

University of Maryland Baltimore County

visual arts umbc

PRINT MEDIA STUDIO HANDBOOK & GUIDE

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INTRODUCTION

The print media area is comprised of studios FA 208, FA 218 for Lithography, Etching, Screen-Printing, Relief, Book Arts, Letterpress, and related Photo/Digital-print media processes. We are committed to providing a safe, accessible and responsive department. The rules and policies outlined in this manual are designed to facilitate a cooperative, fair and efficient studio environment. It is important that you understand the rules and procedures. Failure to comply with department policy can result in loss of studio privileges and possible monetary fines. Any questions, comments or suggestions that you may have in regards to the print media studios should be addressed to the The Visual Arts Department Office.

The office is located in room 111 and the hours are Monday through Friday 8:30am to 4:30pm, Tel: 410.455.2150. The Office of Visual Arts employs Graduate Research Assistants to make sure that all studios and other facilities are stocked with necessary supplies as well as maintaining order and cleanliness in the Department. Each student should develop and employ safe working habits in the studios and each person should share the responsibility for the cleanliness of the studios.

INTRODUCTION

This is vital to the daily function of the Department as we stress the importance of safety, cooperation and mutual respect as the 'key' to a compatible working environment. Be considerate. The studio is for the community. We share the same space. Let's all treat it with respect.

Rules and Regulations

1. All students currently enrolled in print media classes may use studios
2. Print media majors not currently enrolled in print classes. These students are eligible to use the print studios only after presenting themselves to a print media faculty of the department to discuss the extent of their ability and involvement.
3. Non print media Majors not currently enrolled in print classes. These students are eligible to use the studios only after presenting themselves to a print media faculty and establishing proof of print media ability, (ie., slides or prints of past work), and then discussing with faculty member the extent of their ability and involvement. Limited to space and times being available and without provision of materials .
4. Present faculty and staff are eligible to use the print studios after attaining approval from the a print media faculty member.
5. Everyone who has not taken a print media course at UMBC, must have an orientation from a print media faculty or the RA.

Rules and Procedures for Summer Studio Use

1. All students currently enrolled in a summer print media course may have access to the studios.
2. All students currently enrolled in any other 3 credit summer course having already taken a Print media course may also use the studios with permission from Print Media faculty. Permission must be obtained from faculty before the 1st day of classes.

Supplies, Equipment, CheckOut Procedures, & Warning System

Supplies and equipment that you will need to assist you in producing your work must be checked out from the student cabinet. Any student that abandons equipment in the studios or leaves his/her work area unclean will receive a warning and possibly loose studio privileges. This system ensures that the largest possible number of students share the greatest possible variety of tools, equipment and supplies.

Any print media faculty will be more than happy to put you in touch with a supplier should you wish to buy a particular item for your personal use. You must purchase your own set of solvent-resistant gloves, apron and, if you are taking photo-lithography, a respirator - the yellow ones for organic vapors. You are responsible for any equipment or facility (Dark Room, Exposure unit etc) you use. Please remember to return any equipment used and keep any facility you use cleaned and in order. Always return any equipment you used in better condition than when you got it and to the student cabinet provided for you or in the designated place in the print studios.

You may use the studios when there is no scheduled class and after hours. For safety reasons a "studio buddy" is recommended. Check with monitor or Print Media faculty on procedures for access.

There are supervised studio hours available each semester, it is encouraged that students work during those times. These hours will be posted outside the classroom each semester.

FUNDAMENTALS

1. You are responsible for exercising proper care of department equipment.
2. You are responsible for returning equipment to the department in better condition than it was checked out to you.
3. If equipment is damaged (by you or if you found it that way) PLEASE LET US KNOW! This will allow the Department and graduate students to make repairs quickly.
4. We will charge for repairs or replacement of equipment damaged or ruined through negligence or intentional misuse. This does not include accidents or damage through normal use.
5. Fires are not permitted at UMBC VISUAL ARTS DEPARTMENT. Any performances or execution on any artwork involving fire is absolutely not allowed on campus. If work involving fire is proposed, it must be undertaken at another site and with proper supervision and authority.
6. No alcoholic beverages are allowed on campus. Do not even think of consuming alcoholic beverages before entering the studio to work and absolutely NOT while you are working!
7. Alcoholic beverages are not part of the teaching and learning process and the serving or consuming of alcohol, as part of an official class or studio activity is not permitted. Individuals may not bring alcoholic beverages onto the UMBC Campus for their private consumption in studios classrooms, or public areas.
8. No smoking anywhere in the Print Media Department.
9. If you propose to do any artwork that contains or includes the public display of blood or other potentially infectious materials such as urine, semen or feces you need to research the guidelines concerning containment measures, time constraints etc. and speak to the Print Media faculty before undertaking any such art-making.

General Safety Information

In the case of a life threatening emergency, use campus phones directly across the print media studios outside rooms 208 & 218 or any UMBC Visual Arts Department office phone.

When calling from a campus phone you will need to dial extension X55555, and give the operator specific information, they will call an ambulance. The campus operator will call 911 for you. If it is possible to walk, it may be faster to get to the health center than waiting for the ambulance.

Should the alarm sound, calmly make your way out of the building exiting the stairs located near the Studio 208 218. Wait outside until you are told it is clear to reenter the building. If a fire occurs, call extension X55555 and report it immediately to the Visual Arts Department, a Faculty member or a Security Guard. Note: setting fires - for any reason - is strictly forbidden by UMBC Visual Arts Department policy.

If you get something (etchant, solvent, sodium hydroxide, ink, etc) in your eye, wash it out immediately. You must keep your eye(s) open by holding your eyelids with your fingers while keeping the eye in the stream of water. Move your eyeball around while washing. You must wash your eye out for fifteen minutes timed with a clock. Do not hesitate to ask for assistance from a Faculty member, RA or your fellow student. It works best to have someone else hold your eyes open for you, and help you keep it directly in the eye-wash stream. It is most important to begin the eye-wash quickly. Even though it may feel uncomfortable, and you may believe your eye is cleaned out - always wash the eye for fifteen minutes! Seek appropriate medical attention. Report all incidents to faculty, as soon as possible. Remember! Use of personal protection, goggles or face shield and gloves - can greatly diminish the possibility of a chemical splash - induced eye or other kind of injury.

