WHS Student Online Induction Notes

All students are required to be familiar with the university's WHS policy and must abide by the rules set out in this document in order to access the School of Electrical and Information Engineering's workspaces and facilities.

If you have concerns over any safety issues related to your work in the department or its workplace and facilities, or if you feel that you do not understand any part of this induction document then please notify your supervisor (ie: lecturer, tutor, technical staff) of your concerns immediately. You may also discuss any concerns over a hazard/risk/safety issue with your student representative to raise at staff/student liaison meetings, or contact the school's current safety officer Dr Johnson Thie.

Be prepared

The key to successful emergency response is being prepared. To ensure that you are prepared, discuss your local emergency procedures with your supervisor (lecturer or teaching staff). Make sure that you are familiar with:

- The alarm tones in your building.
- The closest emergency exits.
- The location of the nearest telephone/s.
- The assembly areas for your building.
- The building name and room number.
- Local emergency personnel –Wardens and Nominated First Aid Officers.
- The laboratory's emergency stop buttons (if present).
- Any specific safe operating and emergency procedures that relate to your work or work area.

Medical Conditions

It is important that if you have any medical condition that needs to be taken into account, that you notify our lecturer and the school of it (through the general office). Examples of such conditions include photosensitive epilepsy, medical implants which are sensitive to magnetic fields, mobility issues, etc.

Emergencies

If a person is seriously injured or ill, tell your supervisor and call an ambulance immediately on **0-000** from a university fixed phone or **000** or **112** on a mobile phone (**112** works on a locked mobile or one with insufficient credit). Be ready to provide the following details:

- your name,
- location (building name/number and room number),
- number of people involved, and
- details of the medical emergency.

Call 13333 on an internal phone or 9351 3333 from a mobile to alert the university's security patrol who will escort or direct the Ambulance/Medical Personnel to the site of the emergency and arrange for First Aid to be provided in the interim. Send someone to the main building/property entrance to flag the ambulance as it approaches.

Defibrillator

In case of suspected heart attack or electric shock, the school has an automated external defibrillator. It is located next to the lifts on the ground floor of building J03. In such an emergency, as well as notifying the

emergency services, someone should be dispatched to retrieve the defibrillator. The defibrillator has on screen instructions, and is designed to be used by untrained operators.

First Aid

Nominated First Aid Officers are located in most University Buildings. However, where a local first aid officer is not available, call the university's security patrol (**1-3333** or **9351 3333** from a mobile) to arrange for First Aid assistance. The School of Electrical and Information Engineering has the following first aid officers:

- Johnson Thie (Rm 265 J03) 9351-4245
- Ruihong Chu (Rm 441 J03) 9351-2198
- Thomas Huang (Rm 630, J03) 9351-2657
- Rita Wong (Rm 402 J03) 9351-3229

University Health Service

The University Health Service offers a general practitioner and "walk in" service for staff, students and visitors on the Camperdown/Darlington Campus. Priority is given to emergencies or those in pain or distress. The University Health Service is located at Level 3 Wentworth Building (G01) Phone 935**1-3484** and Entry Level Holme Building (A09) Phone 935**1-4095**.

Fire and evacuation alarms

For J13, the assembly point is the grassed area next to the Rose Street building.

J03 has two assembly areas. The one that you use depends upon which side of the building that you exit from. The eastern side has the same assembly area as J13. The western side's assembly area is under the tree on the opposite side of Maze Crescent.

The following alert and alarm tones are common for both the J03 and J13 buildings.

BEEP....BEEP.... Alert Tone -Prepare to evacuate:

1. Check for any sign of immediate danger
2. Shut down equipment and processes
3. Collect any nearby personal items.

WOOP....WOOP... Evacuate the building

1. Follow the exit signs
2. Escort visitors & those who require assistance
3. Do not use lifts
4. Proceed to the assembly area

Do not enter a building while an alarm is sounding, or re-enter an evacuated building until the "all clear" has been announced by University emergency personnel or the attending Emergency Services. That means that you should not enter a building when the alarm stops – emergency services often turn off the alarm when they enter the building to investigate but it is still not safe to enter.

Incident Reporting (injuries and "close calls")

Notify your supervisor immediately no matter how minor the incident (they'll take the details and report it using the university's online reporting system – it may result in changes to procedures and is an important means of preventing mishaps in the future) and report via RiskWare. If a major injury has occurred then the emergency procedures listed above should be followed. If a minor injury requires attention (eg: broken skin) then a first aid officer should be notified. They'll have a first aid kit with sterilisation wipes, bandaids etc.

Laboratory Rules

The regulations listed below are to be observed for the smooth operation of the teaching laboratories and for your own safety.

1. Exposed open footwear (such as sandals) or bare feet are not permitted within laboratory areas. Solid non-slip footwear must be worn at all times.

2. Food and drink are not to be consumed or placed on the benches at any time within a laboratory.

3. Students must store their bags under the benches at all times.

4. Students should clean and tidy up when they have finished and, before they leave the laboratory, return any material that they've been handed for use during the session.

5. Under no circumstance is the main laboratory power switch to be switched on by students. The laboratory emergency stops should be used in case of an emergency only to cut power to the laboratory.

6. Any faulty equipment is to be reported to the laboratory officer.

7. Tampering with, or removal of, any laboratory equipment is strictly forbidden.

8. Students are expected to conduct themselves in a reserved manner and to keep noise at a minimum at all times; the laboratory is a teaching and learning environment.

9. Work that is not specifically associated with a School subject may only be carried out with the prior approval of the Laboratory Officer or other staff member authorised by the School of Electrical and Information Engineering to do so.

10. Mobile phones are not to be operated at any time within a laboratory. If you need to make or take a call, please step outside. Entertainment devices must not be used within a laboratory.

