CRAWFORD COLLEGE OF ART & DESIGN

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Student Induction Manual

Fine Art Studios Health & Safety Manual

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Studio Health & Safety Manual

1. Introduction

Health and safety are vital concerns and no one in the College has a right to endanger either themselves or anyone else through uninformed or negligent use of implements, materials, or facilities. This manual has been compiled to provide basic information on safe practices and procedures in the Fine art studios in CCAD. It is intended to protect you and those around you.

It is a basic requirement that you read and understand this manual before beginning to work in the Studios in the Fine Art department. If you have any questions about the contents, please contact the relevant teaching or technical staff or the Head of Department.

Anyone who utilises materials or machinery in a hazardous or potentially hazardous manner is endangering themselves and others and may be subject to disciplinary or legal action.

In addition to safety it is important to recognize that the studio is a collective space accommodating a number of students; as such it is required that each student respect both their own and the overall collective space. This includes showing due consideration in relation to individual privacy, tidiness, storage of materials, noise levels, etc.

2. General Safety in the Studio

Basic Preventative Measures:

1. DO NOT eat, drink, or smoke in the studios.
2. SUBSTITUTE less hazardous materials or techniques when possible. There are many instances where highly toxic chemicals can be replaced by less toxic materials.
3. KNOW the materials and their hazards. If labels do not provide adequate information regarding contents, hazards, and precautions, use resource books or the internet to research the product - your health is worth the effort.
4. STORE materials safely. Ensure to use clearly labeled unbreakable containers, and always cover them when not in use to deter their evaporation into the environment. Do not store materials in food containers to avoid accidental ingestion.
5. ENSURE proper ventilation.
6. WEAR appropriate personal protective equipment such respirators, face shields, ear muffs, proper footwear and gloves.
7. ASK if you are unsure about the operation of any equipment. Misuse of tools leads to accidents. No equipment is to be altered or modified unless on manufacturers recommendation.

3. Painting & Drawing in the Studio

In general the most common fine art practices of painting and drawing can from initial inspection seem relatively harmless to one's health & safety. However with such activity on mass, as within the art school environment, the large range of diverse materials associated with contemporary painting and drawing can present serious risks to one health if not controlled safely within the studio environment.

General hazards

Oil Paint
With the possible exception of lead, arsenic or chromate pigments, there is little danger of acute or immediate poisoning from accidental ingestion of paint. However, many of the pigments - especially lead, chromate and cadmium - can have serious long-term chronic effects from repeated exposures to small amounts. Some pigments can cause skin irritation and allergies. They include chrome yellow, zinc yellow, chromium oxide green and the cobalt pigments. The following list acts as a quick reference of common pigments and their hazards.

Common Pigments and their Hazards:

Lead Pigments - Use with Caution: Chrome green, Chrome yellow, Flake White (white lead), Molybdenite (Moly) orange, Naples yellow.

Possible Carcinogens - Use with caution: Cadmium orange, Cadmium red, Cadmium yellow (also other cadmium colors), Chrome yellow, Diarylide (benzidine) yellow; Lithol red Phthalocyanine (phthalo) blue*, Phthalocyanine (phthalo) green*, Zinc yellow Pigments with Moderate Hazards: Burnt and raw Umber, Cobalt green, Cobalt violet (cobalt phosphate), Cobalt yellow, Manganese blue, Manganese violet, Toluidine (hansa) red,

Pigments with no Significant Hazard: Burnt and raw sienna English red, Ivory black, Mars black, Mars yellow, (and all other mars colors) Prussian blue, Titanium white, Ultramarine blue*, paints contaminated with PCBs

Note: It is difficult to determine what pigments are in a tube of paint because product labeling often varies.

Oil Paint Dryers
Cobalt dryers are slightly toxic by skin contact moderately toxic by inhalation, possibly causing allergies.

Solvents
Solvents and paint thinners are moderately toxic by skin contact and inhalation and highly toxic by ingestion. This applies to odorless solvents as well. When using solvents and thinners have good general or local ventilation. The use of turpentine is not permitted in the studios.