The OSHA Hazard Communication laws Right to know Act requires that we make available Material Safety Data Sheets (MSDS) on all chemistry, solvents, inks, emulsions, cleaners, etc. used in the Department. The MSDS contains important information on potential health risks associated with

the particular substance including emergency response, reactivity, combustibility, carcinogenicity and Threshold Limit Values (TLVs). The TLV refers to the amount in Parts Per Million (PPM) of airborne substance beyond which further protection is needed. For example: imagine one million square inches of air. A substance has a TLV of 50, so if there is 50 or more square inches of this airborne substance in the one million square inches of air, you have a health risk. If there is another substance you can substitute with a TLV of 1000, you substantially reduce your health risk. TLVs are a useful tool for getting a general idea about the toxicity by inhalation of whatever you are working with. MSDS and other health and safety information are kept in a binder in both FA208 & FA 218 and are available for you to read.

The Department faculty encourage all students - undergraduates and graduates - to take the time to, read and look through the MSDS binders. It is information that is just as important as what you will learn in the classes you take in the Department. There are handout to help you decipher the MSDS information.

Because of local, state and federal regulations we must insist that you never bring chemistry of any kind in to the Visual Arts building until you have met with the faculty in charge and cleared it. See faculty member if you have any questions. She/he will assist you if there is something you'd like that we don't already provide. Do not bring anything in - regardless of whether you have used it before or if it says non-toxic on the label. The Visual Arts Department will properly label all ink and solvent containers. Please notify a faculty member, or RA if you notice any of the labels becoming obscured or damaged or missing.

Please remember that there is a great deal of variation in exposure to the various chemicals used in print media - these chemicals affects all individuals differently. Although the UMBC Print Media Department has made every effort to use non toxic materials currently available, it is important to consider and handle all materials with extreme caution. Tolerances are complicated by health problems, medications taken, weight, body type, age, sleep patterns. You may become allergic or sensitized to a substance by exposure over time. The amount of time it might take for symptoms to become present is indeterminable. Symptoms among individuals to the sensitizing substances include common problems such as asthma, contact dermatitis, headaches, nausea, and lack of concentration and/or coordination and hives. There is no way to predict who will become sensitive, how severe it will be or when it will occur. Contact dermatitis refers to scaling, itching, swelling and/or peeling of the skin - usually on your hands. It is painful and can be permanently disfiguring. Once the allergy has developed, you will probably have it for the rest of your life. It is important to follow the best possible hygienic and protective practices to avoid sensitizing yourself to art materials.

We insist that you turn on the exhaust fans whenever you are working with solvents and/or chemistry in all studios. Open the doors and the windows, this allows for more circulation of the air in the studios. Please use it whenever possible, especially when using lacquer thinner or other noxious substances. Always make sure that the ventilation system is on before beginning work in the darkroom. Excessive inhalation of organic solvent vapor can lead to depression of the central nervous system. Overexposure can cause upper respiratory tract irritation and chronic respiratory

infection. If you feel a headache, drowsy or not quite well, take a break and get some fresh air. Be as conservative as possible with solvent use! Personal Protective Equipment (PPE) is the primary line of defense against the health hazards listed above. PPE used in Print media re: nitrile, neoprene and other types of protective solvent resist gloves, goggles, dust mask, respirators, and aprons. It is important to consult the appropriate chart to determine the proper glove and/or respirator cartridge for a particular process.

Thin latex gloves are convenient and appropriate for many processes, however some people have become sensitized to latex. Discontinue using nitrile/ neoprene gloves should you show signs of sensitization. The effectiveness of barrier cream is undetermined. We suggest you use it to augment the protection of gloves and not as a substitute for the proper PPE. Do not use gloves that are cracked, torn or appear to be 'dissolving'. Each student should use face shields and use them every time you work with a substance that could cause eye damage. The department will have one face shield available for general use. Respirators are effective for short-term exposures exceeding the TLV of a substance - if the proper NIOSH approved cartridge is in place.

All students using respirators should first be checked by their doctor for heart and lung problems, as respirators can cause an added breathing stress.

Use only your own respirator; store it in an airtight container and seal it in a zip-lock bag; change cartridges when necessary. Dust masks are effective only against nuisance dusts not fumes or vapors. Aprons or lab coats offer a layer of protection for your skin, and are recommended for use whenever you are working in the print media area. Organic vapor respirator is required for those of you doing any plate lithography.

As per the above: Pregnant women are at particular risk. Organic solvents and other chemistry have been found to be very dangerous to the developing fetus. There are no "safe" exposure levels or effective PPE for a pregnant woman or her fetus. The student must notify her Instructor about her situation so steps can be taken (if possible) to continue her work in a safe environment. If you are interested in this article or any other topic regarding health and safety please feel free to see the Faculty or RA with your questions.

We insist that you never smoke, eat or drink in the Print media Studio, this includes the entire hallway. Dust and vapors from chemistry used in the studios will contaminate food and beverages. Much of the chemistry is very toxic when ingested. Please remember to wash your hands thoroughly before eating. Alcohol consumption and drug use are disallowed, as impaired judgement is a serious safety hazard. UMBC prohibits all and any alcohol use on campus. Smoking is an obvious fire and health hazard. Smoking is only allowed out of doors on campus. Never put solvents or other chemistry into food or beverage containers. A water bottle containing acetone can be fatal to someone who unsuspectingly drinks from it. Glass containers are not allowed in

the Print media Department. Do not put any chemistry into a secondary container without first arranging for proper labeling - see the faculty.

We strongly recommend that you use the buddy system while working off-hours. Bring a fellow student with you when you use the studios after the Monitors have left for the day. Should an accident occur, or you have a reaction to fumes or chemistry, you will want someone there to assist you. Keep the 'EXIT' doors at FA208 & FA 218 closed and locked after 8pm. Do not prop it open after 8pm. Also do not use headphones while working late nights as this decreases your awareness of your surroundings. Report unfamiliar people to security after hours and to the Visual Arts Department during business hours. Only currently enrolled UMBC Visual Arts Department students are to have access to the Studios, so please carry your UMBC Student I.D. with you at all times.

If you have a child or small animal, for their health and safety, please do not bring them with you into the department when you know you'll be working around lacquer thinner, mineral spirits and other noxious chemicals. Organization and neatness are the key to maintaining a safe working environment. A chaotic mess in the studio is an OSHA violation. It is vital that we all cooperate to make the print media studios as safe as possible.

