

IMPERIAL

**Workshop Handbook
2026-2027
v5.3**

Dyson School of Design Engineering

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1. General Information

The ACE workshop is the place where students at the Dyson School of Design Engineering can manufacture and test items for their project work.

The ACE Workshop is primarily teaching workshop used by programmes associated with Design Engineering. The ACE workshop offers facilities for woodworking, plastics, metalworking, laser cutter, 3D printing and assembly.

1.1 Access & Supervision

The workshop is supervised by the technical team between the hours 09:00-17:00 Monday-Friday. The area is supervised by both full time and part time staff; users must always follow staff instructions regarding behaviour and use of equipment. Senior staff will determine what activities students may undertake within the spaces.

Entry to the ACE workshop is by swipe card and is classified as a Limited Access Area, users must complete the workshop safety induction to be permitted access. Areas of the workshop are open outside of supervised hours, access times are below: Students have access to the bench area, consumables and the tool cabinets. Mains power will be isolated when the technical team are not present. Hand tools and battery tools can be signed out for after hours working; there is no lone working allowed in the workshop.

Access times

ACE 151 ground floor bench area and 151 Mezzanine: 08:00-22:00, 7 days a week excluding [university closures days](#).

ACE 150 machine shop and 150 mezzanine: 09:00-17:00, Monday-Friday excluding university closure days.

1.2 Space Usage

The cleanliness of the workshop is extremely important since this is a heavily used area. Students are required to clear down their bench areas and return tools. Students are allowed to continue working after 17:00, however they are expected to keep their work areas clean. Project work should not be left out unless permission is given by the technical team. If project work is left out without permission, then the technicians have the right to dispose of these items. The technicians are there to support student work and keep the workshop operating

effectively, however it is the responsibility of all users to keep the condition of the workshop in a good state.

Regarding afterhours access, if the workshop is found to be left in an unacceptable state, equipment is found damaged or unsafe activities are being carried out. Student groups will receive a warning for the first incident; further action will be taken after the second incident; the workshop will be closed to all users.

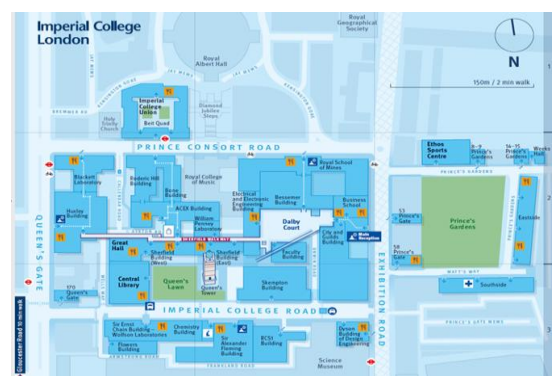
In the case of infringements of appropriate actions and behaviour, this includes incorrect PPE, unsafe working, following Health and Safety guidance, professional working behaviour including respect for staff and students, the technical team will take the following sequence of actions, as required, if the action or behaviour is not immediately addressed, or repeated in any form, and at any stage:

- A clear verbal warning will be given.
- An email written warning will be given and the relevant module tutor cc'd.
- The student receives a 2 week ban from using the workshop and the relevant module tutor will be advised to arrange an alternative strategy for fulfilling any submission requirement
- The student will be subject to university disciplinary action

In general, the workshop is open access to all students however, the area can be booked by module leads for supervised sessions (teardowns or lo-fi prototyping) or protected time for students to complete self-lead work. Due to capacity restrictions, this may result in access to other programmes being limited during booked activities.

1.3 Workshop location

The workshop is located in the [ACEX Building](#) on the map below and can be accessed via the Sherfield walkway or from the entrance via Prince Consort Road.



A more detailed map can be viewed using the link below:

[South Kensington Campus](#)

1.4 Training

Users must complete a safety induction quiz and workshop familiarisation. The workshop is classified as a Limited Access Area, and users must complete the safety induction to be permitted access. The safety quiz covers the operating rules for the workshop. Users must pass the quiz in order to attend the workshop familiarisation.