Acrylic Paint
Acrylic paints usually contain stabilizers, which release ammonia and a formaldehyde preservative. These can be inhaled by artists while they work or while paints are drying. Formaldehyde is a throat, eye, and respiratory system irritant which can cause dermatitis, allergies and asthma. It is also a suspected carcinogen. Risks can be minimized through dilution ventilation (such as a window exhaust fan) or simply by using a brand of acrylics, which does not contain formaldehyde.

Ventilation
To ensure proper ventilation, toxic substances must be placed BETWEEN an individual and an exhaust fan (where possible). Where open windows (incoming air) and exhaust fans (outgoing air) coexist, the same positioning applies. In this case, however, the window must be kept behind the individual. This is to ensure that the toxic substance is drawn AWAY, and not PAST them.

Miscellaneous Supplies
Paint (Oil and Acrylic), canvas can be purchased at the college materials store. Wood can be purchased by the individual student at building supplies providers or in discussion with the woodwork technician.

Stretcher Building
Stretcher building can be done in the studio if small scale, if large in scale this needs to be done within the wood workshop. Gessoing is to be done in the painting studios only.

Spray painting
Spray painting or aerosol spraying is to be done in the designated spray booth with the appropriate ventilation or be done outdoors in clear area (not the car parks) and not in the studios. A respirator and suitable clothing should be worn and drop sheets used.

Studio Clothing
Because oil paint and solvents do contain toxins it is important that they be kept away from the skin and therefore from entering the bloodstream. The best way to minimize risks is to reserve a set of clothing solely for studio use, or to wear coveralls or a smock over street clothes. Also less paint is inhaled if it does not dry and evaporate on clothing.

Storage of Materials
Food items (lunches) should not be stored in lockers that contain paints and/or solvents because of a high risk of contamination.

Storage of Paintings
Store finished paintings neatly in your studio in order to keep work area clear. IT IS THE RESPONSIBILITY OF EACH STUDENT TO REMOVE OR DISPOSE OF ANY MATERIALS OR ASSIGNMENTS NO LONGER WANTED. FAILURE MAY RESULT IN THE DEPARTMENT DISPOSING OF UNWANTED MATERIAL AND THE COSTS BEING PASSED ON TO THE RESPONSIBLE PARTY. PERSONAL ITEMS LEFT IN THE DEPARTMENT BEYOND DEADLINE WILL BE DISCARDED.

Drawing
Use of drawing fixatives are prohibited in the studios. Works must be sprayed outdoors. Fixative contains toluene and xylene, which are hazardous to health. Graphite, charcoal and chalk pastel can also be harmful if the dust is inhaled in excessive quantities. Take suitable precautions (i.e. wear a respirator) if doing a large-scale work with powdered graphite.

4. Sculpture in the Studio

Sculpture making and 3D fabrication in the studio is possible depending on the scale and processes used to fabricate sculptural pieces and objects. This can be done via the use of hand tools and the restricted use of some power tools. Other more advantageous processes to make works both of wet based and dry nature need to conducted in the designated workshop areas, such as the plaster room, the metalwork room and the woodwork room. The basic fabrication of sculptural objects and 3D arrangements and sets ups is encouraged and possible within the studio confines providing the activity is done in responsible and safe manner with the correct health & safety issues addressed and by using the correct and appropriate tools for job and the studio environment.

Use of hand tools
Hand tools include a wide variety of non-powered devices such as wrenches, pliers, hammers, and screwdrivers. These tools may seem harmless, but they are the cause of many injuries. The following is a summary of safety practices related to hand tools.

General Hazards:
- The two most common hazards associated with the use of hand tools are misuse and improper maintenance.
- Misuse occurs when a hand tool is used for something other than its intended purpose. (An example would be using a screwdriver as a chisel. This may cause the tip to break and strike someone).

Personal Protective Equipment:
- The type of personal protective equipment (PPE) needed when using hand tools depends on the nature of the task. At a minimum, eye protection should always be worn.
- The use of hand protection may also be appropriate to provide protection against cuts, abrasion, and repeated impact.

