and disaster management unit.
5. It is necessary to form small teams to manage crises and disasters in the places most exposed to their occurrence, as dealing with the situation urgently requires the immediate intervention of people close to the crisis or disaster, such as the faculty's laboratories with their various specializations, electricity distribution panels, etc.
6. Using scientific methods for training on how to deal with crises, such as simulations and scenarios. A scenario is a set of assumptions related to the situation in a specific field in which the system analyzes and studies it, which helps to develop visions for the crisis and find many alternatives to the solutions put in place. Simulation is an imitation of a phenomenon with the aim of explaining and predicting its behaviour, or it is a quantitative method that aims to describe the real system by developing a model that shows how the factors affecting the problem interact and what the effect of those factors is, with a focus on how this model can imitate the movement of the real system.
7. Preventive forecasting as a basic requirement in the crisis management process and depends on the predictive warning thought to avoid an early crisis by monitoring and analyzing the indicators of events and their development in light of study, experience and previous experiments.
8. Success in the crisis management process requires several factors, including:
    a) Finding and developing a specialized administrative system that enables the faculty to identify problems, analyze them and develop solutions for them in coordination with specialized competencies.
    b) Working to make crisis planning an important part of strategic planning.
    c) The necessity of holding training programs and workshops for employees in the field of crisis management.
    d) The necessity of evaluating and periodically reviewing crisis management plans and testing them under conditions like crisis situations, thus individuals learn to work under pressure.
    e) Emphasizing the importance of having an effective warning system.
    f) Placing the necessary explanatory signs inside the building.

**Crisis and Disaster Management Unit Committees and their tasks**

First: Occupational Safety and Health Committee

Committee tasks:

1. Preparing protection plans for faculty facilities.
2. Developing emergency and evacuation plans with the implementation of scenarios simulating how to act in the event of a crisis.
3. Ensuring the validity of fire-fighting systems and their compliance with specifications and securing faculty facilities
4. Continuous communication and cooperation with the University's Civil Defense and Protection Unit and holding training courses
5. Preparing prevention programs.
6. Spreading health awareness, especially in the field of preventive medicine in the event of epidemics.

7. Ensuring the availability of the required capabilities for first aid in the event of a disaster.
8. Coordinating with specialized agencies, especially hospitals, to develop a mechanism for how to deal with crises.
9. Monitoring occupational injuries that affect faculty employees, as well as students, faculty members and their assistants
10. Holding first aid courses periodically (every 6 months) for workers and administrators.
11. Creating a database for the administration.

Second: Awareness and Media Committee

Committee tasks

1. Working to spread awareness of safety and security issues through seminars, educational lectures and videos
2. Preparing educational studies related to implementing and applying the specifications contained in the Civil Defense and Protection Regulations for various activities and facilities in the faculty.

**Unit Management Plan to Deal with Some Crises**

**(1) Gas leak inside the building:**

1. Disconnect the gas from the main switch until all the subsidiary valves are closed.
2. Civil Defense Department officials play their role as follows:
    - Organize the exit of individuals from the building and evacuate it.
    - Announce some warnings e.g turning off computers and prohibiting smoking.
    - Identify the source of the gas leak
    - Prepare fire extinguishers
3. Contact the gas company hotline to send technicians to make the necessary repairs.
4. Do not allow individuals to enter the building until they ensure that the gas leak has stopped.

**(2) Earthquake:**

1. Individuals in offices located no more than 50 meters from the main exit of the floor can quickly leave the office and head to the main exit of the floor.
2. Individuals in offices located more than 50 meters from the main exit of the floor should remain in their places and try to take shelter under the desk.
3. Individuals in the lecture halls or laboratories should remain in their places to prevent any injuries while they are flowing out of the hall or laboratory and take shelter directly under the benches and stay away from the windows.
4. If you are in the faculty yard, you should stay away from the edges of the building.
5. If you are outside the faculty building, you must stay away from the buildings and head to spacious areas.
6. Electricity and gas should be disconnected from the facility from the main source.
7. Roaming is prohibited immediately after the earthquake, as it may be followed by other aftershocks, and it is best for individuals to remain in spacious areas.

8. Listen to and implement Civil Defense instructions and cooperate with them for the safety of individuals.

**(3) An elevator breaks down with people inside:**

**First:** In case an elevator stops directly in front of the floor or slightly below it, the following should be done:

1- Disconnect the electricity from the elevator completely from the main source.
2- Use the emergency key to open the door (available with the guard or with the rescue room).
3- Quietly take out the trapped people one by one until they are completely rescued.
4- Close the door again using the emergency key to prevent anyone from falling into the elevator shaft.
5- Prevent the electricity from being restored to the elevator and keep it disconnected and contact the maintenance company to do what is necessary.