The workshop course provided is an hour session where students will be inducted to use **green** and **amber** spot equipment such as battery drill, band saw, pillar drill and sanders, turning and milling. Inductions are arranged for all programmes in the first academic term. For others, please contact the Technical Services & Safety Manager to arrange training.

Each session of the workshop course will be led by a member of the technical team, and an overview of machines will be given. If practical inductions are given, during the session users will be assessed on the ability to understand and follow the instructions given. If a user is unable to demonstrate the required ability to use the machinery safely a user can be failed. Failure to attend the session will result in access being denied to the workshop.

Failure to comply with workshop procedures and safety instructions from the technical team will result in access being revoked and individuals must be retrained.

To access the induction:

- Login to Canvas: <https://canvas.imperial.ac.uk/>
- Go to Design Engineering ACE Workshop
- Review the workshop material for the ACE workshop
- Complete ACE workshop quiz, you must pass and will have 5 attempts

1.5 Emergency contact numbers

Security - First aid, fire or police emergency (24hrs) 020 7589 1000

General (24hrs) internal ext. 48910 or 58920

If assistance is required, please contact **Security** using the internal phone by main entrance of the workshop.

If you do not have access to an internal phone, please contact **Security** at South Kensington Campus on 020 7589 1000 or via the [SafeZone App](#)

Health centre Contact number 0207 584 6301

Location 40 Princes Gardens SW7 1LY

Opening hours Term time Mon-Fri 08:00-18:30 Out of term time Mon-Fri 08:00-17:00 Sat-Sun closed

1.6 First Aid & Fire safety

Workshop First Aiders are Ingrid Logan-Rivers (MHFA), Claudia Morgan and Chloe Allen-Greeves. Full list of Department first aiders and MHFAs can be found by the internal phone next to the main entrance of the workshop.

A First Aid box and Burns Kit are located outside the technician's office and on the mezzanine floor (151). Eye wash stations are located by each sink.

In event of an evacuation assembly points are, point B: Roderic Hill Car Park and point C: Bone Courtyard. Further information can be found on the [ACEX GEEP](#) (Generic Emergency Evacuation Plan) and Fire exits.

Under certain circumstances a user may require a Personal Emergency Egress Plans (PEEPs), more information can be found on the Universities Estates [website](#). Please contact the [Department Safety Officer](#) and relevant Programme Administrator.

1.7 Equipment, consumables, and storage

The ACE workshop has a range of equipment available for students to access. The access to different pieces of equipment follows the traffic light system (**Red**, **Amber**, and **Green**) which are referenced in the link. Green spot equipment can always be accessed. Red and Amber equipment can only be accessed during times when the technicians are present.

Hand tools are stored in the cabinets in the ACE workshop. The department runs an honour-based system where students can use tools within and outside supervised hours, based around trusting students to return the tools after use and reporting any damage to the tools. We have a no blame policy so please do report any damage to tools; we just wish to maintain a good

stock of equipment for students. Please respect the policy such that tools are available as and when needed.

Mains powered tools will not work after the technical team at the end of their working day for health and safety.

3D printers and laser cutters are an essential tool for prototyping. The ACE workshop has a range of 3D printers and laser cutters to support student work.

For the plastic fused deposition modelling (FDM) machines there are 33 Bambo Lab 3D printers. For laser cutting there are 2 laser cutters, Denford VLS3.60 and VLS4.60. These can be booked **after completing an induction**. It is the responsibility of the students to make sure that the machine is returned to the same condition as it is found in (i.e. their print has been taken off and cleaned down).

There are 2 more 3D printers: Projet 2500 and Omni Net. These machines are operated only by the technicians for health and safety, and prints are made by request through the requisition system.

The Bambu's are run at zero cost to students. For the Projet and the Omni, a print request must be submitted with an STL file, and a quote will be provided.

To book a 3D printer or laser cutter please use the [PPMS](#), equipment can be found under 'Dyson School of Design Engineering' PPMS page. **You must have completed the inductions to use these machines.**

Under 'Book' choose the machine required and select the time slot needed. The laser cutters can be booked between 09:00-16:30 Monday-Friday.

