



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

LABORATORY SAFETY HANDBOOK

**DEPARTMENT OF COMPUTER AND COMMUNICATION
SYSTEMS ENGINEERING
FACULTY OF ENGINEERING
UNIVERSITI PUTRA MALAYSIA**



LAB RULES AND REGULATIONS

A. GENERAL RULES

1. Laboratory working hours:
8.00 am - 1.00 pm and 2.00 pm - 5.00 pm (Monday–Thursday)
8.00 am – 12.15 pm and 2.45 pm – 5.00 pm (Friday).
2. Laboratory after working hours: 5.00 pm – 10.00 pm (Monday – Friday)
3. Although you may be admitted into a laboratory you are NOT allowed to commence work unless authorized to do so by a supervisor/assistant engineer.
4. You **MUST wear a Proper Personal Protective Equipment (PPE)** in the laboratory areas. Soft contact lenses should not be worn in a laboratory where hazardous chemicals are in use.
5. Be aware of the safety equipment available, its location and method of use, i.e. fire extinguishers, fire blankets, safety shower, eyewash stands, telephone, chemical
6. Observe and obey all safety sign and warnings.
7. Familiarize yourself with the layout of the building and its fire escapes.
8. **DO NOT EAT, DRINK or SMOKE** in the laboratories and workshops.
9. Smoking is prohibited in the laboratory.
10. Keep your work space clean and tidy.
11. Use common sense and do not rush in the laboratory. Never be complacent about chemicals or chemical reactions.
12. Horseplay of any sort is absolutely prohibited in the laboratory.
13. Please fill **Laboratory Declaration Safety Form and Risk Assessment Form** before starting your lab.
14. Get MSDS for every chemical purchase.
15. Know the hazardous characteristics of the materials you will be using in your experiment (from MSDS).
16. Keep the sink clean. Do not throw any unwanted chemicals or hazardous waste down the drain.
17. Do not store any food in laboratories. Do not use food containers to store chemicals or laboratory samples.
18. Sleeping is prohibited in the laboratory.

19. No operating equipment will be left unattended or notify the staff if the experiment is to be continued or equipment is to be 'ON' after office hours. A status signboard must be displayed prominently near the experiment/equipment if it is still running.
20. Report all accident/spillages to a supervisor/assistant engineer.
21. Unauthorized persons are not allowed to enter the laboratory. If it happens, the safety is at your own risk.

B. LABORATORY PROCEDURE

1. All students must inform the assistant engineer when they are about to commence work. No work can commence without permission from the laboratory assistant engineer.
2. No materials/equipment/laboratory property may be removed from the laboratory without permission from the laboratory assistant engineer.
3. Approval for working space and storage of test specimens should be obtained from the laboratory assistant engineer.
4. Replace tools in their original place after use.
5. Always ensure the laboratory is clean and tidy both during and after use.
6. Advice and assistance must be sought by student before operate machine which they are not familiar.
7. Please always ensure all electrical tools are switch off before leaving the laboratory i.e. fan, etc.

C. WHAT SHOULD YOU DO WITH LABORATORY'S TOOL?

1. Any damage to equipment or tools must be reported immediately to the laboratory assistant engineer.
2. No materials or equipment in the laboratory are to be used without permission from the laboratory assistant engineer.
3. Miscellaneous items i.e. hammer, spatula, spirit level, etc. can be signed out on the day of use and to be returned on the same day.

D. PENALTY OF LAB RULES VIOLATION

Students fail to abide to lab rules will be penalized according to the following procedures.

First offence: verbal warning from Lab Coordinator.

Second offence: written warning from departmental Employer Representative of Occupational Safety and Health, Faculty on Engineering.

Third offence: Suspend from lab until further notice. Need to appeal by writing to Dept. HOD (Head of Department).

E. WORKING OUTSIDE OFFICE HOURS

1. No students are permitted to work outside office hours in the lab without the permission of the Supervisor, Department Development Coordinator and Head of Department.
2. Please fill in **Working Outside Office Hour Permit** for working out of office hours and **GET APPROVAL FIRST BEFORE START DOING WORK.**
3. Students are not allowed to hold lab keys.
4. You are responsible for your own safety and please take extra precautions in lab.
5. If permission is given, you must not work alone unless accompanied by a member of staff/postgraduate student from Faculty of Engineering. The safety is at your own risk.

F. ACCIDENTS

1. **Report all accidents**, no matter how trivial, on the day of occurrence to a supervisor and assistant engineer.
2. First Aid Kit is available in each laboratory. Seek advice from your assistant engineer for using any medicine/contents inside the kit.