11. Students are not permitted to work alone in any laboratory at any time.

12. No one who is intoxicated by alcohol, prescription, or non-prescription drugs is allowed to be in a laboratory.

13. Personal protective equipment such as protective eyewear must be worn for all operations, and at all times, as specified in the school's safe operating procedures. (eg: when soldering, prototyping circuits, or using hand or powered cutting tools or when near others doing so).

Students who fail to abide by these regulations will be asked to leave the laboratory immediately. Unsafe behavior (including breaches of the following safe operating procedures) will result in restrictions to laboratory access until a student can demonstrate that they know the rules and procedures, and can be trusted to follow them.

Safe operating procedures

There are hazards in various laboratories within the school. The school has developed safe operating procedures to reduce the risks of these hazards. Any student not following safe operating procedures to the letter will have to leave the lab and have their details recorded (non-compliance with such procedures is considered to be a safety incident). Since this would constitute unsafe behaviour, the student will not be allowed to re-enter the laboratory until they can demonstrate that they have learned all of the rules and safe operating procedures, and can be trusted to follow them.

All electronic and electrical circuits

- Wear eye protection (safety goggles or glasses) whenever switching on your own prototyped circuits or when near someone testing theirs. This is to prevent eye injury in case of a fault causing a capacitor or semiconductor to explode.
- If possible, adjust your power supply to limit the current to just above that required for the circuit.
- Before switching a circuit on, make sure that the power supply has the correct polarity and that components like electrolytic capacitors and semiconductors are wired correctly.

- If a fault occurs, switch off the power supply and determine the cause **without** touching any of the components with any part of your body, as they may pose a burns risk. Warn any staff member assisting you that a fault has occurred and that there may be overheated components in the circuit.

Raised voltages (power supply or circuit capable of generating greater than 32 volts AC or +/- 32 volts ripple free DC)

- All students are required to have circuits checked by a member of staff before switching on any power supply or circuit **capable** of generating more than 32 volts AC or +/-32 volts ripple free DC (the maximum available between the positive and negative terminals of a typical dual rail lab supply).
- Ensure that your desk is uncluttered and that **both** ends of **all** cables are plugged into fixed sockets on the equipment (ie: no bare plugs or wire anywhere).
- All apparatus must be switched off immediately after measurements have been taken (and before changing or disconnecting any wiring).
- Always assume that a circuit is "live". Do not touch any exposed contacts at any time.
- If a fault occurs, immediately switch the power off and alert your supervisor to it. Do not touch anything or attempt to rectify the situation yourself.

Unpowered Hand Tools (screwdrivers, wirecutters, wirestrippers, hacksaws, etc)

- Wear eye protection (safety goggles or glasses) whenever using cutting tools or when near someone else who is using them.
- Ensure that any hand tool is in good condition and adjusted properly before using it.
- Ensure that work pieces are adequately clamped before cutting/drilling/bending/etc.
- Use tools only for the purpose(s) for which they're designed. Do not exceed their capacity.
- Ensure that any offcuts/chips/etc do not fly upwards or towards any person (including yourself).
- Ensure that no part of your body is in the path of the tool, and that a slip will not result in injury.

Soldering

- Wear eye protection (safety goggles or glasses) whenever soldering, or when near a soldering station.
- Ensure that the soldering iron is in good condition before using it.
- Always assume that a soldering iron is on.
- Avoid any contact with the heated (metal) part of the iron.
- Do not hand the iron to anyone else, wave it about, or flick it (flying solder is very dangerous).
- Only take the iron out of its stand to solder a joint, and then immediately place it back into its stand when finished.
- Do not use the iron unless you have a clear workspace with no danger of burning anything or anyone.
- Do not use the iron for anything other than its intended purpose of making solder joints on wires, connectors and circuit boards.
- Use clamping devices, rather than holding parts to be soldered.
- Turn the iron off after use.
- Do not "play with" solder – it can contain lead which is a hazardous material.
- Avoid breathing in the smoke given off by the flux in the solder – work in a well ventilated area.
- After handling solder, wash your hands well to avoid ingesting any lead or other compounds. Do not consume any food or drink until after washing your hands.

Machinery (experimental and/or drilling/cutting/etc)

- Wear eye (safety goggles or glasses) and hearing protection (earmuffs or earplugs) whenever operating, or in the vicinity of, cutting machinery, drill presses, etc.
- Do not use machinery unless you have been shown how to do so safely by a member of staff.
- Restrain loose hair, do not wear jewellery, loose clothing (eg: a tie), gloves, or anything else that might get caught in the machine.
- Check that any guards on the machine are in place. Make sure that you know how to stop the machine in case of an emergency.
- Ensure that the machine and the surrounding area are clear of loose items and other clutter.
- Ensure that there is no chance of you losing your balance and falling into the machine.
- Only use machinery for the purpose(s) for which it is designed.
- Do not use any machinery that appears to be damaged. Report any signs of damage or faulty behavior immediately to your supervisor.
- Ensure that nothing will fly off or get caught in the machine when it is switched it on.
- Ensure that the machine is adjusted properly (eg: correct speed for a particular cutting operation).
- Make sure that you avoid any areas where you could potentially come into contact with moving parts.
- Switch off the machine the moment that you have finished your required operation.
- For cutting/drilling machines, make sure that your work piece is adequately clamped, the cutting tool is properly fixed, and any adjusting tools (such as a chuck key or spanner) are removed. Ensure that the cutting tool is not in contact with the workpiece at startup unless it is safe to do so. Ensure that no part of your body is in the path of a tool and that a slip will not result in injury.
- For cutting/drilling machines, use the correct cutting lubricant as required.