

1. Lab Regulation

1.1 General Rules

- The laboratory operating hours of normal working day are; Monday to Friday, 8.30 am to 5.30 pm (Excluding public holidays)
- Any unauthorized experiment without the knowledge of laboratory staff and supervisor is prohibited.
- Students must abide by the dress code while working in the laboratory or workshop. Do not wear sandals, slippers and high heel shoes inside the laboratory. This is to prevent accidents such as tripping, falling and to protect your foot in case of chemical spill.
- Prioritize your safety and safety of others. Horseplay, practical jokes, and pranks are dangerous and prohibited. Any students found in violation of this rule can be barred from entering the lab within a stipulated period of time.
- All students and staff members are required to register at the beginning (before enter the laboratory) and end of laboratory session (sign in/out in logbook provided). Any students found in violation of this rule can be barred from entering the lab within a stipulated period of time. This is for safety and security reason. Lab staff will be aware of the presence of personnel in the lab and be more manageable during emergency (fire, chemical spill, etc).
- It is **COMPULSORY** to wear proper attire when working in the laboratory:-
 1. Covered shoes
 2. Tidy attire and Long pants or long skirts/dress covering leg and ankles
 3. Lab coat (if applicable)
 4. Neat, collected hair
- Any student or staff without proper attire are prohibited from entering the laboratory. This is to prevent contamination of personal clothing from chemicals or other hazards and spreading of pathogens to public area or home.
- Never wear lab coat to public areas, such as canteen. This is to prevent contamination of chemicals and pathogens to these areas, or into the foods.
- Foods, drinks and smoking are strictly prohibited inside the laboratory or workshop.
- Student bags and other belongings must be kept at the designated places.
- Noise must be kept to the minimum as a courtesy to respect others.

- All students and staff members are required to consult lab staff for the location or workstation to conduct experiments.
- Workspace must be well maintained in clean conditions. If experimental setup is not in use, it should be properly isolated or dismantled.
- Workspace has to be cleaned and tidied up after the experiment or work is completed. It is the responsibility of the user to clean the workspace after each experiment and before the end of the day.
- Common areas such as fume cupboards and bench tops should be kept available to all users; prolong usage of common areas is not allowed.
- All students and staff members should ask permission from lab staff before operating any lab equipment. Each equipment has a set of SOP (Safe Operating Procedure) that must be followed closely to prevent risk of injury and/or damage of the equipment.
- All instruments and equipment must be handled with care in sharing with others.
- Students shall be liable for damages of equipment caused by individual negligence. If damages occurred, an investigation will take place to identify the causes and the names of the involved students will be recorded for faculty attention.
- Students shall report immediately to the laboratory staff, if the laboratory equipment is suspected to be malfunctioning or faulty.
- Students are required to instill an instinctive awareness towards property value of laboratory equipment and to be responsible when using it. Any damages can cause to jeopardize the success of not only the individual work but also to the university.
- Do not attempt to remove and dismantle any parts of the equipment from its original design without permission. Instrument and equipment must be returned orderly after using them.
- Students are strictly prohibited to take any equipment out from the laboratory without permission.
- Students should ask permission from laboratory staff before operating the laboratory equipment.
- Students should not attempt to use any unfamiliar equipment without first to consult the laboratory staff or supervisor. Do not bring away any technical manuals from the

laboratory.

- Students should report immediately to the laboratory staff if any injury occurred. All accidents (including minor ones) and dangerous occurrences should be reported. Lab staffs are trained for emergency responses and are more competent in handle such situations.
- Student should report immediately to the laboratory staff if discovered any damages of equipment and hazardous situation.
- Please check the notice board regularly and pay attention to the lab announcements.
- Different laboratory may have different set of rules and regulations, all students and staff members are required to check with individual laboratory for its specific rules and regulations.
- **Disciplinary action shall be taken against those students who are failed to abide the rules and regulations.**

1.2 Lab Safety Rules

- For overall safety when working with other people, it is essential for each student to follow the procedures given by the lab staff or instructor when conducting lab experiment.
- Before the experiment start, students must study the information and understand the procedures mentioned in the given lab sheet
- Students are not allowed to work alone in a laboratory or workshop without the supervision of lab instructor. Never work alone in the laboratory.
- Never leave an experiment unattended without first consulting your laboratory instructor/supervisor.
- Never adopt a casual attitude in the laboratory but be always conscious of potential hazards. Before starting an experiment, make sure that you are familiar with all the known hazards of the starting materials and expected products to help you decide on appropriate safeguards and remedies. If in doubt consult the SDS or your supervisor.
- Always use proper technique in your work and observe all special precautions mentioned in each experiment and in each laboratory.

