Edith Cowan University
School of Engineering
Work, Health & Safety Committee

LABORATORY INDUCTION - Inductee ACKNOWLEDGEMENT FORM

Name	Staff/Student Number	☐ Academic ☐ Admin ☐ Technical ☐ Visitor ☐ Contractor ☐ Visiting Researcher ☐ Laboratory Demonstrator
Supervisor		
Campus Room Number		☐ Undergraduate/MEng Unit Code…… Unit Title ……
High-risk lab ☐ Low-risk lab ☐		
Risk Assessment Ref Number…… (if applicable)		☐ HDR Course Code…… ☐ Other……
Additional Information, if any……		

☐ *I acknowledge that I have read and understood* ***Laboratory Safety Information Sheets as provided to me (3 sheets)****.*

☐ *I acknowledge that I have read and understood* ***Procedure to Access Engineering Laboratory Facilities*** *as provided to me.*

☐ *I acknowledge that I have also personally attended and understood the Laboratory induction session and been instructed about the relevant policies and procedures relating to the facilities including the mandatory Personal Protective Equipment requirements relevant to particular units or laboratory activities.*

☐ *I acknowledge that breaches of the guidelines provided in the* ***Laboratory Safety Information Sheets*** *may result in suspension of access to the laboratory and disciplinary action.*

Specific Area Induction (please check the applicable items)

☐First Aid Officers' contact number	☐ The emergency exits and muster point
☐ Fire extinguisher and fire blanket	☐ Emergency contact numbers
☐ Fire alarm button	☐ Emergency Shutdown Switch
☐ Location and the use of chemical spill kit	☐ Location of the Material Safety Data Sheets file
☐ Waste disposal management	☐ SOPs for the lab equipment
☐ Risk assessment procedures	☐ Potentially hazardous areas or equipment in the lab and the precautions
☐ Chemical storage cabinets	☐ Location and the use of fume hoods
☐ Location of emergency eyewashes/showers	

☐ ***I acknowledge that I have also personally attended and understood the Laboratory induction session and been instructed about the relevant policies and procedures relating to the facilities including the mandatory Personal Protective Equipment requirements relevant to particular units or laboratory activities.***

Additional specific training if required

☐ Laboratory Equipment, please specify……..
☐ Radiation (X-Ray) ☐ Laser Safety ☐ Liquid Nitrogen (LN) Handling ☐ Tube-fitting
☐ First Aid ☐ High-Risk, please specify……
☐ Other, please specify……..

Inductee

Name……. Signature…… Date……

Laboratory Technical Staff/Supervisor

Name……. Signature…… Date……

Access Authorization

☐ No Card Access
☐ Card Access, *please check the applicable time/day*
- ☐Nominal working Hours (8:30am-4:45pm, Monday to Friday)
- ☐ Special Student Access 8am-9pm, 7 days ……
- ☐ ECU Staff Standard Access 6:30am – 10:30pm, 7 days ……
- ☐ 24/7……

Additional information, if any……..

- ***A hard copy of this form should be kept in the relevant laboratory folder.***
- ***A scanned copy should be emailed to seadmin@ecu.edu.au for lab access arrangement***

LABORATORY SAFETY INFORMATION SHEET 1 - *POLICY ON SAFETY IN LABORATORIES*

Follow the general safety rules and procedures outlined below and any specific requirements stipulated for particular units or laboratory activities (including external activities). Breaches of the guidelines provided in the Laboratory Safety Information Sheets may result in suspension of access to the laboratory and disciplinary action.

