



**CRAWFORD  
COLLEGE OF  
ART & DESIGN**

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Student Induction Manual

**Ceramics Workshop**

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## 1 Introduction

The purpose of this student induction manual is to ensure that you, the student, are aware of the procedures in place for carrying out activities in the Ceramics Workshops. These activities may include demonstrations, group workshops, or individual project work. There is a big emphasis on health and safety, including a description of required personal protective clothing, how to evacuate in case of an emergency and information on what to do should an accident occur.

The roles of lecturing staff, technical staff, and you, the student, are outlined. A list of equipment and tools is provided, along with the function or purpose of each item. The major hazards and risks associated with working in the ceramics workshop are explained.

A description of the induction and competency testing processes is also provided.

If you have any queries relating to any item in this manual, please contact the Head of Department of Fine Art, Ms. Trish Brennan ([trish.brennan@cit.ie](mailto:trish.brennan@cit.ie)).

A review of workshop use will take place annually.

## 2 Workshop Practices

The top priority for the Fine Art and Ceramics Department in relation to the Ceramics Workshops is for their students to gain the knowledge, skills and experience necessary to engage in planning, making and evaluating their own art work through the various ceramics processes available.

All students wishing to work in the Ceramics Workshops must complete an induction session. This includes students who are studying for their degree in Ceramics, those who are taking Ceramics as an elective, or those in Fine Art who wish to explore Ceramic materials as part of their studio practice.

There is generally a technical officer on hand to provide support to individual students who have passed the competency test and for workshop-related activities.

It is the responsibility of the lecturer to determine the maximum safe class size for the activity which they are undertaking. This size could vary depending on the nature of the activity, e.g. demonstration-based versus practical-based, general activities versus specialist activities.

### GENERAL RULES

- Dress Code – Strict enforcement of PPCE (Personal Protective Clothing and Equipment).
- You MAY be asked to remove certain items of jewellery e.g. dangling necklaces or large rings.
- No food or drink in the workshop.
- No storage of personal items in the workshop.
- No headphones/MP3 players/mobile phones permitted unless stored neatly away.
- Facilities to be left in good CLEAN working condition.
- Equipment can be easily damaged by incorrect use; if in any doubt consult with a member of academic or technical staff before use.
- PLEASE report any damage immediately.

### 3 Role of the Lecturer

The role of the lecturer is as follows:

- to provide students with academic guidance on the making of art work;
- to deliver and record appropriate induction sessions for all students using the Ceramics Workshops;
- to deliver workshops and classes as appropriate;
- to ensure that students have the necessary skills to make their own artwork in a safe manner
- to provide feedback on individual project work;
- to determine, by means of a competency test, which students are capable of working unsupervised in the Ceramics Workshop;

Lecturers are NOT responsible for any accident that may occur while any students are working unsupervised.

For any individual piece of work to be completed by the student, the lecturer will normally work with the student in advance of commencement, overseeing processes, and keeping the technical officer informed of specific supports required.

**It is the responsibility of the lecturer to ensure that:**

- **Their students are instructed in safe working housekeeping practices**
- **Their students are prohibited from working alone on dangerous processes**
- **Any students working in an unsafe manner are removed from the workshop.**

### 4 Role of the Technical Officer

The role of the technical officer is as follows:

- Organising, preparing and setting up for a range of activities including: workshops, student induction, demonstrations, project and research work;
- To be present as required at each laboratory or workshop class to provide technical assistance or to provide demonstrations
- Provide technical assistance to lecturers and students on the safe operation and use of equipment and materials.
- Establishing and maintaining stock control of equipment and consumable materials.
- Arranging for safe disposal of used materials
- Participate in the carrying out of safety audits in all areas of operation in co-operation with other grades of staff.
- Ensure that laboratories, materials and equipment are kept clean, tidy and in good order.

The technical officer may also advise students on pre-project planning, and on processes and equipment.

The technical officer should be informed in advance of any scheduled activities to ensure adequate preparation etc.

## 5 Responsibility of the Student

Generally, as per CCAD Student Handbook:

### Workshops and studios

Students have the responsibility to keep their workspaces clear of debris and hazardous materials and to follow College rules and regulations. Fire escapes and corridors are to be kept clear at all times. Waste is to be placed in bins and clear walkways must be maintained in all studios. Students have responsibility for their own safety and for those of others.