- Electric shock is a serious fatal error due to human negligence. Electric current of higher than 100mA may cause death to human. Thus, do not work with electricity under wet condition in lab.
- If there is a tingling feel when working with electrical devices, stop and switch off the devices immediately. Place a warning note before reporting to the lab staff/instructor and wait until further instruction.
- Informing lab staff or instructor if you doubt the condition is not safe during the experiment.
- Students and staff with long hair must get their hair tied up tidily when doing laboratory work to prevent accidents such as pulling of hair into equipment with rotating spindle and burning when operating Bunsen burner or other flame sources. Similar considerations apply to ties, scarf and jewellery.
- Turn off burner when not in immediate use.
- Make sure that you know the emergency procedures, location of emergency response equipment and emergency exit routes applicable to your laboratory.
- Ensure that you understand all the safety signs at your place of work.
- Do not interfere with or misuse any equipment/apparatus provided for safety and health.
- Before operating a high voltage equipment, always ask the lab staff or instructor to be accompanied to check proper condition of electric circuit.
- When operating laser equipment, please avoid looking directly to the laser source.
- Students and staff are required to wear safety shoe at all time in Civil Engineering lab and Mechanical & Timber workshop to protect foot from various hazards such as falling objects, sharps, slips, trips, falls, etc.
- Students and staff are required to wear proper eye protection in the workshop when machining and cutting work pieces.
- Do not use bare hand to handle broken glassware. Inform lab staff immediately for assistance. Broken glassware should be collected using brush and dustpan and discard in sturdy container.
- Students are required to wear proper personal protective equipment (PPE) such as gloves, protective clothing and safety goggles when handling corrosive or active chemical agents.

- Hazardous chemical agents must be properly stored and labeled in a designated place. Students must acquire and study the safety data sheet (SDS) of a particular chemical agent before using it.
- Use staircase when transporting chemicals. Do not use lift, this will complicate emergency response and increase exposure in case of chemical spills.
- When lifting heavy objects, keep proper posture and use proper lifting technique to avoid straining on lower back and prevent injury.

1.3 Equipment Usage and Consumable Item Request

- All students and staff members **MUST** register (sign in/out in logbook provided) and inform lab staff on the use of laboratory equipment. Any students found in violation of this rule can be barred from using the equipment within a stipulated period of time. This is to ensure lab staff provides proper training on SOP of the particular equipment and acknowledged the competency of the personnel to handle the equipment without risk of injury (electric shock, high pressure, hot surface, high rotational speed, etc).
- All students and staff members **MUST** read the equipment manual, understand associated HAZARDS and take measures to avoid them by strictly following the set rules for users. Please request a training session from lab staff or Person In Charge on SOP of the equipment. Do not attempt to operate the equipment yourself or learn from other students.
- All students and staff members **MUST** wear suitable Personnel Protective Equipment (PPE) based on the characteristic of the equipment (e.g. leather gloves when there is electricity shock risk, metal mesh glove to provide protection from sharp objects, aluminum or heat resistant gloves to protect from hot surface of equipment, etc).
- All students and staff members must obtain acknowledgement from lab staff for requesting of consumable items. If deemed necessary, all users must record in the log book provided.

2. Specific Rules & Regulations According to Nature of the Lab

2.1 Chemical Laboratories and Chemical Related Operations

- Always treat all unknown chemicals as HAZARDOUS.
- Laboratory coat must be worn **AT ALL TIMES** in the laboratory.

- It is **COMPULSORY** to wear suitable PPE when handling chemicals:-
 1. Gloves (rubber, nitrile, vinyl, PVA)
 2. Face mask / respirators
 3. Chemical splash goggles
- Do not wear contact lens in chemical lab. This will complicate first aid measure during chemical splash into eyes.
- Do not wear PPE such as lab coat in the public area such as concourse, lecture hall, lecturer's room, canteen, etc. This will increase the risk of public exposure to the user's contaminated clothing.
- All students are compulsory to submit Job Safety Analysis (JSA), Safety Data Sheet (SDS) and 7th Schedule to lab staff in-charge for review and approval before any experiment can be conducted.
- All students and staff members must read and understand the SDS (Safety Data Sheet) before handling any chemicals. Any experiments without SDS from original manufacturer are prohibited. The SDS lists potential hazards of the chemical and response action in case of emergency. Make sure that you are familiar with the warning signs on the label and follow the recommended instructions or procedures.
- Avoid physical contact with chemicals. A spatula must be used to dispense solid chemicals.
- All chemicals bought by students (Final Year Project, postgraduates) and staff members (research purpose) **MUST** be attached with SDS from the original manufacturer. Different manufacturers might synthesize the chemicals using different methods, such as additives, process, etc. A copy of the SDS must be given to lab staff in charge for evaluation before commencing any experiments.
- Lab staff has the right to instruct users to stop any experiments found to be unsafe or not following proper safe protocol. This is to prevent accidents and cause harm to other personnel.
- All prepared chemicals **MUST** be labeled clearly: chemical name, concentration, hazard warning (corrosive, flammable, toxic, etc.), name of student and supervisor, contact no., and date of preparation. Please make sure the label is at least 4cm (H) x 8cm (W) and can be seen clearly.
- Any operation that produces chemical fumes (volatile), vapours, gaseous, dust, mist and aerosol must be handled in fume cupboard.