1. Adopt an alert attitude in the laboratory and always be conscious of potential hazards.
2. Identify the locations of the eyewash, safety shower, fire extinguishers and first-aid box.
3. Be familiar with the emergency procedures which are displayed in the laboratory.
4. Ensure that clothing is suitable to laboratory conditions, e.g. footwear, lab coat, safety glasses and gloves. Long hair needs to be tied back.
5. Do not place bags on the floor where you may trip over them. Place in designated area.
6. Do not smoke, consume food, drink or illicit drugs in the laboratory unless it is part of an experimental procedure.
7. Do not pipette any liquids by mouth.
8. Do not do practical work in isolation in a timetabled laboratory or workshop. Ensure a second person is within call. Any work performed outside a timetabled laboratory session is classed as “Project Work” and is covered by the School Policy on Undergraduate Project Work.
9. Never run or engage in practical jokes or horseplay in the laboratory.
10. Do not loan your access card to any other person and do not let unauthorised persons into the room on your card.
11. Do not enter or remain in a **laboratory/workshop/room** outside of the approved hours.
12. Do not provide access to **laboratory/workshop/room** to unauthorised persons.
13. Exercise care when opening and closing doors and entering or leaving the laboratory.
14. Regard all chemicals as hazardous and all biological materials as potentially infectious unless there is definite information to the contrary.
15. If there is any procedure or activity that you do not want to complete (for personal or medical reasons) then consult with your class instructor.
16. Identify the known and possible hazards associated with any operation and adopt appropriate safety precautions. Consult the University Safety Policies, which are available online http://intranet.ecu.edu.au/staff/centres/human-resources-service/our-services/work-health-safety-and-wellness/communication-and-consultation
17. Use safety carriers for transporting glass or plastic containers with a capacity of two litres or greater.
18. In the event of a spill, immediately inform the lecturer/demonstrator or the laboratory technician. Spills must be cleaned up immediately and thoroughly.
19. Report to the lecturer/demonstrator any equipment that is not working properly, any breakages or accidents.
20. Clean apparatus and benches, turn off power, gas and water before leaving the laboratory.
21. Wash your hands before leaving the laboratory, especially if you have been handling any chemicals, radioactive or biological materials. Remove laboratory coat before washing hands.
22. Follow specific protocols for disposal of hazardous (biological, chemical, radioactive, infectious, etc) and nonhazardous waste materials.
23. **IF IN DOUBT ABOUT ANY PROCEDURE, ASK YOUR LECTURER/DEMONSTRATOR OR TECHNICAL STAFF.**

LABORATORY SAFETY INFORMATION SHEET 2 - STAFF AND STUDENT RESPONSIBILITIES

It is recognised that Edith Cowan University as the employer is responsible for the management, control, maintenance and review of safety practices, procedures and systems. However, of equal importance is the responsibility and accountability of staff and students who are responsible for their own safety and health and for the safety and health of others.

The level of responsibility that is delegated to a person via this Policy will depend upon their level of control. This guideline provides assistance as to the responsibilities of persons in the workplace. All staff and students are responsible for their own health and safety and for others whose activities they may influence or control.

The degree of responsibility a person has will depend upon his or her level of influence or control. This concept is recognised in law. All staff and students are responsible for working and acting safely. Specific responsibilities for students include:

- taking reasonable care of their own health and safety and that of co-students, staff members and members of the public;
- cooperating with the implementation and administration of safety policies;
- not interfering with or misusing anything provided in the interest of health and safety;
- using plant and equipment as instructed;
- reporting all accidents and near misses to the staff member in charge;
- reporting all hazards or potential hazards of which they are aware and to assist with the avoidance, elimination or minimization of those hazards or potential hazards;
- wearing protective clothing and use protective equipment provided in the manner properly instructed;
- observing all instructions and rules issued to protect their safety and the safety of others; and
- making proper use of all safeguards, safety devises personal protective equipment and other appliances for safety purposes.

LABORATORY SAFETY INFORMATION SHEET 3
PERSONAL PROTECTIVE EQUIPMENT IN THE LABORATORY
INSTRUCTIONS FOR STUDENTS

Follow the general safety rules and procedures on the use of personal protective equipment (PPE) outlined below and any specific requirements stipulated for particular units or laboratory activities.

It is important that PPE be worn correctly at all times.

LABORATORY COATS

Students and staff **must** wear a laboratory coat in classes that involve and/or include the handling or demonstration of the following:

- hot liquids and corrosive agents
- machinery in the manufacturing workshop and materials lab
- liquid radioactive materials.

