

Student Induction Manual

Print 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 Print Workshop. 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 print 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, Trish Brennan (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 Print Workshop 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 print processes available.

All students wishing to work in the Print Workshop must complete an induction session.

Projects or proposed work need to be agreed in advance and overseen by lecturing staff.

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 working condition. It is imperative that EVERY STUDENT cleans their workshop area after use.
- 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 Print Workshop
- 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 Print 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 work with the student in advance of commencement, overseeing processes, and keeping the technical officer informed.

It is the responsibility of the lecturer to ensure the following:

- **Students are working safely and using good housekeeping**
- **Students are prohibited from working alone on dangerous processes**
- **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 alcohol 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 Print 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;
- Cleaning the workspace to a high standard 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.

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.

6 Induction

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

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

Students may be divided into smaller groups for Part (3) above.

Notices will be posted as to dates and times of each induction session.

There will also be regular workshops in the Print Workshop, organised and delivered by lecturing staff with a view to increasing the competency of students in particular processes.

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

7 Workshops and Competency

Workshops may be held in a range of areas including:

- Silkscreen
- Etching
- Lithography
- Relief Print
- Mono Print
- Photo/Intaglio
- Book Arts

8 Access

Normal student access to the Print Workshop during the academic year is from 9AM to 5PM from Monday to Friday, when there is technical support available.

Generally there is no unsupervised access to the Print Workshop outside of these times.

Only students certified as competent will be permitted to work independently and unsupervised outside of normal class hours.

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

Acid room

Aquatint

Dark room/Exposure room

Digital print

1st year. **No access** except for Introduction to art Processes.

2nd year. No access outside of elective programme, unless they are supervised by a qualified member of lecturing staff. (both semesters)

2nd year. No access outside of elective programme, unless they are supervised by a qualified member of lecturing staff. (both semesters)

3rd year. No access outside of elective programme, unless they have been approved by a qualified member of lecturing staff and technical officers.

4th year. No access unless they have been approved by qualified member of lecturing staff and technical officers.

MAAP. No access unless they have completed a full induction by a qualified member of lecturing staff and have previous knowledge of processes.

Only advanced 3rd and 4th year students who have undertaken an elective programme and received a full induction from a qualified member of lecturing staff and been approved by lecturing and technical support staff, are allowed access when workshop is unattended by any staff.

9 List and Function of Equipment and Processes

Equipment	Function
Silkscreens	Used for printing photographic or hand-drawn images on to paper, card and fabric.
Power hose and wash-out unit	For cleaning of silkscreens prior to exposure, washing out after exposure and cleaning off ink after printing.
Exposure Unit	Used to apply photographic and hand-drawn images on to light sensitive coating on silkscreens and metal plates.
Vacuum Bed	For printing of screen prints where a long run is required or for printing on light-weight paper.
Drying Racks	A stackable area for flat drying of prints on paper and card.
Chopper	For trimming and cutting of paper and light card.
Lithography Press	For printing images from lithography stones or plates.
Colombian Relief Press	For printing images from lino-cuts and wood-cuts.
Etching Presses	For printing etchings, collographs and monoprints, the large Polymetaal press can also be used for printing large-scale lino and wood-cuts.
Aquatint Box	Used to apply a fine layer of rosin dust on to a metal plate to achieve an aquatint or tonal area.
Gas Poker	For fusing or melting a layer of rosin dust on to metal plate.
Levigator and Lithography Sink	For preparing lithography stones for new image by abrading a thin layer from surface of stone.
Hotplates	Used for melting a thin layer of wax to the surface of metal plate prior to etching.
Fume Cabinet	Contains trays of acid used to etch or bite in to metal plates prior to printing.
Etching Tools	Used to make various marks on metal plates and plastic prior to etching or printing.
Drying Cabinet	Used to dry screens after cleaning and washout following exposure.

Process	Description
Screenprinting	A printing method where water-based ink is pushed through a stencil on nylon mesh stretched on an aluminium frame, by use of a squeegee. The stencil is normally applied by exposing the screen (which has been coated with a light-sensitive emulsion) using a metal halide lamp.
Etching	A technique whereby a metal plate is covered a thin layer of wax, this is scored with a scribe to expose the metal. The plate is immersed in acid which etches or bites the marks. These are then filled with ink and run through an etching press with paper to produce a print. The aquatint box is used to produce tonal areas. A light sensitive film can also be put on the plate in order to produce photographic images using the metal halide lamp.
Lithography	A slab of limestone is ground down with a levigator and a drawing is applied using greasy ink or crayon, this is then treated with chemicals to fix the drawing on the stone, image is then printed using the lithography press.
Lino and woodcut	An image is cut in to a sheet of wood or lino with small cutting tools, the relief or surface area is inked up using a roller and printed using the Colombian or large etching press.
Digital Printing	Four computers and five printers are used to print digital imagery on a range of papers.