Dirty shop towels/rags must go in the red metal bins; this is an important fire safety factor as solvent soaked shop towels may spontaneously combust. Do not bring shop towels/ rags home with you! Do not bring your towels from home and put them in the red bins. Those bins are specifically for shop towels/rags used in and by the print media studios.

Safety rules in the Print media Studios is a responsibility that we ALL share. We also share responsibility for their enforcement. Please! If you see a fellow student or anyone else violating the safety rules report them by either speaking to the faculty member directly or by leaving an anonymous note under the faculty's office door. Without enforcement, these procedures are meaningless, and without knowledge of compliance or violation, enforcement is impossible. Reporting is not a formal 'charge' and your anonymity will be preserved unless you desire otherwise. The important thing is to inform the Department staff.

If you have any ideas or suggestions for improving our Health and Safety Program please let us know. We will be glad to hear your comments and suggestions. New information, products, techniques and ideas are a constant in the field of safe print media and studio practice. A commitment to informing yourself and using this knowledge will enhance and lengthen your art-making career.

Undergraduates, graduates, majors and non-majors share these studios. Space is at a premium in the Print media Department. When it is class time please be respectful of your use of space. When your class is over please clean up quickly and quietly. If you need to work please ask the instructor for permission to work during their class time.

Remember these rules:

1. Throw trash (metal shavings, wood bits, paper bits) away in the grey trash cans! A broom and small dust pan are provided for you etchers and mono-printers who file plates
2. Throw out any oil or solvent - soaked rags into the red metal bins.
3. Do not create trip hazards with extension cords or other things left on the floor.
4. Return equipment to its proper place when you are finished.
5. Return equipment in good, clean, working order!
6. Clean up spills when they occur. We have Hazardous Material Spill kits available should a serious spill occur.
7. Do not leave a mess for the next person or RA to worry about! Do a little more than your share and the same will be done for you.
8. Leave the darkroom, exposure unit room in better condition than when you arrived!
9. Wipe off and clean any ink on tables with oil and vinegar.

Room 208 & 218

Intaglio, Relief, Photo & Digital Print Media

1. Equipment MAY NOT be used until they have attended the demonstration day. After that, they must be supervised when first working on it.
2. Exercise extreme caution when cutting etching plates on the guillotine in FA 218. Make sure the plate cutter is unlocked before attempting to use it.
3. Never put your fingers under the blade or near the bar that grips the plate.
4. Do not jump on the foot lever to operate the guillotine. If you have difficulty, ask for assistance.
5. Make sure an ink chip is not in the way of the blade, otherwise the blade will not cut your plate cleanly if at all.
6. The hot plate should not be dialed above 250 and should be turned off and unplugged when not

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in use. Never put solvent cans, rags or other flammable materials on top of the hot plate.

7. When beveling your plate, always use files with handles. Be cautious when using scrap- pers to bevel plates; first wrap the pointed end with tape.

8. Always use the appropriate gloves and face shield when working with etchant. Make sure that all fans are turned on before uncovering etchant. You may also open the doors; this will help circulate the air in the Studio. Cover the bath when you are through. Do not leave etchant trays uncovered at any time. Carefully raise and lower your plate using the masking tape. Dropping your plate in the etchant bath could result in splashing etchant on yourself or someone next to you. In general, etchant are most dangerous when in concentrated form and less so when diluted.

9. Use common sense and remember that working in the Etching Studio requires the use of your full attention. Take breaks to alleviate any possibility of fatigue or problems with concentration. Use extreme caution when spit-biting.

10. Do not spit bite if you are alone in the studio. Do not pour spit bite into any kind of metal bowls! Always add etchant to dilutant (water) NEVER add dilutant to etchant! Adding water to etchant causes a chemical reaction. Students are NOT permitted to mix any chemistry. Please alert RA/ Faculty if etchant is low.

11. In case of eye contact, flush in eyewash station for fifteen minutes, and then seek emergency medical attention. In case of spill, neutralize with sodium bicarbonate and dilute with water DO NOT use sodium bicarbonate on skin or eyes! There is also a Hazard Spill kit located underneath the etchant area for large spills.

12. Please do not touch, move or disturb the barrel containing etchant. This is only for the monitors to deal with.

13. Never gouge inks out of the can, this is a waste and could be a waste of the entire can of ink. The proper way to take ink out of the can will be demonstrated by your instructor. Always clean lids and edges with oil and a rag.

14. Be conservative with solvent use. Remember that solvent fumes affect others in the studio. Citrus-based solvents are not as safe as you may have been led to believe. Remember to use gloves, goggles and the proper ventilation when working with any solvent, varnish, hard/soft ground, or chemistry.

15. Make sure the blankets are straight and the pressure has been correctly adjusted before running the press.

16. Do not put fingers near the rollers when the press is in operation.

17. Dirty press blankets are the result of dirty hands or careless use of etching inks. Please

remember to clean your hands before you approach the press. The ink blotch on your hand could end up ruining someone else's print.

18. The print you ruin could be your own. If you are the last person printing be sure to release the pressure and remove the blankets from underneath the rollers. This will greatly prolong the life of the blankets and be much appreciated by all of your fellow printmakers!

19. Wash your hands to remove ink before working in the paper soaking/ blotting area.

Room 208

Photo & Digital Print Media

The hazards in digital print media are few:

1. The computer and printers are tools. Delicate tools. Do not be afraid.
2. When scanning do not look into the light. Close the lid, please.

Relief Print Media

1. Use sharp cutting tools for optimal results. Cut away from yourself do not aim the cutting tool at yourself for any reason. Be aware of the placement of your non-cutting hand at all times, you may use this hand atop the other as a means of controlling the tool from slipping.

2. Use gloves and face-shields when working with inks, solvents, etc. Make sure ventilation systems are operating when working with any of the above.

3. Never gouge ink out of the can; it is wasteful and inconsiderate.

4. Be aware of loose clothing, long hair, jewelry etc. when working with dremel tools, saws, sanders and presses.

5. Please observe the proper use and adjustment of the etching press(es) when in use for printing a wood or linoleum block. 6. Observe Department Policy regarding conservative solvent use and most of all use your common sense.