**Second:** In the event of an elevator failure at the top of the floor or between the two floors, the following should be done:

1- Disconnect the elevator's electricity completely from the main source.
2- Go up to the machine room and follow the following steps:
   - Turn the machine's brake lever to release the brakes.
   - Use the machine's wheel to move the elevator up or down until it reaches the nearest floor.
   - Return the brake lever to its normal position to secure the elevator in place.
3- Return to the floor where the elevator stopped and use the emergency key to open the outer door, then start calmly removing the trapped individuals one by one until they are completely out.
4- Close the door again using the emergency key to prevent anyone from falling into the elevator shaft.
5- Prevent the elevator from being restored to electricity and keep it disconnected and contact the maintenance company to do what is necessary.

Warning: Do not break the glass of the elevator's outer door (if any) to get the occupants out of it.

**Third:** In the event of an emergency hatch at the top of the cabin:

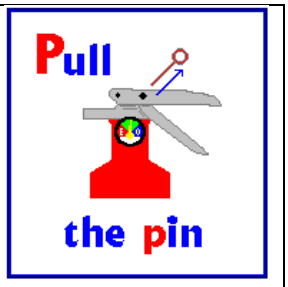
1- Disconnect the elevator's electricity completely from the main source.
2- Go up to the machine room and follow the following steps:
   - Turn the brake lever to release the brakes.
   - Use the machine's wheel to move the elevator up or down until it reaches the cabin so that the back of the cabin is completely level with the floor tiles.
   - Return the brake lever to its normal position to fix the elevator in place.
3. Stand on the back of the cabin and open the emergency hatch upwards and start getting the occupants out of it.
4. Close the door again using the emergency switch to prevent anyone from falling into the elevator shaft.
5. Prevent the elevator from being restored to electricity and keep it disconnected and contact the maintenance company to do the necessary.

**(4) A fire occurs inside a laboratory or office**

1. Immediately call the emergency phone number to summon the civil defense personnel and contact the fire department.
2. Fight the fire if possible, using the nearest extinguisher suitable for the type of fire as follows:
   - Hold the extinguisher firmly by the carrying handle.
   - Pull the safety pin on the extinguisher.
   - Point the nozzle of the extinguisher at the base of the flame.
   - Press the handle to operate the extinguisher.
   - Move the extinguishing materials to the base of the fire right and left.
3. Make sure that the place where you are standing does not pose a danger to it and that you can escape if the fire spreads.
4. When using a manual fire extinguisher outdoors, be sure to stand with the wind at two to three meters from the fire.
5. Do not attempt to extinguish the fire unless it is small and you are confident that you are able to put it out.
6. If the fire is large, leave your room, close the door behind you and contact the civil defense.
7. In case of heavy smoke, rolling on the floor is the best way to get fresh air.
8. Feel the door and handle with the back of your hand. If it is not hot, open it carefully and get out.
9. If you find the door hot to touch, do not open it. Remove the curtains and open the room to ventilate them and expel the smoke.

**• Firefighting Team Duties:**

1. Determine the location of fires by observing the fire alarm system explanatory panel.
2. Fight the fire using the fire extinguishing means available in the building or faculty (red water extinguishers - black carbon dioxide extinguishers).
3. Ensure that windows and doors are closed to prevent the fire from spreading to the rest of the building components.
4. Cooperate with the specialized teams of the Civil Defense and Fire Department by guiding them to the location of the fire, its type, and the available fire extinguishing devices and means.

| | | |
|---|---|---|
| P | PULL the pin, this unlocks the lever and allows you to discharge the extinguisher |  |
| A | AIM low: point the extinguisher nozzle (or hose) at the base of the fire. |  |
| S | SQUEEZE the lever above the handle: this discharges the extinguishing agent. |  |
| S | SWEEP from side to side moving carefully toward the fire. |  |

**(5) Evacuation plan in emergency situations (such as a fire):**

When any crisis or disaster occurs that requires the evacuation of the building, there must be quick, effective and safe action to get out of the building. The Civil Defense team organizes the evacuation of the building as follows:

1. The supervisor of the civil defense team distributes the team members to all floors of the building, and he can require the assistance of administrative security personnel present at the faculty.
2. The location of the danger is determined, and the students and faculty employees are directed to exit the building quickly and as soon as possible exit points, make sure everyone is out before leaving the building, and then gather in an area away from the building that is at least 50 meters away. After that, no one is allowed to return to the danger site without permission from the person responsible. This is after ensuring that there are no risks.