10 Personal Protective Clothing and Equipment

PPCE required for the Print Workshop:

- Enclosed footwear, e.g. shoes or boots;
- Appropriate clothing, e.g. protective aprons or overalls;
- Eye protection equipment such as safety glasses and visors;
- Dust mask
- Gloves
- Ear protection

11 Evacuation in Case of Emergency

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

Evacuation Option ONE

- Exit through the north doorway adjacent to the fire escape;
- Go down the fire escape, and out the college Northern 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 northern area of the print workshop, or if access through the Northern yard is blocked for some reason, take Evacuation Option TWO or THREE:

Evacuation Option TWO

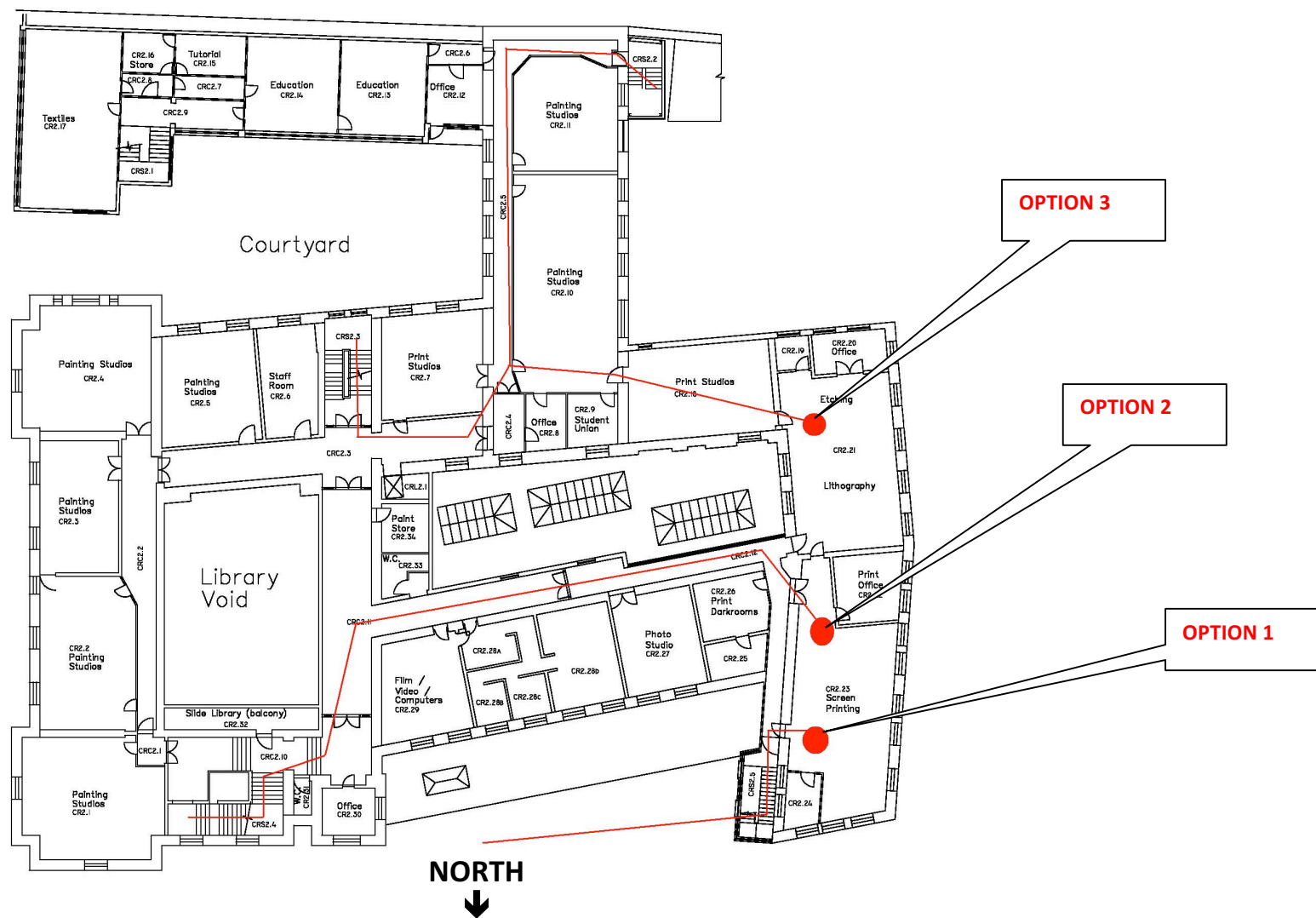
- Exit through the side door into the hallway by Photography and Multimedia;
- Pass along this corridor, turning left at the end;
- Pass down the stairs and out of the College via the North Eastern doors.
- Exit from the grounds via the Northern gate;
- Assemble in St. Al's car park.