Computer Usage:

1. Only students who have had a training session and are currently enrolled in a print media course have access to this computer.
2. Training sessions are arranged ahead of time with instructor.
3. Each student must have a flash drive at minimum to store their image. Always back up your digital files, flash drives are temporary storage, external hard drives are suggested for a more long-term storage solution.
4. Only the manager or the monitor will remove and install the ink cartridges.
5. If you don't know or have forgotten how to do something STOP whatever you were doing and please ASK the monitor, Department Manager or floating technician for assistance! Do not just start pushing buttons or turn the computer on & off!
6. The Print media Computer is a dedicated machine specifically for outputting onto film or paper with the intent to employ another print media process to complete the idea.
7. Make sure you are using transparencies designated for laserprinter when using the laserprinter. If not, you may melt your sheet onto the drum and damage the printer.
8. Students will use only software already installed on the hard drive. Students will not install programs they have pirated or bought onto the Print media Computer. All student work will be removed from the internal hard at the end of every calendar day. NO EXCEPTIONS.

Room 218**Screen Printing**

1. Read the MSDS located in the student file cabinet and on top of the student cabinet. If you have any questions regarding the MSDS see your Instructor.
2. Use face shield and waterproof apron and gloves when handling screen-printing emulsion remover.
3. After printing put all extra ink in a small empty container to be used later. Before you begin the procedure of washing out your screen, remove all ink from the screen by spritz- ing the screen with

the spray bottles filled with water and a rag. Remove as much of the excess ink before washing out your screen in the washout room. The high pressure washer is not necessary if you are only washing out ink.

4. The emulsion from the screens, especially the frames, are washed out using full pressure from the high-pressure washer. The water coming out of the pressure washer is capable of cutting open your skin. Do not put your hands or any part of your body in front of the high-pressure spray from the pressure washer. NEVER point the washer gun at anything other than your screen! Do not attempt to have a conversation while at the spray booth. Horsing around with the 'gun' will result in a loss of studio-use privileges.

5. Please clean up any spills and puddles, as these are a safety hazard to you and your fellow screen-printer. You may use rags or use the mop provided in the washout room.

6. We are currently using water-based inks that are safer for classroom use. Nevertheless, it is a good habit to use latex gloves to avoid developing allergies or allergic reactions to the inks. The less ink on your hand means less chance that ink will get on your paper or on someone else's work!

7. Oil-based silkscreen inks are not allowed in the Print media Department. Violations to this rule MUST be reported immediately to the Department Manager.

8. Use gloves and a face shield when handling emulsion remover. It is caustic!

9. Turn off the motor of the pressure washer before releasing the trigger of the pressure washer gun.

10. The tables are not cutting surfaces. None of the tables and surfaces in the screen print studio are cutting surfaces. Use the large self healing cutting mat if you are cutting or bring a piece of chipboard. The light table is definitely not a cutting table or an inking slab.

11. Remember to clean up your work area after you've finished! Return equipment to its place better than the condition in which you received it! :-) Do not hand your equipment to someone else and tell him or her to return it for you! Do not put squeegees, bowls or rubber spatulas in your locker!

Exposure Unit & Washout Room

If you are uncertain of the proper procedure to warm-up and shut down the Exposure unit ask faculty member or RA for help.

****Use goggles and gloves when working with any photo-related chemistry. Please provide your own neoprene gloves**

1. You must have permission to use the exposure unit, please see a faculty member.
2. The Exposure unit is a sensitive piece of equipment. Students interested in using it are advised to sign up for a Photo-Print Media course where you will be properly trained on how to use it.
3. Faculty and students enrolled in a print media class have priority during their class periods.
4. If a problem occurs while you are using the Exposure unit, write down exactly what you did before the problem occurred and what happened afterwards. That way we'll be able to figure out what happened and decide how to fix it, if it is fixable.
5. Please do not attempt to fix a problem yourself. Email faculty if a problem occurs after hours 6. When exposing a screen make sure that the bleed valve on the vacuum unit is properly set.

Warming-up the Exposure Unit:

1. Turn on A .
2. Then turn on B. Check to make sure lamp is at the HIGH setting and NOT the MEDIUM or LOW setting. You will see a red light indicating which setting the lamp is at. Finally, push the button with LAMP START (button C) written above it. The following instructions are for Warming-up the Exposure Unit: (continued)
3. Leave the Exposure Unit Room. Close the door. The Exposure Unit requires a 20 minute warm-up. Do not leave any light-sensitive material in the room during warm-up.
4. If you are uncertain about any part of this process PLEASE see faculty. Do not ask someone who has not taken a RECENT course, things change, they are not the best source of information!! Do ask a print media instructor, the print media manager or one of the monitors on duty.
5. This unit is not for use with Cyanotype or Van Dyke photo processes. You will burn out the \$350 bulb and your exposure unit access will be severely curtailed.

Exposing the Image

The panel on the actual exposure unit itself will be referred to as the Exposure Unit. The control panel is where the number of light units entered to expose the screen. [Irene will provide handout.](#)

1. The Exposure Unit must be warmed-up before exposing screen. See Warming up the Exposure Unit.
2. Lower vacuum table very, very gently.
3. Clean the glass on the inside and outside.
4. Make sure the glass is clean as well as the soft back before placing your image matrix onto the glass table. Optical glass cleaner and roll of paper towels will be in the monitors room if they are not already in the Exposure Unit room.
5. Image goes onto the glass readable. Important Note: Oiled xeroxes MUST be sandwiched between 2 sheets of clear mylar larger than the oiled xerox by 6 inches. Remove excess oil by blotting xerox with newsprint before sandwiching.
6. Place THOROUGHLY DRIED emulsion coated screen trough side up over your image. Center the image(s) on your screen leaving a few inches as the border.
7. Lower the soft back of the vacuum table slowly and gently over image/matrix so as not to disturb either.
8. Turn on the vacuum and turn toggle switch so that vacuum is created. When you are facing the vacuum table the switches are on the right-hand side.
9. Wait until the gauge reads 27 before returning the vacuum table to the vertical position. DO NOT TURN THE VACUUM OFF at this time. If you turn the vacuum off now, your image & matrix will slide to the bottom of the glass and you will need to repeat steps #5 - #9.
10. Slowly lift the vacuum table to an upright vertical position. Hold onto the handle and WALK it all the way back while holding onto the handle at all times!!
11. Center the Exposure Unit to your image. The Exposure unit should be 50/80 inches back from the vertical vacuum table depending on your image & the process you are using ie screen, litho, photo-print or transparency output from the Epson 3000. See tape on the floor and line up the front edge of the Exposure Unit to it. Leave the Exposure Unit Room and close the door.
12. Once you have closed the door, turn the Control Panel on by depressing the Power button.