- No food or beverage is to be consumed in the workshops or studios.
- No smoking in the college. Smoking shelters are provided for this purpose.
- Always wear appropriate clothing, including sensible footwear and eye protection.
- Always tie back long hair, remove personal jewellery and guard against loose clothing when using moving machine tools.
- Always use the guards provided on equipment
- Familiarise yourself with the correct operating procedures for workshops and machinery.
- Observe safety instructions and unless you are absolutely confident to undertake an operation safely, DO NOT PROCEED.
- **You are requested to make known to your year tutor or a relevant staff member any information, such as a medical condition which may affect your safety in the workshops or your treatment in the case of an accident. This information is confidential and is for health & safety reasons only.**
- Always keep fire escapes and corridors clear.
- Students have the responsibility to ensure that all equipment borrowed from the College is returned promptly and in good working order.

Further specific responsibilities of students working in the Ceramics Workshop include:

- Co-operating with lecturing and technical staff in relation to any instructions that may be issued in relation to the use of equipment;
- Complying with requirements for wearing personal protective clothing and equipment (PPCE);
- Ensuring that work is being carried out in a safe manner that will cause no harm to self or others;
- Tidying the workspace on completion of a project, or on departure from the workshop;
- Refraining from using headphones/mobile phones;
- Respecting the work of other students;
- Reporting any damage or accidents to academic or technical staff;
- No food or beverage of any kind is permitted in the workshops.

It is the responsibility of the student to purchase/obtain the required items of PPCE identified in [Section 9](#). There may be some spare items available in the workshop for temporary use.

**Students must ensure that they apply safe working and housekeeping practices at all times.**

## 6 Induction

Student induction will take place as is required, and will be organised as required by the academic staff. This will include:

1. Introduction to Ceramics Workshop and technical support;
2. Overview of health and safety requirements, including induction manual;
3. Demonstration by technical officer of materials, equipment and associated hazards and risks;

Notices will also be posted as to dates and times of workshop sessions.

### Induction by Area:

#### PLASTER ROOM

General induction to the area. Use of equipment and materials.

Cleaning and storage.

- Lathe
- Blungers
- Mixing slip
- Casting slip
- Dremel drill
- Chisels
- Press moulds
- Open slip cast moulds
- Closed slip cast moulds
- Cottling
- Mixing plaster
- Health and safety
- Personal protective clothing
- Extraction unit
- Band saw
- Drying cabinets in corridor

#### GLAZE LAB

General induction to the area. Use of equipment and materials.

Cleaning and storage.

- Materials
- Triple beam scales
- Hand blenders
- Safety data sheets
- Personal protective clothing
- Extraction unit

### MAIN STUDIO

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Slab roller
- Small extruder
- Large extruder
- Hand extruder
- Hand spray
- Airbrush
- Laminator
- Heat guns
- Wax pot
- Drill driver
- Electric drill
- Angle grinder
- Wetvac cleaner
- Vacuum cleaner with hepa filter
- Cutting mats
- Throwing wheels
- Hand tools
- Health and safety
- Personal protective clothing
- Ball mill
- Floor scrubber

### ELECTRIC KILN ROOM

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Yellow kiln
- Drying cabinet
- Rohde top loaders
- Nabertherm test kilns
- Silver top loader
- Nabertherm front loader
- Packing of kilns
- Props, saggars, stilts and cones
- Firing schedules and recording of same
- Kiln bookings

### RAKU KILN AREA

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Gas bottles
- Top hat kiln
- Recording of firing
- Smoking area and bins
- Extraction unit

### GAS KILN SHED

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Gas bottles
- Natural gas
- Compressed air
- Rohde front loading natural gas kiln
- Rohde top loading test kiln
- Laser front loading kiln
- Saggars
- Burn out firings
- Reduction firings

### FUME EXTRACTION UNIT and SPRAY BOOTH

- Extraction unit
- Spray booth

### CORNER STUDIO

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Hand tools
- Throwing wheels
- Extruder
- Heat gun

### MEDIA ROOM

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- IMACS
- Cameras
- Printer
- Projector
- Dvd player
- Card reader



**ANNEXE STOREROOM**

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Materials and grogs
- College collection
- Mobile Extraction Unit

**DRY STORE**

General induction to the area. Use of equipment and materials.  
Cleaning and storage.

- Materials
- Personal protective clothing
- Health and safety
- Mobile Extraction Unit

## 7 Workshops and Competency

Workshops may be held in the following and/or related areas:

- plaster
- hand-building
- decoration
- throwing
- glaze
- firing

Dates, times and content of workshops will be posted on a regular basis.