Evacuation Option THREE

- Exit through the side door into the 4th year studio;
- Pass through the studio and pass by the office on your left;
- Turn right and travel to the end of the corridor, and exit the building through the fire escape into the yard near the ceramics area.
- Exit from the grounds via the Southern gate;
- Assemble in St. Al's car park.

EVACUATION OPTIONS

Crawford College of
Art & Design
First Floor Plan
28th August 2008



12 Identification of Risks and Hazards in the Workshop

The main hazards in the Print workshop are as follows:

- Fire
- Electric Shock (110v – 220v)
- Respiratory Problems
- Burns
- Lacerations
- Bruises/Fractures
- Slips/Trips in Workshop
- Items falling onto a lower limb

Acid and melting resin can cause bad burns to skin and eyes. Etching tools, knives and use of the paper/card chopper can cause lacerations. Resin dust and aquatint can cause respiratory problems.

The formal risk assessment documentation for the Print Workshop is listed on the next page. Please take note of all risks, but particularly those listed as MEDIUM or HIGH risk.

Risk Assessment Work Sheet Date Conducted: 7/6/2012 Caroline Harold and Jennifer O'Sullivan				Area / Department : Print Workshop			Persons Affected: Workshop Technician, staff & students
Area / Item No.	Activity	Hazard / Risk	Rating	Existing controls	Improvements/ Actions	Rating	Owner
			L/M/H			L/M/H	
General	Use of the Lithography/Etching and Print workshops			All students receive a student induction manual for the Print Workshop. It contains - rules of workshop, dos and don'ts, dress code, PPE requirements, equipment list and processes, student responsibilities, hazard and risk identification in the print workshop.			
		Acid Room					
1	Etching of metal using a dilute solution of nitric acid and ferric chloride in 2 large acid cabinets. Neutralisation of plates using caustic soda in separate bath area.	Burns from acid, inhalation of irritants. Secure storage of acid. Leakage of acid in room and in to drains. Chemical incompatibility between nitric acid and caustic soda (sodium hydroxide). Unauthorised access.	Medium	1. Acid cabinets are custom built fume hoods with adjustable sash and extraction. Cabinets are serviced every year by IPL including checks of extract, cleaning of baffles and checking of drains. 2. Students wear safety glasses and gloves. 3. Spent acid is collected in plastic containers for waste chemical disposal. 4. Chemicals are stored in acid room in a locked cabinet, key is held by Jennifer O'Sullivan, Technician. 5. Acid room is locked when not in use and students can only work there under supervision - no lone working. 6. Safety shower in acid room is tested frequently. 7. Separate extraction system for the acid room. 8. MSDS stored in folders for chemicals used.	1. Students to wear laboratory coat and closed footwear when working in acid room. Caustic soda to be stored separately from acid. This was actioned during the risk assessment.	Low	Lecturers Tony McClune & Catherine Hehir.

		Aquatint Room					
2	Layering metal plate with a fine layer of resin dust (Aquatint) in an aquatint box. Fusing or melting layer of aquatint dust on to metal plate using a gas poker (butane gas apparatus see photos Print workshop 7 Jun '12) in corner of the Lithography workshop. 2 no domestic gas cylinders in the workshop.	Airborne resin dust. Aquatint is colophony resin. Sensitizer. Sensitisation to colophony and colophony induced asthma if occupational exposure limit values (OELV) are exceeded. Flammable gas source. Burns from naked flame.	High	Layering process in enclosed aquatint box in dedicated aquatint room. Aquatint room is locked when not in use and students can only work there under supervision - no lone working.	1. Carry out risk assessment on the Aquatint process including the gas poker work which should be done under extraction. 2. Request up to date MSDS from supplier Lawrence Artist Materials (one on internet is 1996) to verify OELV. MSDS states Time Weighted Average (TWA) of 10mg/M3 but 2010 Code of Practice SHWW chemical agents regulation states TWA of 0.05mg/M3. 3. Verify type of dust mask to be worn. 4. Write SOP for the process if not already done.		Lecturer Jo Kelley
		Lithography Area					