3. In the event of an emergency, everyone in the building must be quick in their response and secure their area before getting out of it, such as turning off appliances, disconnecting electricity, and shutting off gas sources.
4. Having a clear and easy plan for evacuation during fire incidents. It is not enough to have this plan, but all employees must be trained in how to apply this plan.
5. The plan must also contain a drawing of the site showing the locations of doors, windows, corridors and stairs.
6. It is forbidden to use elevators because they may take you to the fire site instead of escaping from it, in addition to the possibility it is affected by the fire and you are trapped in it.
7. The plan must include two methods (at least) for evacuation from each office, especially locations where there are many workers, specifying a location for the gathering to ensure the presence of everyone without injuries. Furthermore, it must be clarified in the plan the phone numbers of the fire department, the clinic, and the security departments to be known to everyone, and it should be written in a prominent location so everyone can use it when needed easily.
8. If the person is in a condition that prevents him from leaving the building due to fire traps, he must go to an office with a window to the outside, close the door well, and try to place a piece of cloth around the door so that the smoke does not escape. He should stand by the window and ask for help.

**Plan objectives**

The faculty's disaster and emergency response plan aims to:

1. Evacuate the building of its occupants as soon as they hear the fire alarm by heading to the assembly points predetermined.
2. Determine assembly points, whereas security and safety personnel ensure evacuation of the building and then provide guidance for the individuals to use the escape ladder and not run.
3. Call fire extinguishing vehicles.
4. Control the danger; prevent the spread of fires, and work to sufficiently reduce the losses resulting from them with effective means of fighting fires.
5. Dealing with limited fires using fire extinguishers.

Duties of the Crisis Management Team:

The crisis management team is made up of the occupants of the faculty building and its members are assigned the following duties:

1. Directing the occupants of the faculty or building to the escape routes, emergency exits, and assembly points.
2. Transporting documents and items of value.
3. Providing first aid and raising the morale of the building's occupants, especially students.
4. Fighting fires and assisting firefighting, rescue and health teams.

**(6) Leaking exam questions and hacking of controls:**

1. Alternative exams must be available for use if exams are leaked.
2. Necessary precautions must be taken.
3. Inform the Vice Dean and Dean of the faculty to take the necessary steps.
4. Search for the cause of the leak and punish the one who caused it.

To avoid leaking exams

1. Do not allow any faculty member, employee, or worker to enter the printing room.
2. The key to the room (printing room) is with the head of the printing committee and his deputy.
3. Do not print the exam until sufficient time before the exam date.
4. Tightly seal the control rooms and cupboards for storing answer sheets.

**(7) Spread of epidemic diseases:**

A. Needs before the spread of diseases occurs:

1. Availability of a first aid box on floors and the clinic.
2. Also, the availability of devices and equipment used during the emergence of sick cases, such as a temperature measuring device, A stethoscope, a blood pressure device, a tongue depressor, gloves, masks, and disinfectants in the medical clinic.
3. Educational tools “posters and brochures”, containing tips and instructions for preventing microbes spread.
4. Team formation: Develop a plan by the faculty’s emergency team in the event of medical cases.
5. A meeting with faculty employees (faculty members - employees - workers) to determine the team’s tasks and present to them the plan if an epidemic occurs and how to prevent it.

B. Needs during the emergence of medical conditions:

Implementing the emergency plan and making the necessary reports. The Crisis and Disaster Management Unit team and the Dean of the Faculty conduct training on the plan and identify those responsible implementations in coordination with the relevant authorities (from inside and outside the faculty).

A. From inside the faculty:

-Dean of the Faculty/Vice Dean of the Faculty for Community Service and Environmental Development as Chairman.
- The faculty’s crisis management unit team.
- Communication Coordinator (Faculty Member/Staff/Youth Welfare).
- Faculty physician

B. From outside the faculty (the health team at the health facility affiliated with the faculty)

- A doctor from the university hospital
- Nurse
- Health monitor

Tasks of the command-and-control team at the faculty level:

1. An initial team meeting is held to determine the tasks assigned to it and distribute the tasks to each member of the team, and then periodic meetings are held to evaluate performance and any developments.

2. Suspected cases and absence rates are reported daily by the coordinator and reported to the Dean of the Faculty, then contact the university administration, then the health administration (university hospital).
3. The faculty doctor/health monitor follows up on the case (isolation at home) and provides advice to those in contact.
4. The governor and the crisis management committee at the governorate level are informed of the required procedures and what has been implemented.
5. This is monitored periodically by the directorates of higher education, health, and health insurance.
6. Dealing with infected faculty cases.

**Procedures taken at the faculty when an infection is discovered:**

1. The case is isolated in the faculty's clinic.
2. The faculty doctor evaluates the case. If it is a simple case, the patient is given appropriate treatment, and he returns home.
3. If there is a case with complications, the patient is referred to the hospital, and the appearance of any symptoms is monitored

Other cases:

A- If several disease cases appear in one place, such as the amphitheater. Classes are suspended for two weeks, double the incubation period, and study continues in the rest of the amphitheaters. And it continues to study in the rest of the faculty's study places.