13. Press 'C' Ignore number on display.

14. Enter appropriate number for your image & mesh size. 14. Push 'S' and wait. The Exposure Unit will automatically shut off when finished exposing.

Turning off the Exposure Unit

You turn off the Exposure Unit using the reverse order that you used to turn it on. Instead of depressing the button marked A, then B, then C you will depress the button marked C, develop your plate or washout your screen etc, then B and finally A.

1. Once you have exposed your image, remove all materials from the exposure unit room. If there no one is waiting to use the exposure unit turn the lamp off by depressing the button marked C . This cools the lamp before shutting the entire unit down.

2. After you've developed your image (litho) or washed out your screen etc. the lamp will be cool enough to shut the entire unit off. Stick your hand in front of the vent. This will let you know if the lamp is cool enough because the air coming from the vent will be cool.

3. Depress button B and wait until you hear the unit cycle down. This takes about 10 seconds.

4. Then you may safely depress button A.

5. Take your film out of the exposure unit room, remove and return all equipment to the monitors room. Photo-etchers please return the trays to the darkroom. Do not leave them under the sink in the Studio 3 washout room.

Wash-out Room

Washing out your screen after exposure: Always refer to the handout given to you by your instructor. Steady and firm pressure will wash out the emulsion from your screen. If you have to use excessive pressure your screen may be over-exposed and you should check with your instructor about what to do when your screen does not wash out or if it washes out the emulsion completely.

Do not use the hi-pressure feature when exposing your screen. You will blow out your image! Only use the hi-pressure to clean off the emulsion to reclaim your screen after you are all done.

Developing your positive Litho Plates

Always refer to the handout given to you by your instructor. Be aware when checking out the developing fluids. Do not mix plates & chemistry! You must wear a respirator & gloves when developing Litho plates.

Developing your Riston Plates

Always refer to the handout given to you by your instructor. Lithography

1. Use gloves and goggles when working with ink, mineral spirits, lacquer thinner, nitric etchant, counter etch, fountain solution, asphaltum, tusche, rosin and any drawing material containing lamp black.
2. When printing, do not set pressure tighter than necessary. Always disengage the clutch when finished cranking the press bed through. Do NOT allow the handle to spin while bringing the press bed back to the inking position.
3. While sponging, try to avoid creating puddles on the table or the floor around you.
4. Remember! When using Litho inks never gouge inks out of the can. It is wasteful, inconsiderate and a good way to irritate everyone, especially the other students!
5. Use common sense when you are working in the studio. Be considerate of other students and be aware of your own mess. We all have to share the studios!

Plate Lithography

1. Have the appropriate developer and materials (Developing pad, developer, sponge, bowl, hairdryer, cheesecloth, gum finisher, and newsprint). Use face shield, respirator and gloves.
2. Follow instructor's directions regarding inking and printing.
3. Do not gouge ink.
4. Release 'clutch' (neural) after you have run the plate through the press.
5. Get help moving the plattens onto the press bed.

Woodcut & Wood Engraving

Both woodcuts and wood engravings entail creating a relief image on a block of wood by cutting away the parts that are not to hold ink. The design is usually drawn directly onto the block and then all other parts are cut away. In a woodcut the image is cut from the block parallel to the grain using a knife or a pointed tool called a graver. In a wood engraving the image is cut using a graver on the end of the grain. A chromoxylograph is an image printed in color from a wood block. Because these processes print in relief, they were often used to illustrate relief typeface books and newspapers.

Woodcuts were introduced to Europe in the early fifteenth century (the earliest European woodcut is the "Brussels Madonna" of 1418), but were executed in the Orient as early as the eighth century in China. The technique of stamping from woodblocks was used to print textiles before it was applied to paper. A relief process, woodcuts are produced by inking a raised surface against which a piece of paper is pressed, either manually or by running it through a press, to create an image on the paper. The rubber stamp and potato print are familiar forms of relief printing. The design of a woodcut is produced by elimination, cutting away everything except the lines or shapes to be printed.

The use of woodcuts was spread by the inventions of moveable type and of the printing press in the 1450s. Wood engraving was developed in England in the early eighteenth century, firmly established in Europe by Thomas Bewick at the end of that century, and popularized in America during the Civil War.



Albrecht Dürer
Four Horsemen of the Apocalypse, ca.
1497-98 Woodcut

Engraving

An engraving (also called a line engraving) is made by incising a design into a metal plate by applying pressure to the plate with a pointed tool called a graver or burin. Engraving is an intaglio process, so prints made in this manner will have a platemark. The term “engraving” is often used to refer in general to all intaglio prints, with the term “line engraving” used to refer to engravings per se. Strong lines and sharp definition are characteristic of engravings. The earliest known line engravings were issued in the fifteenth century. A method of engraving in a steel plate, which allows for finer detail and many more impressions than does copper, was developed by Thomas Lupton in 1822.



Rembrandt van Rijn
The Angel Appearing to the Shepherds
1634 Etching, engraving and drypoint

Etching

An etching (also called a line etching) is created by covering a metal plate with an acid-resistant layer of wax called a ground and drawing a design through the ground using an etching needle. The plate is then dipped in acid, which bites into the exposed lines, thus etching the design into the plate. After dipping the plate in acid, sections of the design can be stopped out with varnish and the plate immersed in the acid again. This creates a deeper bite, and thus darker lines, for those areas not stopped out. Etching is an intaglio process, so prints made in this manner will have a platemark. Etching allows for a freer artistic hand than does engraving. The etching process was invented around the fourteenth century as a method of making decorations on armor. The earliest known printed etching was by Urs Graf and is dated 1513. The technique was perfected in the middle of the seventeenth century by Rembrandt.



Pablo Picasso
La femme qui pleure (6eme Etat)
(Weeping Woman, sixth state)
1938 Etching, aquatint, and drypoint on copper

Stipple

A stipple print is created from a metal plate upon which the design has been produced using different sized small dots grouped more or less closely together in order to create areas of tone. A stipple etching is made in the same manner as a line etching. By varying the size and proximity of the dots it was possible to achieve the most delicate gradations of tone. The obvious reason for its enthusiastic acceptance was the new importance that the 18th century gave to the drawings as distinct from paintings of such fashionable artists as Watteau, Boucher and Fragonard. The design was outlined by piercing the ground to allow acid to reach and corrode the copper surface in a series of vertical pricks or slanting flicks. Ink retained in these acid- formed hollows was conveyed to damp paper by intense pressure. More often a time saving tool roulette . This consisted of a tiny wheel on the end of a handle which can be drawn over the waxy ground. Small teeth in the wheel rim produced a regular dotted line.

