DEPARTMENT OF AEROSPACE ENGINEERING

FACULTY OF ENGINEERING UNIVERSITI PUTRA MALAYSIA



Issue No. : 03

Effective Date: 19/1/2021

A. GENERAL RULES

- 1. Laboratory class times are at 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. 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.
- 3. You MUST wear a safety shoes and proper workshop attire at all times in the laboratory areas. Soft contact lenses should not be worn in a laboratory where hazardous chemicals are in use.
- 4. 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
- 5. Observe and obey all safety sign and warnings.
- 6. Familiarize yourself with the layout of the building and its fire escapes.
- 7. DO NOT **EAT, DRINK or SMOKE** in the laboratories and workshops.
- 8. Smoking is prohibited in the laboratory.
- 9. Keep your work space clean and tidy.
- 10. Use common sense and do not rush in the laboratory. Never be complacent about chemicals or chemical reactions.

A. GENERAL RULES

- 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 <u>APPLICATION FOR USING LANBORATORY EQUIPMENT</u> 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. Do not overload the trench cover.
- 21. Report all accident/spillages to a supervisor/assistant engineer.
- 22. 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, casting and storage of test specimens should be obtained from the laboratory assistant engineer.
- 4. Replace tools in their original place after use.
- 5. Oil waste should be disposed off properly to appropriate container/bin.
- 6. Always ensure the laboratory is clean and tidy both during and after use.
- 7. Advice and assistance must be sought by student before operate machine which they are not familiar.
- 8. 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.

E. PENALTY OF LAB RULES VIOLATION

- 1. Students fail to abide to lab rules will be penalized according to the following procedures.
- 2. First offence: verbal warning from KM (Ketua Makmal)
- 3. Second offence: written warning from DSO (Department Safety Officer)
- 4. Third offence: Suspend from laboratory until further notice. Need to appeal by writing to Dept. HOD (Head of Department)

F. WORKING OUTSIDE OFFICE HOURS

- 1. No students are permitted to work outside office hours in the lab without the permission of the Supervisor, Department Safety Officer and Head of Department.
- 2. Please fill in all the necessary forms for working out of office hours and GET APPROVAL FIRST BEFORE START DOING WORK.
- 3. Students are no longer 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.
- 6. Fill in log book at lab for time in and out.

G. ACCIDENTS

- Report all accidents, no matter how trivial, on the day of occurrence to a supervisor and assistant engineer.
- First Aid Kit is available in each laboratory. Familiarize yourself with the kit.
- Fire.
 - Familiarize yourself with the location of fire extinguishers/fire hydrants.
 - 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.
 - 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.
 - 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.

G. ACCIDENTS

Chemicals

- 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.
- 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.
- For all chemicals, please refer to MSDS for specific safety procedure of the particular chemicals

H. 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. (Building Phase 2B)

Laboratory	Head of Laboratory	Assistant Engineer
Aerodynamics	Assoc. Prof. Dr. Ir kamarul Ariffin Ahmad Azmin Shakrine Mohd Rafie 03-9769 6389	Mr. Saffairus Salih 019-734 2696
Aerospace Structure Laboratory	Dr. Chia Chen Ciang 03-9769 4389	Mr. Ahmad Saifol Abu Samah 012-360 7697
Vibration & Control Laboratory	Dr. Ermira Junita Abdullah 03-9769 7917	Mr. Muhamad Suhardi Ali 014-805 5756
Avionics Laboratory	Dr. Md Amzari Md Zhahir 03-9769 4419	Mr. Mohd Azfar Roslan 012-310 9897
Flight Simulation Room	Ir. Dr. Zairil Azhar Zaludin 03-9769 6397	Mr. Muhamad Suhardi Ali 014-805 5756
Aerospace Fabrication Laboratory	Assoc. Prof. Dr. Mohd Yazdi Harmin 03-9769 6407	Mr. Ahmad Saifol Abu Samah (PJ) 012-360 7697

H. 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. (Building Phase 2A)

Laboratory	Head of Laboratory	Assistant Engineer
Aerospace Design Laboratory	Dr. Adi Azriff Basri (H) 03-9769 4392	Mr. Hermi Othman 012-944 4762
Propulsion Laboratory	Dr. Ezanee Gires (H)03- 9769 4415	Mr. Mohamad Nasir Johari 012-465 9036
Materials & Composite Technology Laboratory	Assoc. Prof. Dr. Mohamad Ridzwan Ishak 03-9769 4396	Mr. Mohamad Nasir Johari 012-465 9036
Space System Laboratory	Dr. Ahmad Salahuddin Mohd Harithuddin 03-9769 4412	Mr. Mohd Azfar Roslan 012-310 9897
Aircraft's Garage	Assoc. Prof. Dr. Azmin Shakine Mohd Rafie 03-9769 6394	Mr. Saffairus Salih 019-734 2696
Puchong Farm's Aircraft Runway	Ir. Dr. Zairil Azhar Zaludin 03-9769 6397	10