Laser cutter - Attending the Machine

The machine must always be attended, with no exceptions. Failure to do so will result in removal of your right to use the machine. Anyone recruited to attend the machine must themselves have attended the laser cutter induction and they become wholly responsible for the safe operation of the machine.

Important notice regarding bookings

If a user is unable to attend the original booking, please ensure that it is either cancelled or amended to allow other users the opportunity to access the machines. If the booking is not amended or cancelled, please note that failure to arrive within 15 minutes of the scheduled

start time will result in the booking being automatically cancelled on your behalf by the technical team.

Only one laser cutter or 3D printer can be used at any one time. If additional time is required, please extend the existing booking rather than booking multiple machines simultaneously. Failure to seek adhere to this policy will result in bookings being cancelled.

Failure to comply with workshop procedures and safety instructions from the technical team will result in access being revoked from the equipment and individuals must be retrained.

Files and material should already be prepared to avoid bookings over lapping.

The 3D printers can be accessed between 09:00-16:45, 5 days a week excluding university closure. 3D printers will operate 24/7 if longer prints are required.

The ACE workshop provides a range of consumables for students to use for their projects. The list of standard consumables is provided below and can be found in the storage locations around the workshop. Please note that this list is not exhaustive, if you cannot find what you are looking for, speak to a technician for assistance. In normal circumstances these consumables should always be in stock but in case of high usage and one is running low please contact a technician to inform them.

[ACE workshop Consumables.pdf](#)

For materials which are not included on PPMS please complete a 'Special Requisition' on PPMS for procuring these. A common site where you might find components is RS (<https://uk.rs-online.com/web/>) and Farnell (<https://uk.farnell.com/>). Supplier lead times are typically listed. Please factor in lead times associated with external purchases as additional time must be added to supplier lead times due to the department approval process.

The ACE workshop provides project boxes for the storage of student works. At the end of each academic year boxes are cleared out, if there are items which you would like to keep please remove these before it is cleared out. Please speak to the workshop team about accessing project boxes.

Work will not be stored in the ACE workshop indefinitely and all stored work should be clearly labelled with the student's name. **No hazardous material should be stored in the project boxes.**

1.8 Material Requisitions

Students must have a module budget to request materials from the ACE workshop. The module leader or project supervisor should allocate this budget. Requests are usually approved within 48 hours subject to the student's budget. Please submit all material requests using the link below, select 'Order' from the top menu, standard items or special items can be requested.

[PPMS Ordering](#)

Sheet material such as plywood and plastics can be found in the material store in the machine shop of ACE. The material store also contains offcuts which students are free to use should they want at zero cost and can contribute towards. Please visit PPMS for a list of materials and pricing. Items required for project work which are not standard stock must be submitted as a 'Special Requisition', links to item(s) must be provided in the request*

Please note items may only be purchased from Imperial College approved suppliers.

1.9 Workshop Team

	Ingrid Logan-Rivers Technical Services & Safety Manager i.logan@imperial.ac.uk		Gordon Addy Senior Technician g.addy@imperial.ac.uk
	Karl Addy Technician k.addy@imperial.ac.uk		Tito Nwofor Workshop Assistant t.nwofor@imperial.ac.uk
	Claudia Morgan Technician claudia.morgan@imperial.ac.uk		Chloe Allen-Greeves Technician c.allen-greeves@imperial.ac.uk
	Klara Belozeroval Technician k.belozeroval@imperial.ac.uk		