B. However, if disease cases appear in multiple places in the faculty, studies are stopped completely and the study is completed seeking the assistance of specialized companies to disinfect student gathering places in the faculty, such as student amphitheaters and laboratories. All other places in the faculty will continue to be cleaned and disinfected with the knowledge of faculty workers under the supervision of members of the Crisis and Disaster Management Unit and the follow-up of faculty management.

4. Parents' inquiries and questions must be answered, given the correct answer, and emphasize what was explained before the spread of epidemic diseases and the background of preventive measures.

The stage after the spread of epidemic diseases:

Things that should be followed even in the stages before and after the spread of epidemic diseases:

1) Wash hands often with soap and water. Wash hands before eating, drinking, or touching your face.
2) Cover your mouth and nose when coughing or sneezing. Throw away in used trash and wash hands. If you cough or sneeze, it should be into your sleeve and not into your hands.
3) Paying attention to students, elderly workers, and faculty members who are most vulnerable to epidemiologic diseases.
4) Special attention and care for students with high risks or those most exposed to diseases.

5) Forming a committee to make quick and correct decisions to take the necessary precautions in the event of an emergency.
6) Focus on preventive and non-therapeutic measures at this stage.
7) Providing antivirus for use in suitable conditions.
8) Coordinating with media outlets regarding epidemics and preparing for their prevention.
9) Full readiness of teams with medical expertise for epidemic diseases.
10) Continuing epidemiological surveillance of the disease.
11) Activating preventive measures.
12) Assess the extent of infection spread among humans.
13) Discovering new cases and examining the risks of spread.
14) Identifying the target groups, preparing guidance materials and giving them a simple and suitable language.
15) Reviewing all capabilities and needs and providing them in anticipation of the spread of epidemics.
16) Updating information about the disease and its definition for citizens and health workers.

**Post-Epidemic Phase:**

Measures that should be followed both before and after the outbreak of epidemics:

1. Wash hands frequently with water and soap, especially before eating, drinking, or touching your face.
2. Cover your mouth and nose when coughing or sneezing. Dispose of used tissues in a trash bin and wash your hands. If coughing or sneezing, do so into your sleeve rather than your hands.
3. Pay special attention to students, elderly staff, and faculty members who are more vulnerable to epidemics.
4. Provide special care and attention to high-risk students or those more susceptible to illness.
5. Establish a decision-making committee to quickly and correctly implement necessary precautions in emergencies.
6. Focus on preventive and non-therapeutic measures during this phase.
7. Ensure the availability of antiviral medications for timely use.
8. Coordinate with media outlets regarding epidemics and preparedness for prevention.
9. Maintain full readiness of expert medical teams specializing in epidemic diseases.
10. Continuing epidemiological surveillance of the disease.
11. Activate preventive measures.
12. Assess the extent of human-to-human transmission.
13. Identify new cases and outbreak clusters while evaluating the risk of spreading.
14. Recognize target groups, prepare educational materials, and deliver them in the appropriate language.
15. Review and ensure the availability of resources and necessities in anticipation of potential epidemic outbreaks.
16. Update information about the disease and educate both the public and healthcare workers.

**Duties of Faculty Staff in Emergency Situations**

**Duties of Staff, Faculty Members, and Students in Emergencies:**

1. Remain calm and stop all activities immediately.
2. Cut off the electrical power supply to the area.
3. Avoid using elevators.
4. Head to designated assembly points using escape routes and emergency exits.
5. Advise students not to run or push past their peers to prevent injuries.
6. Do not take risks or re-enter the building for any reason unless authorized by the officials responsible.

**Duties of Department Heads and Unit Supervisors in All Operating Departments**

1. Ensure that all doors and windows are closed, except for designated evacuation exits.
2. Confirm that the electrical power supply has been disconnected.
3. Supervise the evacuation process.
4. Ensure that the appropriate authorities (Civil Defense) have been contacted.
5. Verify the arrival of specialized Civil Defense and fire response teams.
6. Proceed to the assembly point to confirm that all staff members are accounted for and that no one remains inside the building.

**General Precautions to Take in Response to Any Incident or Disaster**

1. Immediately report the incident to the Crisis Management Unit at the faculty and university.
2. Notify the Governorate Operations Room by calling 103.
3. Contact the relevant emergency services, including Police Emergency (122), Ambulance (123), Civil Defense (180), Water Emergency (125), Gas Emergency (129)
4. Secure the incident area in coordination with security units, civil defense, fire departments, and engineering administration.
5. Gather, analyze, and share initial information with specialists.
6. Notify the media if necessary to prevent rumors, ensuring neither exaggeration nor downplaying of the event.
7. Deploy emergency response units, including Ambulance teams, Rescue teams, Mechanical transport vehicles, Industrial security and electrical teams
8. Collect and relay information to the University Crisis Management Center for analysis and decision-making, ensuring appropriate actions are communicated to the responsible entities and higher authorities.
9. Remove the effects of the incident and restore normal conditions.
10. Extract lessons learned and revised previous response scenarios accordingly

**Chemical and Biological Waste**

Hazardous materials and waste are substances with physical, chemical, and biological properties that make them harmful to human health and the environment if not handled properly. It is necessary to establish laws for the classification, identification, handling, storage, transportation, treatment, and disposal of these materials and wastes.