Hammers:
- Do not use a hammer if the handle is damaged or loose.
- Remove from service any hammer exhibiting signs of excessive wear such as cracks, chips, or a mushroomed head.
- Match the proper type of hammer to the job it is designed to perform.
- Do not strike the surface at an angle. The hammer face should contact the striking surface squarely. Glancing blows made with a hammer often lead to injury.

Screwdrivers:
- Never use a screwdriver as a pry bar, chisel, punch, stirrer, or scraper.
- Always use a screwdriver tip that properly fits the slot of the screw.
- Use magnetic or screw-holding screwdrivers to start fasteners in tight areas.

Utility Knives/Blades:
- Always use a sharp blade. Dull blades require more force and thus are more likely to slip. Replace the blade when it starts to “tear” instead of cut.
- Never leave a knife unattended with the blade exposed. Consider using a self-retracting knife with a spring-loaded blade. (The blade will retract when pressure on the knife is released).
- Keep your free hand away from the line of the cut.
- Don’t bend or apply side loads to blades by using them to open cans or pry loose objects. Blades are brittle and can snap easily.

Pliers:
• Do not increase the handle length of pliers to gain more leverage. Use a larger pair of pliers or bolt cutters.
• Do not substitute pliers for a wrench when turning nuts and bolts. Pliers cannot grip these items properly and will slip.
• Never use pliers as a hammer or hammer on the handles. Such abuse is likely to result in cracks or breaks.
• Cut hardened wire only with pliers designed for that purpose.
• Always cut at right angles. Never rock from side to side or bend the wire back and forth against the cutting edges.

Wrenches:
• Choose a wrench that properly fits the fastener that is to be turned. Using the correct size reduces the chances of wrench slippage.
• Avoid using a length of pipe or other extension to improve the leverage of a wrench. Manufacturers design wrenches so that the amount of leverage obtained with the handle is the maximum safe application.
• Use socket wrenches for hard-to-reach areas.
• Always try to pull on a wrench (instead of pushing) in case the fastener suddenly loosens.

The use of power tools

The use of power tools in the studio is limited to cordless drills and electric screwdrivers. **The use of any other powered tool such jig saws, round saws, electric orbital, fixed or belt sanders needs to cleared with your specific year staff before any intended activity with them.**

Safe use of Cordless drill /Electric driver

1. Examine the material to be drilled for splits, loose knots & nails, etc.
2. Select and securely tighten the correct drill or driver bit.
3. Keep fingers, hands, clothing and hair, etc., well clear of the rotating drill chuck, drill bit or driver bit.
4. Beware of hot drill bits caused by friction or abrasion.
5. Securely clamp your project to a stable work surface to avoid having hands and fingers close to the hot drill bit.
6. Allow the drill to reach operating speed, then apply load gradually. Do not apply excessive force.
7. Cordless hand drills or screwdrivers normally will not operate when the battery charge level is too low.
8. Avoid blocking & covering the motor ventilation slots with your hands.
9. Be cautious of drilling too close to edges and corners.

5. Wet based materials & chemical hazards in the studio

Plaster & clay can be used in the studio in a limited manner only and appropriate dust masks need to be worn if using small amounts of plaster or similar powder based materials. Larger scale plasterwork and wet work needs be done in the designated wet based workshops and rooms.

Materials such as latex, silicone rubbers, resins, paint stripper, shellac, varnish, stains, plastic wood, creosote and enamel paints are all harmful by inhalation, ingestion and skin contact. Particular care should be taken not to use any of there substances in a crowded workspace without adequate ventilation. Many paints and compounds are suspected carcinogens and can cause health problems.

In order to take preventative measures it is important to note the following:

How Chemicals Enter the Body

Inhalation: This is the major route of entry for airborne chemicals. The chemicals can have a direct effect on the nose, upper respiratory tract and the lungs or they can enter the blood stream and thus affect the blood, bone, heart, brain, liver, kidneys or bladder.