Alternatively, irregular cuttings of the roulette wheel rim could produce a coarser form of stipple. As with other forms of intaglio printing the size of the hollows and their exact grouping closely or widely spread determined the effect of shade, varied as required by applying hand tools to the etched plates. Large dots close together could achieve considerable depth of tone and delicate pricks give bloom to the cheek or suggest the gloss of costly silks. Moreover, the English etcher in stipple usually introduced needle lines when he required greater emphasis. The “Cries of London” provide the best known series of stipple and exist in brown or colour. Stipple is an intaglio process, so prints made in this manner will have a platemark. Stipple was used occasionally as early as the fifteenth century, but became popular in the last decade of the eighteenth century.



Alphonso and Aciloe
Vide Miss Williams's Peru
 H. Ramberg inv. Bartolozzi sculp.
 Pub. May 1, 1788, by M. Ryland no 102 New Bond
 Street. Printed in brown.

Lithography

A lithograph is created by drawing an image onto a stone (lithography = “stone- drawing”) or metal plate using a grease crayon or a greasy ink called tusche. The process is based on the principle that grease and water do not mix. To create a lithograph, the stone or plate is washed with water --which is repelled by the crayon-- and then with ink --which is absorbed by the crayon. The image is printed onto the paper from the stone or plate, which can be re-inked many times without wear. A chromolithograph is a colored lithograph, with at least three colors, in which each color is printed from a separate stone and where the image is composed from those colors. A tinted lithograph is a lithograph whose image is printed from one stone and which has wash color for tinting applied from one or two other stones. Lithography is a planographic process and so no platemark is created when a lithograph is printed.

Lithography was invented by Alois Senefelder in 1798 but didn’t come into general use until the 1820s. After that time lithography quickly replaced intaglio processes for most illustrative and commercial applications, for the design was easier to apply to the stone or plate, it was much easier to rework or correct a design, and many more images could be produced without loss of quality than in any of the intaglio processes

Kathe Kollwitz (German 1867-1945)
The Weavers' Revolt



Mezzotint

Mezzotint can be thought of as the inverse of the other intaglio processes, for a mezzotint design is created working from black to white, rather than vice versa. In a mezzotint the metal plate is worked using a rocker, which roughens the entire surface of the plate with tiny holes and burrs. If the plate were printed at this time the image would be completely velvet black. Areas that are to appear in lighter tones or in white are smoothed out on the surface so that they will hold less ink. Mezzotint is an intaglio process, so prints made in this manner will have a platemark. The mezzotint process makes a very richly textured image and was used particularly for portraits. Mezzotint was invented by a German soldier named Ludwig von Siegen around 1642 but was refined later in that century by Abraham Bloteling. Used primarily in the eighteenth century, it was especially popular in England and was often called *la manière anglaise*. Mezzotinting was relatively unknown in the United States until it was brought to prominence by John Sartain.

Frank Stella
Nemrik
 1998 51 color lithograph, screenprint, etching,
 engraving mezzotint, relief, stencil and pochoir
 on handmade paper



Silk-screen printing

A method of printing widely used today for a large array of display materials where the final print run is not large. It is also suitable for large posters and sheets that would be impractical to run on a traditional offset press and for a wide variety of large, thick or heavy materials. Many multiple-color, very fine quality art posters are silk-screened. The silk-screen process. The original material used in the screening process was silk, a multi-filament material, the weave of the fabric, allowing passage of the "paint" onto the stock surface. Today polyester, a monofilament material, is the fabric of choice, improving both the quality of the finished product, registration; and ink flow. Silk-screen inks are exceptionally opaque transparent or translucent finishers can be used to achieve a flat to high gloss effect.

Andy Warhol
Marilyn Diptych
1962



Photo-Digital

Photo-Digital printing refers to methods of printing from a digital-based image directly to a variety of media. Common technologies used to produce digital prints include inkjet, electrophotography (dry toner and liquid toner), thermal transfer (mass transfer and dye sublimation transfer), and laser imaging (digital photo printing) on photographic paper.

Piezo, Thermal, and Continuous-Flow Inkjet Technologies are the most common inkjet technologies employed. For the digital printmaker they are usually combined with water-based (aqueous) inks, either pigmented or dye-based.

Photo-Digital Printmaking investigates a variety of photographic processes in print media, including digital print methods, photo-printmaking, xerography, and manual print processes. Historical and theoretical relationships between the photographic image, appropriation strategies, and print practice are discussed as a context for technical explorations in the media. Image and surface manipulations, materials, as well as theoretical concepts related to the subjects of language, installation and performance are applied to the process