2 Workshop Rules

General behaviour
Persons that have not completed the workshop induction are not permitted in the machine area. Persons involved with a project or activity need to seek permission from workshop staff before entering the workshop and must be accompanied.
There is no access to the workshop during pre-booked activities and during training sessions.
Do not run or take short cuts between the machines, the walkway through the workshop is clearly marked.
All users must wear a lab coat at all times in the workshop. This includes visitors and members of staff. Safety glasses must be worn when working on machinery or with power tools.
All users must wear suitable footwear. Footwear must enclose their entire foot; boots or trainers are acceptable providing they are considered durable. If a user's footwear is deemed unacceptable, they will be asked to leave the workshop.
All users must be appropriately dress for the workshop, skirts and shorts are not permitted.
Coats and bags should be left in designated space provided and not left around the bench area and walkways.
The use of mobile phones and headphones are prohibited in this area.
Eating and drinking is not permitted in the workshop.
Always wash your hands before leaving the workshop.
All users must provide a technical drawing or detailed sketch of the design they would like to produce unless under the supervision and instruction of technical staff.
Only use equipment as you have been shown, if in any doubt about how to use a piece of equipment seek advice and assistance from technical staff.
All accidents or near misses in the area must be reported to a member of staff. All Accidents, Incidents or Near-misses must be reported on CoreStream
Any damaged or broken equipment must be reported to a member of staff. Equipment must be taken out of service until repaired.
Keep your work area clean and tidy. The workshop operates on a clean bench policy; practicable unless given permission by technical staff, all users must clear their work area before they leave. Unpermitted work will be cleared the following morning. Storage boxes are for work in progress only.

Machine tools
All machines are colour coded: RED spot machine: For use only by technical staff E.g., Circular saw, CNC router. AMBER spot machine: For use by students under the supervision of technical staff after completing the safety induction. E.g., Band saw, pillar drill, sander, laser cutter. GREEN spot machine: For use by students without supervision of technical staff after completing the safety induction. E.g.,
Always check you know how to stop a machine before you start it.

Never walk away from a machine leaving it running. Always switch it off when you are done.
Do not distract others working on a machine.
Always check the direction of rotation of the cut before starting.
Never adjust a machine whilst it is in operation, any adjustments or modification must be done once the machine is isolated.
Never try and stop a chuck with your hands, wait for the machine to stop before doing anything.
Never leave a chuck key in the chuck or spanners on driven spindles.
Cutting processes can be hot. The workpiece or tool may be hot, do not attempt to remove/change anything until it has cooled.
Safety glasses must be worn at all times when operating machines, working near the machine and including the use of cordless
Long hair must be tied back securely when operating a machine.
All loose jewellery (bracelets, necklaces and rings), neckties/scarves and any other loose or baggy clothing must be removed when operating a machine.
Use a push stick provided to cut small pieces of material or control a workpiece when on a band saw.
Any faults with machinery should be reported immediately to a technician.

Additional rules for the workshop
Lone working is not permitted under any circumstances. There must always be at least 2 people in the workshop.
To enable identification, users must carry their ID card whilst working in the area.
In the case of emergency and in the absence of staff, call 0207 589 1000. This number will connect you to IC security who will coordinate, do not call 999.
Personal electrical power tools or equipment must not be used in the ACE workshop.
Tools are not to be removed from the ACE workshop.
Check with technical staff first before using or removing materials from the workshop.
No main's powered tools are allowed during un-supervised hours; cordless tools may be used after hours.
Dust extraction is provided for equipment including sanding benches, always use the extraction provided on machinery to keep dust to a minimum.
Any material brought into the area must have a completed and approved COSHH assessment. COSHH must be approved by the project supervisor and workshop manager.
Always follow the instructions on the material safety data sheet and use the designated area for work with substances. Special care is required for the use of paints and solvents within the workshop.
All project equipment must have a completed risk assessment, approved by the Department Safety Officer. General risk assessments are completed for the workshop, if activity is not covered by the workshop RA a separate document needs to be

Experiments or testing cannot be left unattended and must not run without prior approval of the Department Safety Officer and workshop manager.

Any equipment brought in for project use that uses mains power must be PAT tested and approved before use. Equipment should be tested by a trained and competent member of staff. Please speak to the technical team.

All work must be stored in a safe condition when leaving the workshop. Work must be removed at the end of a project.

Cordless power tools are to be returned to technical team after use. Cordless power tools can be used after-hours use providing the user has completed an induction.

User numbers in each area must not exceed max occupancy numbers determined for each area. These numbers include staff and students, and individual(s) may be asked to leave if exceeded.

Version no	Effective Date	Approved by	Description of key changes
5.2	18 th November 2025	Ingrid Logan-Rivers	General information updates.
5.3	3 rd August 2026	Ingrid Logan-Rivers	Updates to all sections to reflect recent changes in procedures; limited access area, general information, staff contacts and version table.