Students are required to provide their own laboratory coats for the above activities.

Laboratory coats are required to protect staff and students from splashes when handling liquids. Therefore, in order to ensure full protection, laboratory coats must be fastened with all buttons or studs secured and are worn with the sleeves rolled down covering any exposed skin of forearms. They should be laundered frequently.

FOOTWEAR

Thongs, scuffs, sandals and bare feet **are not permitted** in any laboratory at any time. This applies to laboratory sessions that are conducted in a laboratory.

Only fully enclosed footwear which covers the heels, toes and instep is acceptable.

Continued on next page……

GLOVES

Students must wear disposable rubber gloves for all activities where potentially infectious or dangerous materials are handled; for example, body fluids, radioactive materials, and some chemicals.

Latex gloves of small, medium, and large sizes are provided for all staff and students.

Chemically-resistant, heat-resistant and low-temperature gloves must be used where required and instructed. These will be provided on request.

Note: Wearing of gloves does NOT replace the need for hand washing, as gloves may have defects or may become damaged during use.

SAFETY GLASSES & OVERGLASSES

Safety glasses must be worn in all chemistry units, and during laboratory classes involving the following activities:

- when liquids are heated
- when corrosive reagents are poured
- when handling power tools
- when using radioactive sources and materials
- when working with electric circuits containing capacitors
- **when soldering**.

Safety glasses and overglasses are provided by the School for staff and students to protect their eyes during laboratory activities. Therefore, in order to ensure full protection it is important that safety glasses are worn correctly resting on the nose protecting the eyes rather than resting on the head.
Safety overglasses are provided for students who wear prescription glasses.

Note that prescription glasses are not suitable as safety glasses.

More specialised eye protection (e.g. full-face visor) should be worn where required and instructed, and will be supplied on request.

Full face shields or visors must be worn during procedures involving the following:

- where splashing, splattering or spraying of blood or other body substances may occur
- where there is a risk of explosion or implosion.

Full-face visors/shields should also be worn for procedures involving the following:

- where glass apparatus is evacuated, recharged with gas, or is pressurized
- when pouring corrosive liquids
- when combustion processes are being carried out.

Procedure to Access Engineering Laboratory Facilities

Procedure Owner: *School of Engineering*

Keywords: Access, Laboratory,

1. INTENT

This procedure aims to achieve the University's goal to provide and maintain, so far as is reasonably practicable, a safe and healthy working and learning environment for its workers, students and visitors.

Unauthorised or unsupervised workers, students and visitors in laboratories are a risk to themselves and to the University. The intent of this document is to provide guidance for the management of laboratory access in the School of Engineering.

2. ORGANISATIONAL SCOPE

ECU staff, all students and visiting researchers in the School of Engineering

3. DEFINITIONS

TERM	DEFINITION
Awareness training	Training used to distribute information that provides an individual with awareness of the basic concepts of a policy, program, process or system. Understanding may be assessed but there is no requirement to for it to be assessed.
Competency	The ability to perform particular tasks and duties to the standard of performance expected in the workplace. Competency requires the application of specified skills and knowledge relevant to effective participation in an industry, industry sector or enterprise. Competency must be assessed by verbal questioning or written means and/or in a practical demonstration
Competent person	A person who has been assessed and deemed to be qualified to perform a duty based on training, knowledge, skill and relevant experience.

High-risk laboratory	A place for specialised research, teaching and/or learning in which hazards to human health can arise from inappropriate situations and/or behaviours, and a higher level of supervision is required (as listed in Appendix I)
Low-risk laboratory	Laboratories not classified as High-risk laboratories
Nominal working hours	The operating hours[1] between 8:30am to 4:45pm Monday to Friday excluding weekends and Public Holidays
After-hours	Operation hours outside nominal working hours, including weekends and Public Holidays

4. PROCEDURES CONTENT

All applicants who seek access to School of Engineering Laboratory Facilities are required to contact the Technical Team at se-tech-help@ecu.edu.au in the first instance. After meeting any necessary requirements, and obtaining approval from the technical team, the School's Administrative Team will advise the nominated applicants once card access has been granted.