Students have a responsibility to attend workshops to gain competency.

Online videos and resources are available at:

<http://ceramics.cardiffmet.ac.uk/resources/index.php?id=16>

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## 8 Access

Normal unsupervised student access to the Ceramics Studio Room (CR1.28) is Monday to Thursday from 9am to 9pm and from 9am to 5pm on Fridays (standard College opening times).

Students with no prior experience are not permitted to access the throwing wheels which are located in the studio.

Unsupervised access is limited in specific workshop areas, including:

- Glaze room
- Plaster room
- Kiln rooms

Unsupervised access to these areas is normally only available to students who have satisfactorily demonstrated the required level of competence as determined by the academic staff.

Access to plaster and glaze rooms is permitted outside of normal hours of availability of technical staff, only for those students deemed sufficiently competent.

Unsupervised access to kiln rooms is not permitted outside of normal working hours.

The following processes and equipment are NOT available except under supervision by lecturing staff:

- Lathe
- Gas kilns
- Band saw
- Pug mill
- Angle grinder
- Any equipment that is deemed high risk

## 9 List and Function of Equipment and Processes

Equipment	Function	Instructions
Blungers	Used to make casting slip for slip casting in moulds	How to switch on / off; Optimum running time for desired slip. Use extractor if dust is generated; Never reach inside the blunger unless isolated from power source; Sieving slip from machine and before pouring back in. Return slip back to machine so that it doesn't dry out; Preparation of slip batches.
Plaster lathes	Used for carving plaster models for mould making	No group induction - individuals only;  Appropriate clothing - danger of clothing catching in moving parts of the lathe. Use of goggles. Correct use of tools - danger of being hit by a tool;
Band saw	Used for carving plaster blocks	Not to be used by students.
Extraction unit	For protection when using dust forming processes	When to use; How to use effectively; Additional protection necessary - mask and apron.
Triple beam scales	For weighing out ingredients for slips and glazes	How to set up tare; How to use the weights; How to care for the scale; To be signed out and returned to technician. Handle carefully.
Hand blender	Used to grind wet ingredients	Danger of cuts from sharp fast rotating blade; Isolate from electricity for cleaning and handling; Do not immerse in water;
Slab roller	Used to roll out large slabs of clay	Danger of getting fingers caught in rotating drum; Care and caution with turning wheel; How to adjust thickness; How to use cloths - different types of clay different clothes.

Extruders	Used to extrude solid and hollow forms from wet clay	Danger from protruding handle; Use goggles when working with large extruder, danger from spit out.
Compressor	Used as an air supply when main compressor is not in use	When to use; Use with care appropriate to electrical equipment; How to switch on / off; Care with supply cables / hoses - tripping hazard; How to bleed the tank after operation;
Spray booth	Used when spraying slips and glazes to exhaust mists. New location – key required. Evening access by prior appointment only.	Always use spray booth when spraying with a spray gun; How to connect disconnect pressure hose to spray gun; Pressure settings for spray gun; Only sieved ingredients mesh size 60 minimum for large gun, 100 for small gun. No silicon carbide or iron spangles in either. How to clean spray gun; After 5pm ask caretaker to put on compressor and remember to tell him when finished;
Heat guns	Used to speed up drying of wet clay.	Use with care appropriate to electrical equipment; Nozzle becomes very hot - danger of burns if it comes in contact with skin; Danger of starting fires and damaging heat sensitive materials; Do not place nozzle on or near flammable materials especially plastic bags and wheel surrounds - heat generated from hot air gun is sufficient to ignite flammable materials - take great care; Take care of cables not creating a tripping hazard; Do not point at yourself or somebody else; Return before 5pm. Do NOT use with wet hands; Clean before returning.
Wax pot	For applying hot wax as a resist	Danger of hot wax. Hot wax spilled onto skin can lead to severe scalding depending on the amount. Do not move while hot. Set up in a location where it will not pose a risk to someone unaware of the dangers. Care with supply cables / hoses -