**Chemical Hazards:**

These include the risks associated with chemical substances such as liquids, gases, fumes, vapors, and dust that students and workers face in scientific laboratories during

experiments and in industrial workshops while handling, transporting, and storing these substances.

**Chemical substances exist in the work environment in one of the following three forms:**

- Gases and vapors
- Solid materials (organic – inorganic)
- Liquids (acids – alkalis – solvents)

**Reasons Why Chemical Substances Are Extremely Hazardous:**

- Chemical substances can exist in multiple forms: liquid, solid, and gas.
- They can rapidly penetrate the human body through the respiratory system, digestive system, and skin contact.
- Their effects on the body occur due to chemical reactions with bodily organs, leading to severe health issues such as lung fibrosis and blood poisoning.
- The severity of their impact may be immediate upon entering the body or develop over time.
- Some of these substances have no taste, color, or smell, making them difficult to detect.
- Their rapid spread from their source increases their danger and potential damage.
- Their presence in the body can cause imbalance and affect organ function.
- They can also damage equipment and machinery, leading to issues like corrosion, rust, explosions, and spontaneous fires.

Occupational Safety and Health Requirements for Protecting Workers from Chemical Hazards:

1. Necessary precautions must be taken to protect workers exposed to hazardous chemicals, whether in gaseous, liquid, or solid form, ensuring their presence remains within permissible limits.
2. A pre-employment medical examination must be conducted for workers exposed to chemical hazards to detect any pre-existing medical conditions that may worsen upon exposure. The results should be recorded in the worker’s file for future comparisons.
3. Periodic medical check-ups must be conducted for workers exposed to chemical risks to detect occupational diseases early and ensure their continued medical fitness for the job.
4. Effective technical measures must be provided to protect workers from hazardous chemicals.
5. Proper ventilation systems (general or localized) must be installed near areas where gases, vapor, fumes, or hazardous dust are emitted to collect and eliminate them before they reach workers' breathing zones.
6. A designated area should be provided for workers to change into and out of work clothes, ensuring these areas are away from hazardous exposure zones.
7. Separate, clean areas must be designated for workers to eat, away from work areas, and eating, drinking, or smoking must be prohibited in workspaces.
8. Workers must be educated on chemical hazards in their work environment, how to protect themselves, and the importance of adhering to safety warnings issued by chemical manufacturers.

9. Adequate ventilation in storage areas must be ensured to maintain the safety of stored chemicals, along with compliance with proper handling and operational procedures.
10. If flammable chemicals spill on clothing or the body, the affected area must be immediately rinsed with running water, contaminated clothing must be removed quickly, and the worker must stay away from open flames to prevent further injury.
11. Hydrochloric acid, nitric acid, and sulfuric acid are chemicals with unique properties that require special precautions during storage and handling.
12. When diluting acids, always add the acid to water, not the other way around to prevent explosions and fires in chemical labs.
13. Hydrochloric acid must not be stored near nitric acid or other strong oxidizing substances.
14. Sulfuric acid must not be stored with nitric acid or any volatile or oxidizing chemicals such as peroxides and their derivatives.
15. Sand or soil is the preferred method for absorbing spilled acids on the ground from a safety perspective.
16. Spilled acids must be neutralized with slaked lime (hydrated lime) or an alkaline substance before cleanup.
17. A 10–20% sodium carbonate solution is one of the best options for cleaning acid spills on floors.
18. Proper documentation of chemical transactions in records is crucial for preventing loss or misplacement of hazardous substances.
19. Firefighting equipment must be available, and workers must be trained on how to use it as part of safety measures.
20. Never use touch, smell, or taste to identify chemicals.
21. Flammable materials must be stored in cool areas, away from electrical equipment and heat sources.
22. The physical and chemical properties of the substances used in the experiments in the laboratories must be known, as well as the properties of the substances resulting from the reactions, according to which personal protective equipment such as glasses, masks and gloves are selected.
23. The lab coat for chemical laboratories must be worn during experiments, and wearing loose clothing is prohibited as this is important to prevent injuries or accidents inside the laboratories.
24. The number of students or workers inside the laboratory should be proportionate with the area of the laboratory by considering the space allocated to each individual.
25. Students or workers must adhere to the safety instructions regarding the steps of conducting experiments
26. Safety instructions that everyone must follow while in the laboratory must be written and their implementation should be ensured
27. The person responsible has to know the location of the gas control switch which must be easily accessible without any obstacles in front of it which could prevent quick access to it in order to prevent gas flow in emergency situations.
28. Nitrates must be stored in an independent dry place away from organic materials or flammable substances.