4.1 High-risk laboratories

All high-risk laboratory users are required to complete a laboratory safety induction and equipment training session, followed by a competency assessment conducted by a competent person. They must also obtain laboratory activity risk assessment approval in Riskware before laboratory access will be granted (Appendix II shows the procedure to complete a risk assessment in Riskware). A list of high-risk laboratories can be found in Appendix I.

4.1.1 Undergraduate and postgraduate by course work students

- **No card access can be granted.**
- Nominal working hours' lab access can be provided by supervisor, supervisor nominated staff/HDR, technical staff.
- Technical staff[1] must be informed in advance of any access requests
- Working alone is only allowed during nominal working hours provided that the activity has been assessed as low/moderate risk.

4.1.2 Academic Staff / Visiting Researchers & HDR Candidate

- Nominal working hours' card access can be granted after completing all necessary risk assessments, lab safety inductions, and a working alone risk assessment, if applicable.
- After-hours card access can be granted upon the completion of a working alone risk assessment and acknowledgment of the requirement to sign into the ECU NowForce App whenever entering the lab.
- Laboratory users with after-hours card access must not work alone on any activity that has been assessed as high risk.
- Laboratory users with after-hours card access must not work alone with hazardous chemicals unless a second competent HDR/Staff is available to assist in the experiments, and has also signed in to the ECU NowForce App.

[1] Please contact the technical team for more information on the availability of technical staff

4.2 Low-risk laboratories

Nominal working hours access to low-risk laboratories can be granted after completion of a laboratory safety induction and equipment training session followed by a competency assessment conducted by a competent person, as well as obtaining risk assessment approval in Riskware (Appendix-II). Special access from 8:00am to 9:00pm can only be granted upon the completion of a working alone risk assessment and acknowledgement of the requirement to sign into the ECU NowForce App whenever entering the lab.

4.3 ACCESS TO ANALYTICAL Equipment

To get access to analytical equipment the application form provided in Appendix III must be completed and submitted to the technical manager and relevant technical staff as indicated on the form. Authorisation to use equipment after hours will depend on the risk rating of the specific equipment and the proposed activity and the level of competency required to operate the equipment.

5. RESPONSIBILITIES

ECU staff, all students and visiting researchers have duties of care to provide and/or ensure a safe workplace.

6. RELATED DOCUMENTS

6.1 This procedure is supported by the following:

- *ECU Health and Safety Policy:* https://intranet.ecu.edu.au/__data/assets/pdf_file/0004/939307/PL139-Health-and-Safety-Policy-2020.pdf

6.2 Other documents which are relevant to the operation of this procedure are as follows:

- *ECU NowForce App*  from On-campus Safety and Security: https://www.ecu.edu.au/centres/digital-and-campus-services/our-services/safety-and-security/on-campus-security
- *Working alone Guidelines:* https://intranet.ecu.edu.au/__data/assets/pdf_file/0003/653835/Working-Alone-Guidelines.pdf
- *Riskware:* https://iam.ecu.edu.au/oamfed/idp/initiatesso?providerid=https://www.riskcloud.net
- *Children at ECU Guidelines*: https://intranet.ecu.edu.au/__data/assets/pdf_file/0009/893430/Children-at-ECU-Guideline-V1.0.pdf
- Worksafe WA https://www.commerce.wa.gov.au/worksafe

7. CONTACT INFORMATION

For queries relating to this document please contact:

Procedures Owner	School of Engineering
All Enquiries Contact:	Technical Support Team
Phone:	08 6304 5178
Email Address:	se-tech-help@ecu.edu.au

