**University of Maryland Baltimore County** 

# PRINT MEDIA STUDIO FANDBOOK & GUIDE

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PRINT MEDIA GLOSSARY

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.

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 DEPART-MENT 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 ESTAB- LISHING 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 APPROV-AL 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 lst 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 of solvent-resist 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 sesemster, it is encouraged that students work during those times. These hours will be posted outside the classroom each semester.

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 Departmet office phone.

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 extesion 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 fin- gers 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 substi- tute 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 possi- ble 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 peo- ple have become sensitized to latex. Discontinue using nitrite/ 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 shortterm exposures exceeding the TLV of a substance - if the proper NIOSH approved cartridge is in place.

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 contin- ue 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 bever- age 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 offhours. 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 vio- lating 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 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 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 cut- ting 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. All Art majors are required to have their own laptop to do most of the digital manipulation and creative decision-making. The Print lab computer is not for personal creative journeys. Print students must limit their time on the lab computer so all other students can get access time.

2. In addition to the required laptop student are required to have a flash drive to store their images as well as have backup of work on their Box and / or Google drive. Always back up your digital files, flash drives are temporary storage, external hard drives are suggested for a more long- term storage solution.

\*\* Box folder and a Google Drive Folder

Every UMBC student has a Box folder and a Google Drive Folder that These can be accessed from any where in the US.

They are allow Unlimited Quota backups.

#### This means there is NO excuse

for not having your digital material to work with.

3. Only students who have had a training session and are currently enrolled in a print media course have access to the print media computer.

4. Training sessions are arranged ahead of time with instructor.

5. Only the manager or the monitor will remove and install the ink cartridges.

6. 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!

7. 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.

8. 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. If you don't know if the transparency is the right one DON'T USE IT

9. 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.

## ALL PHOTOMECHANICAL PROCESSES (LITHO, INTAGLIO, RELIEF & SCREEN)

#### **CREATING YOUR IMAGE**

Images created on transparent or semi-transparent materials will work provided that the image is opaque enough to block the ultraviolet light that exposes the image to the plate. The following is a list of materials that can be used:.

#### Hand Drawn Images

Substrate: Matt Polyester Film (Frosted Mylar), Textured Polyester Film, or other Transparent or Translucent Film substrate.

Materials: Stabilo Pencils, Micron Pens, Technical Pens, Ebony Graphite Pencils, India Ink, Gouache, Acrylic Paint, Litho Crayons, Photocopier Toner.

#### **Digital / Photo Images**

Inkjet Transparencies, Laserprints on Frosted Mylar, Photocopies/ Laserprints oiled for translucency.

## Working with Laser Printers

Although limited in size, laser printers are excellent for creating films and separations to be used with a variety of printmaking processes. Laser printers create the illusion of a continuous tone image with varying sized halftone dots, measured in Lines Per Inch (LPI). By default most black & white laser printers will print images at a much higher LPI than can be used for hand printing. If the LPI is lowered it will be easier to maintain a balance between the amount of ink that is needed to print the photo litho plate, and the space around the dots that is needed to hold water and repel the ink. To adjust the LPI of an image you are printing to a laser printer, you will need to place or open your image into raster-based software that can allow for the LPI adjustment. Photoshop is generally the raster program of choice.

Photoshop allows control of halftone screening features of a laser printer and using the program's bitmap capabilities you can also use the diffusion dither capability to create a random dot for use with inkjet printers.

Another important program to use at times is a Vector based program like Illustrator.

Having an image in a vector program like Illustrator allows for extremely wide latitude in enlarging type and image with out any concern of the image pixelating or going soft and will allow you to print larger images by 'tiling' them to the printer, so they can be pieced back together and exposed to a photo litho plate.

# 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 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:

This particual exposure unit is a Flip Top Unit that has 2 (two) exposure sides to it. One side is a deepwell exsposure unit for Screen Printing and the other side is a shallow flat side for expose litho plate, intaglio and relief plates.

No matter which side you are using and for which material, you always need to warm up the unit first. The steps to doing this are the same.

- 1. With nothing in the unit. Turn on the exposure unit.
- 2. The Exposure Unit requires a 20 minute warmup.

#### Do not leave any light-sensitive material in the room during warm-up.

3. 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.

4. 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.

The Exposure Unit must be warmed-up before exposing screen. See Warming up the Exposure Unit.

Depending on which process and material you are working with will determin which exsposure side you are to use.

Ether side requiers the same attention and care.

Slowly lift the glass door to an open position. There should be a smalll wood stick near the exposing unit that you can use to hold up the glass door.

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. The transparency with image should always have it's emulsion side against the particular material you are working with..

In all cases the material must be put in first with it's emulsion side up and your transparency wih emulsion side down facing your material.

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 glass door to an open position. There should be a small wood stick near the exposing unit that youcan use to hold up the glass door.