29. Potassium, sodium, and aluminum powder must be stored in sealed containers that do not allow water to penetrate inside, as they react with water, and this is accompanied by an increase in temperature or the release of flammable gases.
30. When storing sodium chloride, it should be stored in a dry place and at a normal temperature (within 15 degrees Celsius).
31. The material should not meet any acids or flammable materials such as wood, straw, textiles, fats and oils as it is a strong oxidizer.
32. Do not extinguish with water, and water can only be used to cool the package from the outside and the packages near the burning package
33. If the material is exposed to a strong acid, carbon dioxide gas is released, which is a very toxic gas that causes corrosion of metal materials and may lead to explosions due to its flammability if its concentration in the atmosphere increases, and therefore it is stored away from acids.
34. In case any part of the body is exposed to chemicals, wash thoroughly with water and present the case to the doctor for quick aid.
35. Sodium nitrite should be stored away from other flammable or reductive substances or ammonium salts and should not be exposed to high temperatures.
36. Sodium chlorate should not be exposed during handling, use or transportation to any mineral acids, reducing substances or flammable substances, and when preparing chlorate solutions, cold water should be used, and hot water should not be used as it could lead to explosions.
37. Chromic acid should be stored away from alkaline, reducing or flammable substances, and due to its acidic and oxidizing properties, personal protection precautions are required, as it is a toxic substance and corrosive to the skin, and its access to the respiratory system or digestive tract leads to serious inflammations.

Chemical burns:

Chemical substances cause burns to the human body because of their direct impact and not as a result of heat, and these substances may be in one of the following forms:

1. Acids: Sulfuric acid - hydrochloric acid - nitric acid - acetic acid
2. Alkalis: Sodium hydroxide, potassium hydroxide solution, and ammonia.
3. Salts: Salts of some elements such as mercury, phosphorus, antimony, bromide, and selenium.
4. Gases: Chlorine gas - ammonia gas.
5. Color removal powders and disinfectants.

Burns with chemicals require immediate assistance, because the passage of time is not in the favor of the patient because it leads to greater damage to the injured person. Water is one of the best means of treating chemical burns, if it is poured on the affected part in large quantities and as soon as possible.

Through our dealings with chemicals in laboratories, whether in the processes of handling, storage, preparation for experiments or during the conduction of experiments, any individual may be injured because of not following the safety instructions, resulting in skin burns or eye injuries, which we explain below:

Chemical skin burns:
The injury occurs because of direct contact with the human body or exposure to the chemicals, the most important of which are acids, alkalis and gases
1. Acids:
They are divided according to their effect on the human body into two types:
A- Acids with a rapid effect, which cause direct burns to the injured person in the affected part, in addition to the appearance of blisters or dots in the same part.
B- Slow-acting acids that do not cause pain to the affected person after direct exposure to the acid, but he feels it after a period ranging from half an hour to an hour, which is sufficient for the acid to penetrate the skin to a deep area.

2. Alkalis:
Burns resulting from exposure to alkalis have a greater effect on humans than acids because they have a faster ability to penetrate the internal tissues and cells of the skin, and their negative effect on the tissues lasts longer even after washing out the alkali with water or anti-alkali substances. In this case, after the alkaline solution penetrates into the skin tissue, the skin looks pale and as if is saturated with water after which a superficial healing of a deep ulceration occurs.

First Aid for Chemical Burns

- The cause of the burn must be removed immediately by washing the affected area with running water as quickly as possible, ensuring that rinsing continues for at least ten minutes.
- Avoid using high-pressure water to prevent further damage to the skin. Instead, pour water gently over the affected area.
- If the patient's clothing is contaminated with chemicals, remove it if possible. If removal is not feasible, pour water or a neutralizing agent over the clothing.
- The chemical substance should be neutralized to reduce its impact on the affected area as follows:
    - Burns caused by acids can be neutralized by applying a mild alkaline such as sodium bicarbonate to the affected area.
    - Burns caused by alkalis can be neutralized by applying a weak acid such as diluted vinegar, citric acid, or lemon juice. However, this should not be used for eye injuries. A neutral phosphate solution, which is effective in neutralizing both acids and alkalis, can also be used.
- After neutralizing the chemical substance, rinse the affected area again with water, dry it, and cover it with sterile gauze, ensuring that blisters are not opened to minimize exposure to infections.
- The patient should be given first aid for pain or shock if necessary.
- If required, the patient should be transported to a hospital for further medical treatment after first aid is administered.