3	Use of hotplates for melting wax on to surface of metal plates. (See photos print workshop 7 Jun '12)	Burns from open hotplate. Electrocution. Fumes from wax.	Medium	There is an extraction hood over the 2 hot plates.	Neither hot plate is CE marked. 1. Either retrofit units so CE compliant or replace with CE marked units. 2. Fix the broken plug on one unit. 3. Arrange protection around the open hotplates so persons coming out of the acid room or aquatint room or passing cannot get burnt.		
4	Lifting the levigator apparatus in lithography sink to abrade a thin layer from stone surfaces. (See photos print workshop 7 Jun '12)	Injury from manual handling. The Levigator apparatus weighs over 20Kg. Assessor could not lift the apparatus during the risk assessment. Injury from catching fingers on handle of unit.	High		Activity needs manual handling risk assessment as apparatus is too heavy to lift without mechanical aid.		
5	Use of etching presses 'Rochat', 'Polymetaal' and 'Columbian Relief' presses.	Injuries from applying manual force to presses.	Medium	Polymetaal press has gears in place to ease use.	SOP to be developed and posted on or near units. Activity needs a manual handling risk assessment.		
6	Use of etching tools and stanley knives.	Injuries from lacerations	Low	Supervision and assistance is provided in workshop including use of a bench hook.	Develop a basic training module for students in the use of manual tools.		Lecturing staff

		Screen Printing Workshop					
7	Walking from Etching/ Lithography workshop to Screen Printing workshop	Trip hazard from step (See photos print workshop 7 Jun '12)	Medium	Step is highlighted with tape. Signage in place in both workshops.	Highlight the step with yellow paint. Long term reroute the service under the step and remove step.		
8	2 No Kippax Vacuum beds for screen printing	Bruising injuries if fingers get caught when lowering frame.	Low	New Kippax unit is CE marked.	Older Kippax unit is not CE marked (See photos print workshop 7 Jun '12). Either retrofit unit so CE compliant or replace with CE marked unit.		
9	Cleaning screens and plates using power hose in screen wash room.	Noise from power washer	Medium		Erect PPE signage on door of screen wash room that ear defenders and face shield required. Measure noise level of the power washer.		
10	Raising and lowering the metal drying racks	Bruising injuries if springs went and fingers got caught when lowering frame.	Low	Racks are spring loaded.			
		Exposure/Print/Dark Room					

11	Using exposure unit machine	UV light	Medium	Students may only use exposure unit under supervision.	1. SOP to be written and posted on or near unit. 2. Signage to be erected warning of the dangers of exposure to UV light. 3. Machine risk assessment to be conducted.		Lecturers
12	Walking in to exposure/ print room. (see photos Print workshop 7 Jun '12)	Fall from and trip on wooden step which is the same colour as the floor.	Medium		Highlight edge of the step. Put signage in place.		
13	Storage of chemicals (see photos Print workshop 7 Jun '12)	Over 100L of highly flammable chemicals (turpentine, white spirit) stored on first floor. Old building over 100 years old, very dry with a lot of timber materials used in construction.	High	Controlled access as cabinets are locked. Cabinets are kept tidy.	Storage of highly flammable chemicals to be moved outside the building.		
14	Use of chemicals in the photographic process including soda ash (sodium carbonate)	Sodium carbonate is eye irritant. Inhalation of dust.	Medium	Students can only use the dark room under supervision. Local extract ventilation is provided in dark room.	1. Ensure eye protection is worn while using soda ash. Ensure contact lenses are removed. 2. Ascertain what if any photographic chemicals are used and carry out a chemical risk assessment.		

13 What to Do if an Accident Happens

First Aid

There are a number of personnel trained in first aid, should the need arise. These are:

Denis Lynch, Technical Officer (First Year Workshop, CR 3.12, Tel. ext. 5240)

Should an accident occur, contact the caretakers immediately. They will call for an ambulance or taxi to hospital if necessary, and alert the trained first-aid personnel. Generally the student is either brought to the person trained in First-Aid or he/she is called upon to go to the scene of the accident.

Caretakers Tel. ext. 5226

Fire

If a fire breaks out, contact the caretakers also, they will sound the alarm if necessary. A significant number of personnel are trained to use fire extinguishers, including all members of technical and caretaking staff.