Health and Safety Form for CE/EEE Project Students Working in the Lab

Project Title: I.o.T. based system for indoor monitoring of greenhouse gases and pollutants.

Student Name: Michael Vincent Bate

Student Number: 40324387

Supervisor: Dr. Hamza Shakeel

Lab Location: Ashby building 9.005

Date: 23/10/2024

Introduction

This Health and Safety Form is designed to ensure the safety of all students involved in the Computer Engineer and Electrical and Electronic Engineering (CE/EEE) project within the lab environment. It outlines the necessary precautions, guidelines, and emergency procedures to be followed during the course of the project.

During your final year project you are expected to carry out your work independently of your supervisor and it is important that you are aware of the potential hazards involved in the work. You must discuss these hazards with your supervisor and determine the level of risk at each stage of the project. The level of risk is normally divided into three categories – HIGH, MEDIUM and LOW.

Risk Category				
HAZARDS	**LOW**	**MEDIUM A**	**MEDIUM B**	**HIGH**
Electrical	✓			
Mechanical	✓			
Chemical		✓		
Radiation	✓			

An example of LOW risk is the operation of a PC where access to the internals is not required.
The MEDIUM risk category can be sub-divided into:

(a) After training the student is competent in the procedures and may operate without direct supervision, but not in a room alone. *Example* – PC-controlled low-voltage measurements.

(b) After training the student is competent in the procedures and may work without direct supervision, but a staff member must be present in the laboratory. *Example* – operation of a rotating machine.

The HIGH risk category requires continuous supervision by staff.
It is necessary to have proof that the risk categories of the various parts of the project have been assessed and agreed, so please complete the form and return it to your supervisor before starting the practical work.

I have discussed the risks involved in my Project and have agreed that the following areas fall into the risk categories.

CATEGORY	DETAILS
LOW	low power electronics need only software based testing
MEDIUM A	Need to test VOC sensor on known concentration of chemicals.
MEDIUM B	
HIGH	

Health and Safety Guidelines

1. Personal Protective Equipment (PPE):

All students must wear appropriate PPE where applicable, including safety glasses, and closed-toe shoes, while in the lab.

Gloves may be required for specific tasks if required; ensure you are familiar with the type of gloves needed.

2. Lab Access:

Access to the lab is restricted to authorized personnel only. Do not allow unauthorized individuals to enter the lab.

3. Equipment Handling:

Handle all electrical and electronic equipment with care, following the manufacturer's instructions and guidelines.

Do not attempt to repair or modify equipment without proper authorization and training.

4. Chemical Safety:

Be aware of and adhere to the chemical safety guidelines posted in the lab.

Label and store chemicals properly and dispose of hazardous materials in designated containers.

5. Emergency Procedures:

Familiarize yourself with the location of emergency exits, fire extinguishers, and first-aid kits.

In case of fire, follow the lab's evacuation plan and use fire extinguishers if safe to do so.

In case of injury, report it immediately to your supervisor and seek medical attention if necessary.

6. Electrical Safety:

Ensure that all electrical equipment is properly grounded and in good working condition.

Do not overload electrical circuits or use damaged cords and plugs.

Be cautious when working with live circuits; follow proper lockout/tagout procedures if necessary.

7. Tool Safety:

Use hand tools and power tools with caution and follow proper safety guidelines.

Keep work areas clean and organized to prevent tripping hazards.

8. Laboratory Conduct:

- Do not engage in horseplay, pranks, or any behaviour that may compromise safety.
- Do not eat, drink, or smoke in the lab.
- Wash your hands thoroughly after working in the lab.

Emergency Contacts

In case of an emergency, please contact the following:

- **Emergency Services:**
- **Lab Supervisor(s):**
- **University Security:**

I have read and understood the Health and Safety Guidelines outlined in this form. I agree to abide by these guidelines to ensure a safe working environment.

Student Name: Vivit Bat Date: 23/10/2024

Lab Supervisor: Date:

Project Supervisor: Hamza Shakeel Date: 24/10/2024

By signing this form, all parties acknowledge their commitment to maintaining a safe working environment in the lab. The student has received training from the project supervisor/ lab supervisor on the correct operation of the equipment necessary to complete the project. The student has been made aware of other projects within the area and any dangers that may be associated with them. The student has been advised that undergraduates are not permitted to work in isolation.