Ingestion: This is not normally a direct route of entry from exposure except by willful or accidental ingestion. Materials can also enter the stomach through indirect means. For example, the lung has a cleaning mechanism, which pushes material out of the lung where it can be swallowed. This can result in an exposure to most of the internal organs or even in a local action on the stomach wall.

Skin Contact: Some materials are absorbed through the skin and therefore when they enter the bloodstream they can be transported throughout the body and accumulate in, or affect, the most sensitive areas of the body. Skin contact can also result in allergic reaction, the removal of the protective skin oil, or dermatitis. In some cases, the chemical contact may result in a cancerous lesion. Note: More detailed information on the hazards of chemicals found in art materials can be found in the Reading Room.

6. Workshops & Inductions

As highlighted above there are number of designated material specific workshops available to all fine arts students. These workshops are provided in order both train students in the safe use of particular materials and to use the appropriate techniques and processes and also for them to be able to fabricate their own work using advantageous processes which would not be possible to do in their own individual studio space.

The specific workshops are:

The Metal-workshop - Technical support, Trevor

The Wood-workshop - Technical support, Liam

The Plaster/Mould making room

The Spray room

The Print workshop - Technical support, Jennifer O'Sullivan

The Photography Studio - P/T Technical support, Joe O 'Neill

The Photography Darkrooms - P/T Technical support, Joe O 'Neill

These workshops require prior induction before students are able to work independently and without tutor supervision. In the specific case of the metalwork room, a competency test has to be passed before students are able to work in that environment independently on their own work.

Please remember also the workshops are **not studio spaces** and works need be removed either at the end of each day or in negotiation with the appropriate technician or staff member.

Workshops inductions are provided periodically and notice will usually be posted at the beginning of each semester. Please check with the relevant staff for information on dates and times of induction sessions for your year group.

7. Electrical safety

Faulty wiring or appliances are dangerous and potentially lethal. Wiring supplying socket outlets and the socket outlets themselves are only to be worked upon by staff or contractors who have the permission of the caretakers or Estate Services. This does not of course prevent persons from plugging/unplugging or switching appliances on or off at the socket.

Extension Cables
Always fully unwind an extension cable when using it to supply appliances rated at 1000w or more, this is to avoid overheating.

Make sure you are using a correctly rated extension cable for the job. In general it is easiest to use a 13 amp cable for all tasks to avoid overloading.

If you construct an extension lead or decide to increase the length of an existing one bear in mind the following points:

- use plugs and sockets with unbreakable rubber casings;
- use a flex connector or in-line switch to allow an increase in length;
- remember not to overload sockets or extension cables (use the previous equation for fuse rating to determine whether you will overload a 13 amp cable or socket);
- run or cover cables so that they are not a trip hazard.

Electricity in Wet or Dusty Environments

Special socket outlets are needed in very dusty or wet environments. When working outside only use appliances which are well insulated against water ingress. Use appliances and extension cables with orange ‘high visibility’ flex.

Lighting

Tungsten incandescent lamps operate at high temperature. Combustible materials (particularly fabric) should be kept at a safe distance from the lamps. Similarly spotlights concentrate the heat and combustible materials should be kept at a safe distance from the lamps.

8. Working outside of the College (Studio)

Working outside the studio environment is standard practice for all fine art students; this is predominantly in relation to sourcing primary and secondary research required for development of their individual studio practice within the college. But also can be a source for a site-specific outdoor work or temporary project or intervention.

However working off site presents its own set of health & safety concerns and students need to take on the responsibility of what this entails.

Working off campus such as working on the street or any outdoor situation often requires students to request permission, most likely from private operators, the local councils or whomever is responsible for that specific location.

Good practice for working offsite should include the following:

1. Ensure the appropraite permission has been sought before working in any external location/area, e.g. working on private property, public property (street, park, bridge), industrial estate, greenfield site, etc.

2. Ensure you act responsibly - inform college staff of your planned destination, activity and duration of your task and inform the appropriate authorities beforehand of your presence in a location.