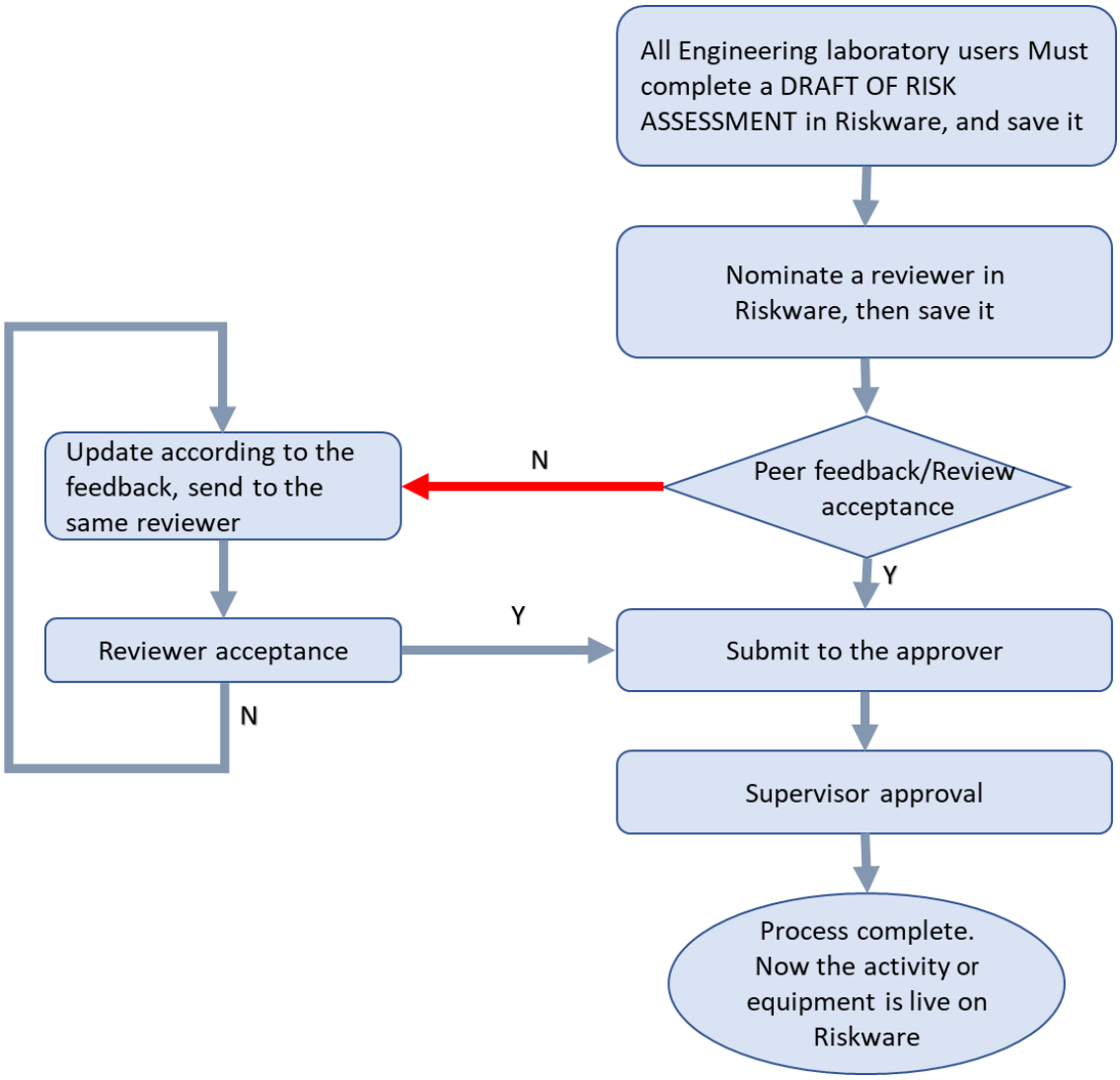
8. APPROVAL HISTORY

Procedures Approved by:	School of Engineering Executive Committee
Date Procedures First Approved:	26/03/2021
Revision History:	Version 1
Revision History:	Version 1
Next Revision Due:	TBA
TRIM File Reference	