Weiwei

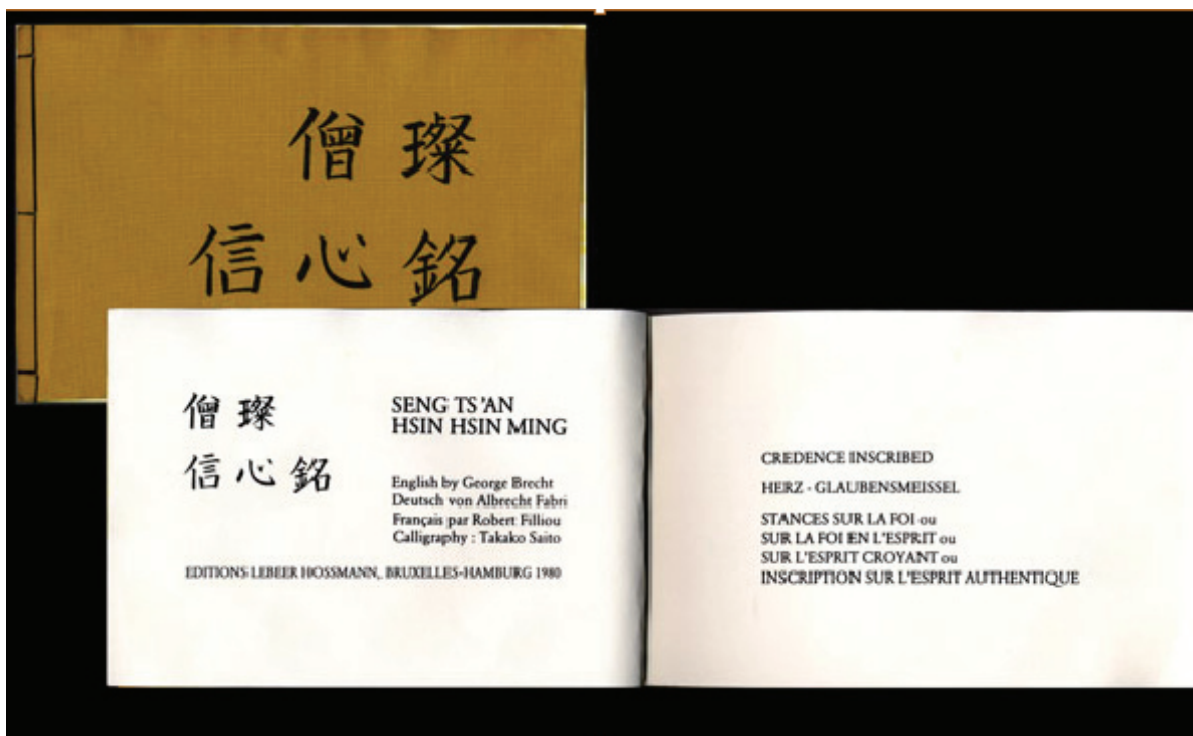
Digital vector art with traditional etching screenprinting



Intermedia

The Intermedia emphasis integrates the three areas of Papermaking, Book Arts and Printmaking. This emphasis encourages experimental crossover among these paper-based disciplines integrating the multiple possibilities of mark-making and form.

Seng Ts'an. Hsin hsin ming. Calligraphy by Takako Saito, translated by George Brecht, Albrecht Fabri, and Robert Filliou (Lebeer Hossmann, 1980).



Interdisciplinary

Such as book concepts, photo and digital printmaking, sculptural printmaking, and print as public art. Assimilating the traditional roles and techniques of printmaking with an artist's own ambitions within contemporary culture to develop unique practices within their printmaking work.

Cern and Jaz (botom). Gaia



Mixed-Media

Mixed-media includes the use of cardboard, collage (collagraph), and monoprints. Works may investigate drawing, plate-making and transfer methods.

Work shown below by Julio Valdez often combines processes such as embossment, à la poupée, chine collé, monotype, silk aquatint, and solar plate printmaking. These processes are directly linked to the themes in his work—his hand application and other direct methods honor ancient cultural traditions of Africa and Latin America.

Untitled. Julio Valdez



Installation Art

Installation art describes an artistic genre of three-dimensional works that are often site-specific and designed to transform the perception of a space. Generally, the term is applied to interior spaces, whereas exterior interventions are often called Land art; however, the boundaries between these terms overlap.

Many installations are site-specific in that they are designed to exist only in the space for which they were created. A number of institutions focusing on Installation art were created from the 1980s onwards, suggesting the need for Installation to be seen as a separate discipline.

Untitled, 2012 Judy Bourke



Print Media Terms

After:

A print is made after an artist if the printmaker copied the image from a drawing or painting by that artist.

À la poupée:

A print is printed in color à la poupée when colored ink is applied directly to a plate's surface and worked into the appropriate area of the design using cotton daubs called dollies, or in French, poupée.

Antique print:

Any print printed and published prior to 1900 is considered an antique print. A modern reproduction of an old print is not itself an antique. The cut-off date of 1900 is not firmly fixed, however, and in many circumstances original prints made before World War II are also considered to be antiques.

Blind stamp:

A blind stamp is an embossed seal impressed onto a print as a distinguishing mark by the artist, the publisher, an institution, or a collector.

Block:

A {wood} block is a piece of wood used as a matrix for a print. Wood blocks are used primarily for woodcuts or wood engravings.

Catalogue raisonné:

A catalogue raisonné is a documentary listing of all the works by an artist which are known at the time of compilation. It should include all essential documentary information.

Chine appliqué (chine collé):

A chine appliqué or chine collé is a print in which the image is impressed onto a thin sheet of China paper which is backed by a stronger, thicker sheet. China paper takes an intaglio impression more easily than regular paper, so chine appliqué prints generally show a richer impression than standard prints. Proof prints are often done as chine appliqués.

Edition:

An edition of a print includes all the impressions published at the same time or as part

of the same publishing event. A first edition print is one which was issued with the first published group of impressions. First edition prints are sometimes pre-dated by a proof edition. Editions of a print should be distinguished from states of a print. There can be several states of a print from the same edition, and there can be several editions of a print all with the same state.

Fine Art & Historical Prints:

Prints can be separated into two general types, fine art prints and historical prints. These types can best be understood through a differentiation of their emphasis. The distinction between the two types of prints is not clear-cut nor is it understood by all experts in the same way, but generally a fine art print is one conceived and executed by an artist with as much or more concern for the manner of presentation of the print as for its content, whereas the concern of the maker of an historical print is focused more on the content of the image than on its presentation.

Impression:

An impression is a single piece of paper with an image printed on it from a matrix. The term as applied to prints is used in a manner similar to the term “copy” as applied to a book.

Intaglio:

An intaglio print is one whose image is printed from a recessed design incised or etched into the surface of a plate. In this type of print the ink lies below the surface of the plate and is transferred to the paper under pressure. The printed lines of an intaglio print stand in relief on the paper. Intaglio prints have platemarks.

Lettering or Letterpress:

The lettering of a print refers to the information, usually given below the image, concerning the title, artist, publisher, engraver and other such data.

Limited Edition:

A limited edition print is one in which a limit is placed on the number of impressions pulled in order to create a scarcity of the print. Limited editions are usually numbered and are often signed. Limited editions are a relatively recent development, dating from the late nineteenth century. Earlier prints were limited in the number of their impressions solely by market demand or by the maximum number that could be printed by the medium used. The inherent physical limitations of the print media and the relatively small size of the pre-twentieth century print market meant that non-limited edition prints from before the late nineteenth century were in fact quite limited in number even though not intentionally so. German printmaker Adam von Bartsch, in his 1821 *Anleitung zur Kupferstichkunde*, estimated the maximum number of quality impressions it was possible to pull using different print media.