11. Place your transp

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, develour 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 equip-

#### ment 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 Polymer Plates (whether for Intaglio or Relief) Always refer to the handout given to you by your instructor.

# RULES & GUIDELINES 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.

#### 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!

Using InDesign

Printing a film on a laser printer requires the use of software that allows you to manipulate your images and alter image tonal ranges and density. Your Photoshop file must be converted to Greyscale Mode (If you are printing color separations you will need a CMYK file, or a greyscale file with either Duotone settings applied, or one or more spot channels).

Settings adjusted in InDesign for printing halftones on laserprinters.

1. In InDesign create a new document that is the same size as the paper you will send through the laser printer.

2. Go to MB > File > Place... to select and place your image file in InDesign.

Once your image is positioned go to MB > File > Print.

4. Under Setup, select the Printer and Paper Size to match your paper and printer.

5. Under 'Output', switch 'Color:' to Separations. 'Flip' your image Horizontally so it will print reversed. Turn off the printer icon next to Cyan, Magenta, and Yellow, so only the Black (Greyscale) plate will print. Set the Frequency for the black plate to 75 lpi and the angle to 45°.

6. Click Print.

7. If you are printing a Duotone, spot channels or a CMYK color separation, the angles for each film are: Black/Darkest Color: 45°, Cyan/Next Lighter: 15°, Magenta/Next Lighter: 75°, Yellow/Lightest: 90°.

8. 75 lpi works well since it is easy to control when printing by hand, and still holds a great deal of detail and tonal information. Printing higher lpi images usually requires more skill and control. Usually, you wouldn't want to go above 95lpi unless you are working with very smooth and thin papers. 85 lpi works well with care and the texture of most printmaking papers.

9. It is also important that you keep your image files and InDesign files saved in the same folder, since InDesign only creates a link to the image that it accesses when printing.

# MAKING TRANSPARENCIES FROM LASER PRINTS AND PHOTOCOPIES ON PAPER

If you saturate your laser prints or photocopies with baby oil or mineral oil (unscented baby oil) they will be transparent enough to expose your plates. Soak a very small rag with the oil and work it into the back of the paper until it is evenly translucent. Wipe up all of the excess oil from the paper with a clean rag.

Placing the oiled print between newsprint for a few hours can blot the excess oil up.

## **ENHANCING TONER OPACITY**

The black areas of most laser prints and photocopies will often not be quite

dense enough to block out all UV light from the exposure unit and can create mottled areas rather than solids in your final prints. This can be fixed by spraying a coat of Krylon Matte Finish Spray onto your laser print or photocopy. It will cause the toner to swell, making a substantially denser image. Do this only with adequate ventilation.

# **WORKING WITH INKJET PRINTERS**

Inkjet printers create very fine photographic quality images, which can be challenging to print by hand, especially for less experienced printmakers. Inkjet printers do not produce images with halftone dots like laser printers, but instead use a random pattern or 'dither' of ink dots. Tonality is created through the frequency or density of the dots rather than the amplitude or size of the dot as with halftones.

Halftone films can be printed from an inkjet printer if RIP (raster image processor) software is purchased that can control the printer to produce this type of dot pattern and color separations.

Common settings for printing transparency film on an Epson inkjet printer.

Inkjet printers will also print grayscale images in color, unless you set them to do otherwise. If you set the printer to use only the black ink, the film will have dots that are more distinct.

With Epson Printers and Photoshop, you can turn off color printing by allowing the 'Printer to Manage Color' in the Photoshop print dialogue box under 'Color Management' and then switching to 'Ink: Black' in Print Settings by first switching to 'Epson Color Controls' under 'Color Matching'.

Printers that use pigmented inks for glossy photo papers produce the most opaque dots for film. The printer should be set to print at least 720dpi/Fine. Pictorico OHP Film (www.pictorico.com) is the best to use and a little more expensive than others, but there are many types of film available.

If you convert your image to a 240ppi bitmap (Image Mode > Bitmap > 240ppi Diffusion Dither) you will be able to produce a film with distinct dots that will be much easier to print.

Bitmaps with a resolution higher than 240ppi will often produce a moire on Epson printers, so print a test to check your results.

\*\*A bitmap file should automatically print with just black ink.

# **BITMAP IMAGE**

When printing on inkjet transparency film such as Pictorico OHP, you can convert your file to a bitmap to create larger and more distinct dots.

The larger dot size will make inking, sponging and printing the plate by hand easier. In Photoshop, set the bitmap resolution output to 240ppi and the method to diffusion dither. When you output the film to an Epson printer, set the print quality to 1440dpi and the media as Premium Glossy Photo Paper. The bitmap can create moires on the Epson printer so test first if you are working with a different bitmap output resolution. I selected 240ppi because it divides equally into the printer's resolution