Chemical Eye Injuries
Chemical substances can cause severe damage to the eyes if exposed. Immediate and proper first aid is crucial to prevent permanent damage, especially in cases involving alkalis, which can penetrate eye tissues and cause deep, serious burns.

First Aid for Chemical Eye Injuries

- The affected eye should be rinsed immediately with clean water by placing the patient's head under a running tap or immersing their head in water.
- The patient should open and close their eyes forcefully in the water. If they are unable to do so due to pain, the first aider should assist in opening the eyes to ensure thorough rinsing.
- No chemical neutralizers should be used inside the eye, except for a neutral phosphate solution (if available).
- No eye drops or ointments should be applied. Instead, a sterile dressing should be placed over the injured eye, and the patient should be taken to the hospital for medical treatment.

Biological or Medical Waste

Biological or medical waste refers to the waste generated from hospitals, medical laboratories, and research institutions. It is classified as hazardous waste that poses serious health risks to individuals working in these environments and the surrounding community. Improper disposal of this waste can lead to the spread of infectious diseases and cause significant harm to public health.

This type of waste may contain:

- Infectious materials such as rapidly spread microbes and viruses.
- Sharp objects contaminated with patients' bodily fluids.
- Toxic chemicals that may cause mutations and deformities in living organisms.
- Highly toxic substances that are lethal to human cells.
- Hazardous drugs and chemicals.
- Radioactive materials.
- Sharp instruments that can cause injuries to human tissue.

**Methods for Safe Disposal of Biological and Chemical Waste**

1. Biological waste from student and research laboratories in academic departments should be collected in red bags labeled "Biohazards" and stored in a deep freezer at -10°C until it is collected by a representative from disposal company for safe disposal.
2. Chemical waste from student and research laboratories should be collected in suitable containers labeled "Chemical Waste" and transported to the waste storage room in the basement at the back of the building.
3. Microbial waste from student and research laboratories should be collected in suitable containers for sterilization. After sterilization, the waste should be placed in red bags labeled "Biohazards" and stored in the designated waste collection area.
4. All collected waste should be handed over to disposal company for safe disposal.

## Crisis and Disasters Unit Members

| Name | Job title |
|---|---|
| Prof. Dr. Rihab Osman Ahmed | Acting Dean of the Faculty |
| Prof. Dr. Rola Milad Labib | Acting Vice Dean of the Faculty for Community Service and Environmental Development |
| Assoc. Prof. Sarah Farid Mohamed Fahmy | Associate Professor of Clinical Pharmacy |
| Assoc. Prof. Mai Adel | Associate Professor of Pharmaceutical Chemistry |
| Assoc. Prof. Amany Kamal | Associate Professor of Biochemistry |
| Dr. Ahmed Saeed Abu Zeid | Lecturer of Microbiology and Immunology and Acting Coordinator of the Credit Hours Program |
| Dr. Diana Magdy Fahim | Lecturer of Pharmacology and Toxicology |
| Dr. Esraa Ashraf Elhawary | Lecturer of Pharmacognosy |
| Dr. Mina Mahna Qaldas | Lecturer of Pharmaceutics and Industrial Pharmacy |
| Dr. Nardine Safwat | Lecturer of Pharmaceutical Analytical Chemistry |
| Mary Sameh | Assistant Lecturer of Microbiology and Immunology |
| Rana Mohamed El-Tabbakh | Assistant Lecturer of Biochemistry |
| Marco Nashaat | Teaching Assistant of Pharmacology and Toxicology |
| Mohamed Gamal Mohamed El Sayed | Teaching Assistant of Pharmaceutics and Industrial Pharmacy |
| Omar Ragab | Teaching assistant of Clinical Pharmacy |
| Mai Montaser | Teaching Assistant of Pharmaceutical Chemistry |
| Ahmed Hamdy Abdel-Gabbar | Teaching Assistant of Pharmaceutical Analytical Chemistry |
| Yara Ezzat | Teaching Assistant of Pharmacognosy |

| Name | Job title |
|---|---|
| | Secretary of the Faculty |
| Hebatallah Sayed Hassan | Secretary of the Office of the Faculty Vice Dean for Community Service and Environmental Development |
| Marwa Gad Awadallah | Head of Accounting Department |
| Dr Tamer Adel | Head of Medical Center |
| Mohamed Metwally | Head of Contracts and Maintenance Department |
| Mustafa Ahmed Hassan | Head of Engineering Affairs Department |
| Khaled Mohamed Abdel Aziz | Head of Civil Defense Unit |
| Gouda El Sayed Abdel Gawad | Head of Security Unit |
| Emad ElSayed | Occupational Safety and Health Officer |
| Mohamed Adel El Akkad | Civil Defense Officer |
| Mohamed Reda | Motor Officer |
| Mosaad Mohamed El Sayed | Supervisor of Cleanliness at the Faculty |
| Ahmed Abdel Wahab | Storekeeper |