**** It was century that tens of thousands of impressions could be pulled without a loss of quality. These technological developments led to the idea of making limited edition prints, by which printmakers created an appearance of rarity and individuality for multiple-impression art. Engraving: 500 (and about the same number of weaker images) Stipple: 500 (and about the same number of weaker images) Mezzotint: 300 to 400, though the quality suffers after the first 150 Aquatint: Less than 200 Wood block: Up to 10,000 only with the development of lithography and of steel-facing of metal plates in the nineteenth century.*

Matrix:

A matrix is an object upon which a design has been formed and which is then used to make an impression on a piece of paper, thus creating a print. A {wood} block, {metal} plate, or {lithographic} stone can be used as a matrix.

Mixed Method:

A mixed method print is one whose design is created on a single matrix using a variety of printmaking techniques, for example: line engraving, stipple, and etching.

Numbered Print:

A numbered print is one which is part of a limited edition and which has been numbered by hand. The numbering is usually in the form of x/y, where y stands for the total number of impressions in this edition and x represents the specific number of the print. The number of a print always indicates the order in which the prints were numbered, not necessarily the order in which the impressions were pulled. This, together with the fact that later impressions are sometime superior to earlier pulls, means that lower numbers do not generally indicate better quality impressions. As with signed prints, the numbering of prints is a development of the late nineteenth century.

Original Print:

An original print is one printed from a matrix on which the design was created by hand and issued as part of the original publishing venture or as part of a connected, subsequent publishing venture. For fine art prints the criteria used is more strict. A fine art print is original only if the artist both conceived and had a direct hand in the production of the print. An original print should be distinguished from a reproduction, which is produced photomechanically, and from a restrike, which is produced as part of a later, unconnected publishing venture.

Paper:

Laid paper is made by hand in a mold, where the wires used to support the paper pulp emboss their pattern into the paper. This pattern of closely spaced, crossing lines can be seen when the paper is held up to light. Laid paper often has a watermark. Wove paper is made by machine on a belt and lacks the laid lines. False laid lines can be added to machine-made paper. Though wove paper was invented in the eighteenth century and laid paper is still produced, the majority of prints made prior to 1800 are on laid paper and the majority of prints made subsequently are on wove paper. China paper is a very thin paper, originally made in China, which is used for chine appliqué prints.

Planographic:

A planographic print is one whose image is printed off a flat surface from a design drawn on a stone or plate using a grease crayon or with a greasy ink. In this type of print the printing ink is absorbed by the greasy design on the stone and is transferred to the paper under light pressure.

Plate:

A {metal} plate is a flat sheet of metal, usually copper, steel or zinc, used as a matrix for a print. Metal plates are used for intaglio prints and for some lithographs.

Platemark:

A platemark is the rectangular ridge created in the paper of a print by the edge of an intaglio plate. Unlike a relief or planographic print, an intaglio print is printed under considerable pressure, thus creating the platemark when the paper is forced together with the plate. Some reproductions have a false platemark.

Print:

A single print is a piece of paper upon which an image has been imprinted from a matrix. In a general sense, a print is the set of all the impressions made from the same matrix. By its nature, a print can have multiple impressions.

Proof:

A proof is an impression of a print pulled prior to the regular, published edition of the print. A trial or working proof is one taken before the design on the matrix is finished. These proofs are pulled so that the artist can see what work still needs to be done to the matrix. Once a printed image meets the artist's expectations, this becomes a bon à tirer ("good to pull") proof. This proof is often signed by the artist to indicate his approval and is used for comparison purposes by the printer. An artist's proof is an impression issued extra to the regular numbered edition and reserved for the artist's own use. Artist's proofs are usually signed and are sometimes marked "A.P.," "E.A." or "H.C." Commercial publishers found that there was a financial advantage to offering so-called "proofs" for sale and so developed other types of proofs to offer to collectors, generally at higher prices.

****Proof before letters (Avant les lettres): An impression pulled before the title is added below the image. Scratched letter proof: An impression in which the title is lightly etched below the image. Remarque proof: An impression pulled before the remarque is removed.*

Relief:

A relief print is one whose image is printed from a design raised on the surface of a block. In this type of print the ink lies on the top of the block and is transferred to the paper under light pressure.

Remarque:

A remarque is a small vignette image in the margin of a print, often related thematically to the main image. Originally remarques were scribbled sketches made in the margins of etchings so that the artist could test the plate, his needles, or the strength of the etching acid prior to working on the main image. These remarques were usually removed prior to the first publication of the print. During the etching revival, in the late nineteenth century, remarques became popular as an additional design element in prints and were also used in the creation of remarque proofs.

Reproduction:

A reproduction is a copy of an original print or other art work whose matrix design is transferred from the original by a photomechanical process. A facsimile is a reproduction done to the same scale and appearance as the original.

Restrike:

A restrike is a print produced from the matrix of an original print, but which was not printed as part of the original publishing venture or as part of a connected, subsequent publishing venture. A restrike is a later impression from an unrelated publishing project.

Signed:

A signed print is one signed, in pencil or ink, by the artist and/or engraver of the print. A print is said to be signed in the plate if the artist's signature is incorporated into the matrix and so appears as part of the printed image. Proof prints were originally signed as "proof" that the impression met the artist's expectation. Later proof prints were signed in order to add commercial value to these impressions. In the late nineteenth century, in response to the development of photomechanical reproduction techniques, fine arts prints were signed by the artists in order to distinguish between original prints and reproductions. Seymour Haden and James McNeil Whistler are usually credited with introducing this practice in the 1880s.

State:

A state of a print includes all the impressions pulled without any change being made to the matrix. A first state print is one of the first group of impressions pulled. Different states of a print can reflect intentional or accidental changes to the matrix. States of a print should be distinguished from editions of a print. There can be several editions of a print which are the same state, and there can be several states of a print in the same edition.

Stone:

A {lithographic} stone is a slab of stone, usually limestone, used as a matrix for a print. Lithographic stones are used to make lithographs and chromolithographs.

Vignette:

A vignette is an image that does not have a definite border around it. This term also applies to a small image that is part of a larger print.

Watermark:

A watermark is a design embossed into a piece of paper during its production and used for identification of the paper and papermaker. The watermark can be seen when the paper is held up to light.