I. FIRE.

- a) Familiarize yourself with the location of fire extinguishers/fire hydrants.
- b) Personal safety is most important. If a person's clothing catches on fire, he/she needs help. Prevent him/her from running. If he/she is close enough, put him/her under the safety shower because it is more effective than a blanket. If not, make him/her lie down and smother the flames by rolling, wrapping with lab coats, blankets, towels, etc. Never turn a carbon dioxide extinguisher on a person.
- c) If a fire breaks out, turn off all burners and remove solvents if time allows. There are carbon dioxide extinguishers in the laboratory and the positions and operation of these should be known. Point the extinguisher at the base of the flames. Very small fires can be put out with a damp towel by smothering. Only after the safety of all is assured should the matter of extinguishing the fire be considered.
- d) When the fire alarm sounds, leave the building immediately. Do not stop to collect personal belongings. Do not use the lifts. Shut doors behind you. Go to the assembly point and don't return to the building until you are told that it is safe for you to do so.

II. CHEMICALS

- a) If corrosive chemicals are spilled on the clothing, immediate showering (with clothing on) is the best remedy. Safety showers are located in each laboratory. If chemicals are spilled on the skin, wash them off with large volumes of water.
- b) If corrosive chemicals are spilled on the desk, dilute them with a large volume of water and then neutralize with sodium bicarbonate if an acid, or dilute acetic acid if a base.
- c) For all chemicals, please refer to MSDS for specific safety procedure of the particular chemicals

G. CONTACT PERSONS

If you require advice, assistance or have a complaint concerning safety matters, first contact one or more of the following people:-

1. Your academic supervisor or research co-workers.
2. The Head of the Laboratory and Assistant Engineer in charge of that area.
3. Department's Employer and Employee Representative in Occupational Safety and Health, Faculty on Engineering.

Laboratory	Head of Laboratory	Assistant Engineer
COMPUTER AND COMMUNICATION SYSTEMS ENGINEERING WORKSHOP	ASSOC. PROF. DR. SYAMSIAH MASHOHOR syamsiah@upm.edu.my	EN. MOHD HISHAM ALI mhasham@upm.edu.my 019-2557246
ELECTRONIC COMMUNICATIONS ENGINEERING LABORATORY I & II	ASSOC. PROF. IR. DR. SYAMSURI YAACOB syamsuri@upm.edu.my	PN. SATHZURA MOHD SAIDIN sathzura@upm.edu.my 017-6350818
COMPUTER AND EMBEDDED SYSTEM ENGINEERING LABORATORY	ASSOC. PROF. IR. TS. DR. FAKHRUL ZAMAN ROKHANI fzr@upm.edu.my	EN. MOHD HISHAM ALI mhasham@upm.edu.my 019-2557246
INTELLIGENT SYSTEM ENGINEERING LABORATORY	MDM. SITI MARIAM SHAFIE@MUSA mariam@upm.edu.my	EN. SALLEHUDDIN ZAINAL sallehuddin@upm.edu.my 017-5836999
MULTIMEDIA SYSTEM ENGINEERING LABORATORY	PROF. DR. SYED ABD. RAHMAN AL-HADDAD SYED MOHAMED sar@upm.edu.my	PN. NOOR AZLINA ABDUL AZIS naaa@upm.edu.my 011-12117179
COMMUNICATION AND NETWORK ENGINEERING LABORATORY	PROF. DR. SHAIFUL JAHARI HASHIM sjh@upm.edu.my	EN. FATHULLAH HAKIM MD MARHAM fathullah@upm.edu.my

		013-3882306
PHOTONIC SYSTEM ENGINEERING LABORATORY	DR. NADIAH HUSSEINI ZAINOL ABIDIN hza_nadiah@upm.edu.my	TC. ZAMILI MOHAMED zamili@upm.edu.my 03-9769 6454 / 012-373 8080
WIRELESS COMMUNICATION SYSTEM ENGINEERING LABORATORY	PROF. IR. DR. ADUWATI SALI aduwati@upm.edu.my	EN. MOHAMAD ZULKHAIRI ZAKARIA m_zulkhairi@upm.edu.my 012-9770653
INTELLIGENT SYSTEMS AND ROBOTICS LABORATORY	DR..FAISUL ARIF AHMAD FAISUL@upm.edu.my	EN. FATHULLAH HAKIM MD MARHAM fathullah@upm.edu.my 013-3882306
DEPARTMENT DEVELOPMENT COORDINATOR		MDM. SITI MARIAM SHAFIE@MUSA mariam@upm.edu.my
ENGINEER (Department's Employer Representative in Occupational Safety and Health)		SITI NORADHLIA MOHAMAD TUKIJAN noradhlia@upm.edu.my 019-2348564
Department's Employee Representative in Occupational Safety and Health		EN. MOHD HISHAM ALI mhasham@upm.edu.my 019-2557246

Emergency Contact Number:

UPM Security Control Centre (Pusat Kawalan Bahagian Keselamatan UPM)	03-97697990 03-97691999 03-97697470
Emergency Unit Universiti Health Centre (Unit Kecemasan Pusat Kesihatan Universiti)	03-97697332 / 7334
Serdang Hospital (Hospital Serdang)	03-89475200
Serdang Police Station (Balai Polis Serdang)	999 03-89482222
Seri Kembangan Fire Service (BOMBA Seri Kembangan)	999 03-89416281 / 7635

PROCEDURE BEFORE WORKING IN LABORATORY