## Occupational safety and health rules inside the laboratory

**General instructions inside the laboratory:**

1. You must attend practical lessons on time and enter the laboratory in an orderly and quiet manner.
2. The student must stand in the place designated for him permanently.
3. You must wear a coat, goggles and gloves.
4. Do not wear sandals, but closed shoes.
5. Put your bags in a safe place so that they do not get damaged or hinder movement inside the laboratory.
6. Smoking, eating or drinking is prohibited in the laboratory.
7. Under no circumstances should experiments be conducted without supervision.
8. Before using glass containers, make sure they are clean to get good results.
9. Make sure of the name of the chemical you want to use by reading its name more than once.
10. Never taste chemicals.
11. When using a pipette, never use your mouth to draw liquid.
12. Do not draw solutions directly from the reagent bottle, but from the beaker
13. Do not touch any liquid or solid chemical with your hands.
14. Do not wipe chemicals with your clothes.
15. Keep the container in which you heat the liquid away from yourself and others
16. Do not place flammable materials near the flame.
17. Leave the water tap open before and after pouring solutions into the sink.
18. Solid chemicals, paper and broken glass should be disposed of in the trash.
19. After completing the experiments, the student should arrange and clean his place well and wash the glassware he used.
20. The devices and tools should be returned to their designated place after completing the operation.
21. Make sure to turn off electrical appliances before leaving the lab.
22. It is forbidden to use mobile phones inside the lab.

**Duties of laboratory technicians and their workers in providing safety:**

All laboratory workers must adhere to the following instructions:

- Full adherence to the instructions and guidelines related to safety systems in the laboratory.
- Quick reporting of accidents regardless of their size.
- Full adherence to the use of personal protective equipment and ensuring its availability.
- Ensuring increased self-education and awareness of everything related to safety rules and environmental conservation.
- Commitment to being present throughout the practical period inside the laboratory.
- The necessity of the technician being present with the faculty member before and after the practical period to prepare and equip the tools.

**Procedural rules for fire prevention:**

To protect study laboratories from exposure to fires, the following must be adhered to:-

- Avoid smoking inside the laboratory.

- Ensure the integrity of electrical connections before operating electrical devices periodically.
- Hanging guidance boards on the walls of the laboratory on how to properly handle the devices in the laboratories.
- Carefully follow up on student behavior inside the laboratory and intervene immediately to correct any wrong behavior.
- Lights, windows and cabinets must be turned off before leaving the lab to ensure the safety and security of the place.

**Security instructions for your safety**

When entering the facility building, please take into account the following for your safety:

- Show your faculty card in a way that allows security personnel to see it easily.
- Accept inspection by security personnel upon entering the building if requested.
- Do not bring items that are not permitted to enter and are not related to work.
- Know the building sketch, especially emergency exits.
- Use parking lots in accordance with security and safety instructions in this regard.
- Implement security and safety instructions inside the building and know emergency plans
- Do not leave cash and paper money on your desk when leaving work.
- At the end of the school day, make sure to collect all documents and keep them locked, and close all windows and doors and lock them tightly.

The most important occupational safety and health tasks are to inspect:

- Storage operations, especially flammable materials or materials that help to ignite or materials that ignite spontaneously.
- Spark sources and other heat sources.
- Ensure the availability, safety and operational suitability of fire extinguishers.
- Ensure the implementation of general hygiene instructions, collection and disposal of exhausts, etc.
- Cleanliness, smoking ban, carrying matches and lighters and proper storage
- Smoking must be strictly prohibited in workplaces where flammable materials and others are available.
- Place (No Smoking) signs in areas where smoking is prohibited, and these instructions must be strictly implemented by supervisors, visitors and workers.
- It is prohibited to carry matches and lighters in places where smoking is prohibited.
- Do not store flammable materials in exposed or glass containers (dry any spilled materials quickly and do not store them near heat sources such as stoves and heaters).
- Always make sure that there are no papers or waste on roofs, in gardens or around buildings for easy use by any spark that touches them.
- Make sure to extinguish matches or cigarette butts before throwing them in the designated containers.
- Storage operations, especially flammable materials, materials that aid combustion, or materials that ignite spontaneously.

**Emergency telephones**

| Site | Telephone |
|---|---|
| Governorate Operations Room | 103 |
| Fire Department | 180 |
| Rescue Police | 122 |
| Ambulance | 123 |
| Gas Emergency | 129 |
| Water Emergency | 125 |

We wish you safety always

Crisis and Disaster Management Unit