3. Ensure that you are equipped with appropriate PPE, e.g . high visbility vest, footwear and headwear if planning to visit a construction site or any site that has potential hazards.

4. Ensure you are not infringing privacy laws by recording peoples activities without their permission, this is particularly important in relation to recording images of young children. ALWAYS SEEK PRIOR PERMISSION.

5. If you are unsure of what may be involved in working externally, seek advice from college staff and the college management if necessary. In some cases a letter of request can be provided by the college seeking permsision for you to access a particular site of interest.

9. Examination & Public Exhibition: Code of Practice

The function of this code of practice is to ensure the primary safety of students, staff and members of the public during the installation and duration of examinations and the degree exhibition.

Lecturing staff will inspect the exhibition and will liaise with technical staff and Safety Officers as required to ensure proper installation and display of work. Students must comply with any requests and requirements made in order to maintain appropriate standards of health & safety.

Setting up your exhbition for examination

1. Students will be allocated an exam/exhibition space, requests for specific spaces/facilities must be provided in advance and in writing. Once your space has been allocated it will be non-transferable.

2. All exhibition boards will be securely erected by attendant staff. Any subsequent work requiring alterations to the initial boarding must be cleared in advance with staff and will be carried out by the student in compliance with appropriate safety standards.

3. No family, friends or hired persons will be permitted to provide assistance. Other students enrolled in courses and covered by college insurance will be permitted to assist at the discretion of the Head of Department.

4. Standard white & grey emulsion + gum strip will be provided; any other paint/materials must be supplied by the student at their own expense.

5. All corridors, fire exits and signs must be kept clear and not blocked, at all times.

6. Under no circumstances should electrical sockets or any other services including fire extinguishers be covered, hidden or painted over. Sinks will be covered by attendant staff when required to do so. No doors shall be removed under any circumstances.

7. Work requiring alteration to electrical supply should be clearly indicated in your proposal and may be facilitated by the college depending on cost and nature of the proposal. Students are not permitted to carry out unapproved or unsupervised electrical work.

8. Work that requires the use of ladders must be risk assessed and approved by staff before use.

9. Work involving non-standard or exposed moving parts must be risk assessed and checked for safety by staff.

10. Any modification to any part of the building must be approved by staff in consultation with health & safety officers.

11. Any items to be attached or suspended from ceilings must be risk assessed and approved by staff in advance.

12. Darkened spaces must be planned and constructed with awareness of relevant safety issues and should include appropriate warning signage. Blackout material will be provided and installed by the student and must comply with safety regulations.

13. Any work involving adult content/material must be clearly labelled and approved for display in advance by relevant lecturing staff.

14. Exhibits containing food, chemicals, or any other unusual substances including human or animal blood and waste products must be cleared for use by relevant lecturing staff.

15. No students will be allowed to enter an exhibition space during examination time. However they should be available if needed to rectify any problems under supervision of staff.

16. Students have the responsibility to remove all work and personal property at the end of examinations (in the case of the Honours BA, at the end of the exhibition). Work not collected will be disposed of at the discretion of the College.

Additional requirements in relation to final degree public exhibition

17. Students will be allocated an exam/exhibition space, only after consideration of submitted written proposals (per Professional Practice module requirements). Once your space has been allocated it will be non-transferable.

18. All students must sign a Public Exhibition Agreement form, counter signed by the Head of Department before being allowed to partake in the public degree exhibition.

19. Students are responsible for invigilation of the public exhibition.

20. All unsold work must be removed at the end of the exhibition and spaces returned to the original state that they were received in.

21. Individual alterations including additional boards and non-standard painting must be removed or reinstated to the original state.

22. Technical problems with college equipment should be immediately reported to technical staff.

23. All loaned equipment and accessories must be returned in good working order to the relevant Store at the end of the exhibition. Students are liable for missing items or damage to equipment.

10. 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 **ext. 5240**

- **Triona Crowley,** Administrative Officer
  Accounts Office, CR 1.3 **ext. 5223**

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.

Fire
If a fire breaks out, contact the caretakers and leave the the building, 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.