

Campus Security contact number: 021 808 2333

GOOD IDEA Save
Campus Security
number on your
cell phone

021 808 2333

FIRE/EXPLOSION/BOMB SCARE

- Call Campus Security
- Help/stay with injured, otherwise evacuate
- Do NOT try to extinguish fire if it endangers your health or life

POWER CUTS

- Prepare for when power comes on again
- Always consider all connections to be live





Assembly Point Ent. 6 Banghoek Avenue





- → When siren sounds or instructed by safety officer
 - Leave building immediately through nearest exit
- → Immediately obey safety officers during exercises
- → Last person leaving a room: close door and hang out orange flyer on doorknob
- → Do **not** use the elevator

PERMISSIONS REQUIRED

No person may use dangerous equipment alone

- E.g., equipment with exposed moving parts, the potential for explosions/fire/electrical shock, high pressure/velocity gas/air
- There must be at leat one other person in the same lab, also after hours

No unauthorized persons may work on electrical equipment

- The law is very strict in this regard
- >A student is NOT allowed to fit a 15A plug

Students must obtain permission before they work in any laboratory or work with any equipment

Obtain permission from the person in charge of that equipment or lab (given on the door of labs/otherwise ask lecturer or lab manager)



REPORTING OF INCIDENTS

Report all safety risks to the technician/lecturer/chairperson or Campus Sec. at all hours

• E.g., unsafe/faulty electrical wiring or cables, compressed air pipes/hoses, etc.

Report all incidents in which a person is injured <u>immediately</u> to the technician/lecturer/chairperson or Campus Sec

- Legally required reporting procedures apply
- Any injury that may possibly require medical treatment or have long term effect

*If fatal (or potentially fatal) injuries occur - law specifies that you must not disturb the site



GENERAL SAFETY RULES

Applies to all students, staff and other persons present

- In the IE Building
- In the labs (situated in M&M Building)

OVERRIDING PRINCIPLE:

Prevent risks to people and equipment by

- Being sensible,
- Careful and
- Pro-active
- Remember the main rule of thumb is to use common sense and not take any chances



General Safety Rules (continuing)

According to Occupational Health and Safety Administration - students are viewed as employees

The law makes no provision for something like "at own risk/responsibility"

IMPORTANT:

All students/visitors must obey instructions of lecturer/technician or other staff members regarding safety - (not allowed to refuse according to law).



Genera Safety Rules (continuing)

GENERALLY APPLICABLE

- No smoking allowed anywhere in the building, or within 20 m of an entrance Windows are also considered to be entrances
- >When you leave the office every evening
 - Turn off lights, printers, monitors, air-cons
 - Close all taps and fire doors
- ➤ Back-up electronic data regularly; keep off-site back-up copy
 - Departmental backup server is an option
- Lock office and lab doors when you leave
- Report suspicious people to Campus Security (021 808 2333)



Examples of What NOT to DO







RULES WHEN HANDLING HAZARDOUS MATERIALS

Handling Hazardous materials Following must be disposed of in approved ways

- Computer equipment
 (contact Dean Johnson deanj@sun.ac.za)
- Batteries

 (contact Amelia Henning <u>ah2@sun.ac.za</u>)
- Chemicals

 (contact Xola Madyibi xola@sun.ac.za)



CLOTHES AND SAFETY EQUIPMENT

CLOTHES AND SAFETY EQUIPMENT

- No bare feet allowed in the building
- >Only closed shoes allowed in the lab area- NO flip-flops
- >Safety shoes (hard toe) compulsory when moving heavy objects
- PPE (e.g., hearing protection, safety goggles) compulsory where signposted
- > No loose clothes or long hair near moving machines
- Make sure you know where the nearest fire extinguisher or hose is before you start working in the lab



Allowable Shoes in Lab Areas

YES







RULES IN LABORATORY AREAS

Laboratory Areas

- Always have a cell phone with you
- 24/7

Emergency no.

021 808 2333

No unauthorized persons may enter a lab or workshop

- Keep doors closed, even during office hours
- Only access demarcated areas in the workshop

No-one may work alone in a lab (excluding offices in labs)

- Also applies to after hours
- At least one other person must be within hearing distance



Laboatory Areas





LAB PRACTICALS

Laboratory Practicals

If prac does not start with a safety briefing, please demand that it does Whenever or wherever you attend a laboratory practical - remember

 Each practical must start with going through safety instructions for that practical

 Attendance register for each practical - need to be signed by anyone attending the practical to confirm that he/she understands the safety procedures



LABORATORY SETUPS

No person may use dangerous equipment alone

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- There must be at leat one other person in the same lab, also after hours

No unauthorized persons may work on electrical equipment

- The law is very strict in this regard
- >A student is NOT allowed to fit a 15A plug

Students must obtain permission before they work in any laboratory or work with any equipment

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Laboratory setups (continuing)

If you build up a new lab setup or change an existing one

- You must compile safety instructions before starting to operate the setup
- Must obtain approval of instructions from supervisor/technician and lab manager before starting to operate the setup
- > Beware of preliminary testing in the workshop

If you use an existing lab setup

Dobtain its safety instruction or compile a new set (to be approved by the supervisor/technician and lab manager)



Laboratory setups (continuing)

SAFETY PROCEDURES FOR LABORATORY SETUPS

- Applies to all Industrial Engineering Projects, as well as all postgraduate students
- Applies to each new/changed laboratory setup or where the procedure for an existing set-up is not available
- Forms 1.1 and 1.2 can be downloaded from https://ie.sun.ac.za/health-and-safety/ and must be filled out and signed before starting any Lab Work



Step 1: Determine the potential risks the setup holds

- > The health and safety of the people who are going to use the setup
- > The health and safety of the people who are in close proximity to the setup
- > The equipment itself, the environment, surrounding
- buildings, etc

Examples of risks that must be considered

- Uncontrolled accumulation of flammable gases
- ➤ Inadequate protection from fast rotating masses, such as shafts and fans
- > Inadequate insulation of electrical equipment, especially
- when working with water



Step 2: Determine the steps that can be reasonably accomplished to minimize the risk

- > Seriousness and scope of the risk
- > Availability of knowledge regarding the risk, and methods to minimize/remove the risk
- > Availability and appropriateness of methods to minimize/remove the risk
- The costs involved to minimize/remove the risk with respect
- > to the associated advantages

The project must be stopped if funding is not available to minimize/remove significant risks



Step 3: Design the laboratory setup with mitigating/minimizing the risks in mind

Examples of measures that can be taken

- > Protective screens on rotating machinery
- >Adequate ventilation to avoid accumulation of gases
- >Adequate insulation of electrical equipment, as well as an emergency stop
- Interlocks to prevent access to moving parts
- >Screens over belts and chains



Step 4: Compile safety and operating instructions with the above-mentioned in mind

- >Use personal protective equipment
- Maintaining good housekeeping at all times
- > Purging procedures when using flammable gasses/fuels

Step 5: Compile housekeeping instructions with the above-mentioned in mind



Step 6a: Present the design, safety instructions and housekeeping instructions to your project supervisor

> The supervisor must approve the design and safety procedures by signing your document

Step 6b: Obtain approval from the technician responsible for the laboratory

Signature required

Step 6c: Original signed document handed over to the laboratory manager

Step 6d: Copy of the signed document must be displayed next to the laboratory setup



VERY IMPORTANT



Laboratory work is not allowed unless these steps have been completed

- Be wise
- Do NOT take risks
- Be pro-active