		tripping hazard.
Yellow electric kiln	Used for burning out flaxpaperclay and bisque firing.	Use with care appropriate to electrical equipment; The inside of a kiln can be extremely hot danger of burns and fire hazard if opened carelessly; Emergency procedures; How to safely open a kiln; How to pack a kiln; How to unpack a kiln; How to set the controller; How to keep a chart recording the firing; Safe lifting; Yellow kiln for paper and paper clay; Gas kilns for all other natural combustibles.
Nabertherm Rohde x 5 Silver Test x 2	Electric kilns used for bisque, glaze (oxidation) enamel and lustre firings	
Raku kiln	Used for raku, smoke and low temperature saggar firings up to 1150 <sup>0</sup> C	How to operate a gas fuelled kiln; Danger from heat; Danger from possible explosive Gas / Air mixture; Ventilation of an enclosed area with operating gas kilns; Emergency procedures - how and when and when not to shut down gas supply, raise fire alarm, evacuation, risk evaluation; Safety clothing and equipment necessary for operation; How to safely open a hot kiln; How to handle hot ceramic objects; When turning off- turn burners to low and then turn off gas in reverse order;  Safe lifting; How to keep a chart recording the firing; How to pack a kiln; How to unpack a kiln;
Potters wheels	Used for throwing pots	Hand injury from contact with wheel head; No jewellery or loose clothing, long hair tied up; Leaking slip can create slippery surfaces; No extension leads where moisture or spills can get to; DO NOT operate electrical switches with wet hands;

Laser gas kiln Rohde natural gas kiln Rohde test gas kiln	Used for reduction glaze firings and burning out of combustible materials	How to operate a gas-fuelled kiln; Danger from heat; Danger from possible explosive Gas / Air mixture; Carbon monoxide danger / malfunctioning or blocked burner / to strong reduction; How to safely light a kiln / open door during lighting; Emergency procedures - how and when and when not to shut down gas supply, raise fire alarm, evacuation, risk evaluation; How to safely open a kiln - safe temperatures; - Safe lifting; - How to keep a chart recording the firing; How to pack a kiln; How to unpack a kiln; When turning off- turn burners to low and then turn off gas in reverse order;
Ball mill	Used to grind materials into finer particle sizes	Heavy item when lifting; Danger of entanglement and finger crush;
Angle grinder	Used for cutting and clearing debris from kiln shelves.	No students;
Pug mill	Used for recycling clay.	No students;
Computers and photography equipment	Used for making artwork and recording of it.	Used for making artwork and recording of it.
Electric Drill		Not for student use.
Drill driver and electric drill	Used with mixer attachment to mix large quantities of slip and glaze. Also for general drilling jobs	Refer to manual.

<b>Process</b>	<b>Description</b>
Throwing	Soft clay is formed on the potters wheel to produce pots which may then be turned/trimmed on the wheel.
Glaze making	Various chemicals are blended to a known formula to create a liquid, which is applied to bisque clay and fired to the glaze melting point.
Slip casting	Liquid clay (slip) is poured in to a mould to create multiples
Mould making	A process of casting with plaster to recreate a form which may be used for press moulding or slip casting.
Smoke firing	Smoking is a means of darkening pottery surfaces using combustible materials in an enclosed bin/container.
Raku firing	A Japanese method of firing ware to approx 1000 <sup>0</sup> c and removing from the kiln whilst red hot and placing in combustible materials so that reduction takes place.
Reduction firing	This is done in a kiln fired by combustible fuel (gas) where the supply of oxygen can be limited to prevent full combustion taking place. This will produce carbon monoxide, which, if hot enough, will take oxygen from the metals present in both clay and body and produce totally different effects to those of an oxidized firing.
Oxidized firing	Bisque and glaze or glost, firing, which is carried out in an electric kiln.



## 10 Personal Protective Clothing and Equipment (PPCE)

Specific PPCE required for the Ceramics Workshop:

- Enclosed footwear, e.g. shoes or boots;
- Appropriate clothing e.g. vinyl aprons and dust masks for dry mixing glazes, suede aprons, gauntlets and gloves for raku and smoke firings
- Eye protection equipment such as safety glasses and visors;
- Gloves

## 11 Evacuation in Case of Emergency

In case of an emergency such a fire, there are several possible evacuation routes:

### Evacuation Option ONE

- Exit via the doors leading into the south courtyard
- Leave the College grounds via the Southern gate
- Assemble in St. AL's car park.

This is the normal evacuation route if the fire alarm should sound. Should the fire or emergency incident occur in the southern area of the ceramics workshop, or if access through to the courtyard is blocked for some reason, take Evacuation Option TWO:

### Evacuation Option TWO

- Exit through the north doorway, into Corridor CRC1.13/CRC1.6
- Pass the caretaker's kiosk, and exit the building via the northern door,
- Exit the college via the Northern gate;
- Assemble in St. AL's car park.