HOTLINE

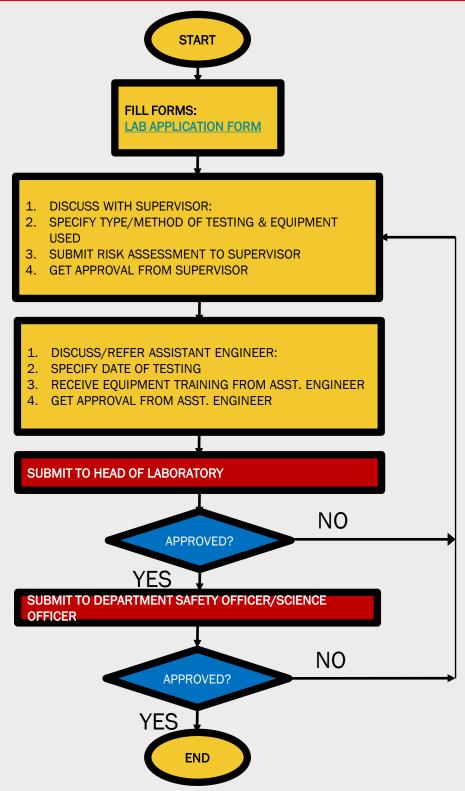
If you cannot reach any of the above or are not satisfied with their response then contact:-

- Department Safety Officer/ Development Co-ordinator, (03-9769 6394
- Head of Department (03-9769 6389)
- Department Representative, Science Officer (03-9769 4680)

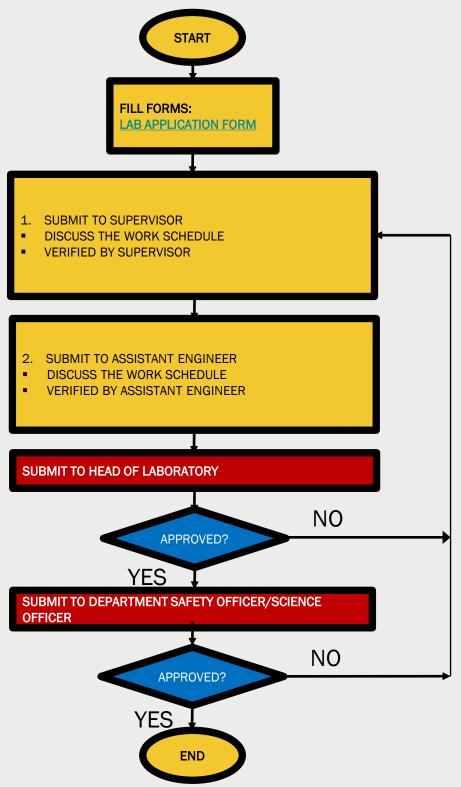


Emergency Unit Universiti Health Centre (Unit Kecemasan Pusat Kesihatan Universiti)	03-9769 7304
Serdang Hospital (Hospital Serdang)	03-8947 5555
Serdang Police Station (Balai Polis Serdang)	999 / 03-8948 2222
Seri Kembangan Fire Service (BOMBA Seri Kembangan)	999/ 03-8941 6281
Mr. Fahrul Asmady bin Yunus (Secretary of JKKP)	03-9769 6282

PROCEDURE OF WORKING IN LABORATORY



PROCEDURE OF WORKING AFTER OFFICE HOURIN LABORATORY



After reading this document, please sign and return the Laboratory Safety Form to the Head of Laboratory. A copy of the laboratory safety manual may be obtained from the Laboratory or through Mechanical and Manufacturing Engineering Department's website https://eng.upm.edu.my/services/services_by_departments/department_of_aerospace_engineering-2332

GENERAL INSTRUCTION:

- You are responsible not only for your own safety but also for the safety of others!"
- As postgraduates you will be expected to show a greater understanding for and adherence to, all national and local safety rules and regulations.

Please comply with the following:-

- Laboratory times: 8.00am-5.00pm. Working in a laboratory alone out of office hours is not permitted.
- Although you may be admitted into a laboratory you are not allowed to commence work unless authorised to do so by a supervisor/assistant engineer.
- You must wear proper personal protection equipments (ppes) such as safety shoes, safety hat, safety spectacles, etc.
- Take note of the safety equipments available, its location and method of use, i.E. Fire extinguishers, eyewash bottles, and first aid kits.
- Familiarise yourself with the layout of the building and its fire escapes.
- Do not eat, drink or smoke in the laboratory.
- In the event of an accident, it is essential that any injury be reported to a assistant engineer as soon as possible. A report of the accident will then be forwarded to the departmental safety representative.
- Report all accident/spillages to a supervisor/ assistant engineer
- Do not dispose of unknown chemicals down the laboratory sink. Refer supervisor/ assistant engineer for advice.

ALWAYS REMEMBER

Do not use any equipment, unless you are absolutely certain of its correct method of operation & do not hesitate or feel embarrassed about asking for help.



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