Appendix I- List of High-Risk Laboratories

Location	Responsible School Area
JO.23.101	Manufacturing Workshop
JO.23.106	Motorsports Workshop
JO.23.109	Advanced Manufacturing Lab
JO.23.110	Concrete and Construction Materials Lab
JO.23.111	Energy and Environmental Catalysis Lab
JO.23.113	Hydraulic and Environmental Engineering Lab
JO.25.101	Transportation Lab
JO.25.104	Water Jet Cutting Lab
JO.27.101	Civil Engineering Lab
JO.27.102	Structural Engineering Lab
JO.27.103	Geotechnical Engineering Lab
JO.27.109	Chemical Engineering Lab
JO.27.109A	Fume Hood
JO.27.110	Chemical Engineering Research Lab
JO.27.121	Engineering Lab
JO.27.115	Environmental Engineering Teaching Lab
JO.27.202	Petroleum Engineering Teaching Lab 1
JO.27.208	Materials Engineering Research Lab
JO.27.302	Petroleum Engineering Research Lab
JO.27.308	Chemical Engineering Research Lab
CW.79.101	Geotechnical Engineering Research Lab
CW.79.105	Engineering Research Facility

Appendix II- Procedure to complete a laboratory activity risk assessment in Riskware



Discipline	Riskware Peer Reviewer
Chemical	TBA
Civil	Mohamed Ismail
Electrical	Farhad Farivar
Mechanical	Muhammad Aamir
Petroleum	Hamed Akhondzadeh

Appendix III- Analytical Equipment Access Request Form

Requester Contact	Staff/Student Name:		Supervisor:
	Staff/Student ID:		Discipline: ☐ Chemical ☐ Civil ☐ Mechanical ☐ Motorsports ☐Petroleum ☐ Other……
	Email:		
	Phone:		
	Campus: Joondalup	Building:	Room:
	Course: ☐HDR ☐MEng ☐ BEng ☐ Other……		
Timeframe	Needed by date:		
Sample Information	Type of material(s): Sample size(s): Number of samples: Please provide brief description of test requirements:		
Sample Preparation	☐ Technical Staff ☐ Student Please provide instructions if technical staff is checked:		
Equipment/ Technique	☐ XRD ☐ CT-Scan ☐ AFM ☐ Laser ☐ TOC-L ☐ TGA ☐ SEM ☐ GC ☐ Gas Reforming Setup ☐ PCT Pro Adsorption ☐ MP-AES ☐ NMR ☐ Surface Area and Porosity (TriStar II) ☐ Material Hardness Tester ☐ MTS ☐ Instron Tensile Tester ☐Nanoindentation ☐ TOC (Rock Eval) ☐ Triaxial Testing ☐Porosity Analyzer ☐HPLC Rheometer Other.....		
Output Results	Please provide the parameters and the format of output		
Risk Assessment / RBHSC Information	Is the activity Risk Assessment completed in Riskware? ☐ Y ☐ NA If yes, please provide an approved application reference #.....		
	Does the activity require the approval of RBHSC? ☐ Y ☐ NA If yes, please provide an approved application reference #.....		
Disposal of Samples	☐ Hazardous waste bin ☐ Clean-way ☐ Return ☐ Discard		

-After completion, please forward this form to the both technical manager at se-tech-help@ecu.edu.au and relevant technical staff as follows

Discipline	Responsible Officer	Email	Equipment/Technique
Mechanical/ Motorsports	Dr. Muhammad Aamir Mr. Adrian Davis	m.aamir@ecu.edu.au m.davis@ecu.edu.au	Material Harness Tester, Instron Tensile Tester
Civil	Dr. Mohamed Ismail	m.ismail@ecu.edu.au	MTS-Triaxial Testing, Instron Tensile Tester,Laser
Petroleum	Dr. Hamed Akhondzadeh	h.akhondzadeh@ecu.edu.au	AFM, CT-SCAN, PCT Pro, NMR, GC, TOC (Rock Eval), HPLC, Porosity Analyzer, Gas Reformation, Nanoindentation
Chemical	TBA		XRD, TGA-TOC-L, TriStarII, MP-AES, Rheometer