- Never suck liquids into a pipette by mouth. Pipette filler must always be used.
- Preparation of chemicals, especially acid mixture and hazardous chemicals MUST be conducted in an operational fume cupboard. Operational conditions of fume cupboard should be checked before preparation of chemicals.
- Make sure the sash of the fume cupboard is open to the proper operating level, which is indicated by arrows on the frame. This is to ensure all chemical fumes are properly exhausted in the fume cupboard to protect the users.
- When fume cupboard is not in use, keep the sash down.
- Never store chemical in fume cupboard. Ample space must be available when operating in fume cupboard. This is to avoid obstruction of air flow which reduce the performance of the fume cupboard.
- For preparation of concentrated chemicals, obtain advice from lab staff on how to prepare the solution (high concentration with exothermic characteristic can cause heat reaction that can break the glassware).
- Dispose all chemical waste properly into appropriate waste bottle. Never throw ANY chemicals into the sink drain. Seek guidance from technician/staff in-charge on waste disposal.
- Failure to obey proper chemicals handling rules may lead to serious consequences such as eye damage, severe skin burns and permanent scars (physical contact). Also it may cause serious chronic health problems such as shortness of breath, tightness in chest and other respiratory complications due to inhalation.
- Seek medical aid from laboratory staff immediately if skin comes into contact with hazardous chemicals.

2.2 Mechanical & Timber Workshop

- Keep working area clean (including bench and equipment). All students and staff members are required to clean dusts and debris resulting from operations.
- When operating equipment or machine with rotating spindles, accessories such as watches, necklaces, lanyards, bracelets, rings, jewellery, gloves, loose clothes etc. are prohibited and long hair must be completely tied up.

- PPE such as eye protection, hearing protection, face shield, etc. must be worn when necessary.

2.3 Electrical and Electronic Laboratory

- All users must wear protective PPE (hand glove, apron and protective goggles) when etching Printed Circuit Boards (PCBs). Chemicals are harmful and must not be handled with bare hands.
- Wear eye protection when drilling PCB. The PCB may shatter or pieces may be thrown off into the face.
- Before drilling, make sure the PCB is clamped or held securely in place. This is to avoid the PCB from spinning around during drilling, which may cause an accident to hands or fingers.

3. Rules & Regulations on Computer Usage

3.1 LKC FES's Computer Teaching Lab

- Only registered students are allowed to access the computer facilities in the computer laboratory.
- Wear your ID cards at all times in a proper visible position whenever you enter the computer laboratory.
- Follow the student dress code of UTAR.
- Leave your bags at the shelf provided outside the computer labs. Do not leave any valuable items inside the bag. UTAR shall not be held responsible for any missing items.
- Do not eat or drink inside the computer laboratory.
- Please keep the computer labs neat and clean at all times.
- The computer facilities provided in University are to be used for learning purposes only. When you access the Internet in the laboratory, your usage is monitored. Anyone who is accessing undesirable/inappropriate sites will be referred to the Disciplinary Committee. The list of online activities deemed inappropriate (unless it is meant for academic exercise) are including but not limited to:
 - Music Download
 - Chat Boards

- Gaming
 - Movie
 - Excessive social networking
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- Do not tamper with any computers, printers, or any other associated equipment. If there are problems or faults, report immediately to the Computer Lab Administrator.
 - Do not remove any equipment or document from the computer laboratory.
 - Do not alter the default hardware and software setup of the computers and printers in the computer laboratories.
 - Do not copy, rename, change, examine or delete files or information belonging to any other user of the University.
 - Do not transmit abusive, obscene, fraudulent, threatening or repetitive messages to other users.
 - Do not install any unauthorized or unlicensed software into the PC of computer laboratory.
 - Do not disclose your password or allow other persons to use your account. You will be held responsible for any improper use of the computer facilities via your password or account.
 - You are not to unplug any of the equipment, network and power cables from their respective sockets and connect it with your laptop/notebook as the existing wired network connection is configured to work only if it is connected to the laboratory computer.
 - Do not save your work in any of the hard drives. The computers are automatically cleaned and unauthorized files, directories and programs will be routinely deleted.
 - Do not make any noise, chit-chat, hold group discussions or disturb other users at the computer laboratory in any way. Group works, discussions and any non-computer based works should be done in the common areas outside of the computer laboratory.
 - If a phone call needs to be attended, please do so outside the computer labs.
 - Computers in the labs are on sharing basis. As a courtesy, please give up your terminal to other users who are waiting if you have finished using it.
 - Before leaving your terminal, please save your work in your USB flash drive and log off

the computer. Any work done in the computer and left unattended will not be recovered once the computer is rebooted.

- No software should be loaded, developed or executed in the computers that attempt to alter the network file servers or other equipment.
- All computer users are liable for any damage to the equipment in the laboratory due to negligence.
- University reserves the right to suspend the student from using the computer facilities if found in breach of any rules and regulations stated above.

4.0 Disciplinary Actions

Depends on the severity of the offense, the following actions might be taken.

Type of Offense	Action to be taken
First offense	Written warning (Email will be sent to supervisor, HoD, Laboratory Management Committee Chairman, and FYP Coordinator). Offender to write a show cause letter to Dean.
Second offense	Warning letter issued by Dean office.
Third offense	Case will be referred to student disciplinary committee.