Table of Contents

I. ABOUT THIS HANDBOOK ............................................................................................................. 1

II. STUDENT GUIDELINES FOR STUDIO USAGE ................................................................. 2

III. FIBERS STUDIO RULES ........................................................................................................... 3

IV. FIBERS SAFETY ............................................................................................................................ 4

   DISPOSAL ....................................................................................................................................... 5
   CLEAN UP ....................................................................................................................................... 5
   HELPFUL INFORMATION ............................................................................................................... 5
   Wax ............................................................................................................................................... 5
   Material Safety Data Sheets ........................................................................................................... 5

V. STUDIO DESCRIPTIONS AND PHOTOS ..................................................................................... 6

   ROOM 1076: WEAVING STUDIO: ................................................................................................. 6
   ROOM 1068/1067 GENERAL WORK STUDIO: .............................................................................. 8
   Room 1075B/ Sewing Room ......................................................................................................... 9

VI. MISCELLANEOUS INSTRUCTIONS ..................................................................................... 11

   A. DYEING .................................................................................................................................... 11
      1. Immersion Dyeing ................................................................................................................... 11
      2. Acid Dyeing ............................................................................................................................ 12
   B. SEWING ................................................................................................................................... 13
      1. Inserting A Bobbin ................................................................................................................... 13
      2. Winding A Bobbin .................................................................................................................... 15
      4. Threading A Machine .............................................................................................................. 19

VII. RESOURCES .............................................................................................................................. 20

   1. FABRICS ................................................................................................................................... 20
   2. DYESTUFFS AND FABRIC PAINTS ......................................................................................... 20
   3. WEAVING SUPPLIES ............................................................................................................... 20
   4. SILK PAINTING ......................................................................................................................... 20
   5. PHOTO SCREENS ..................................................................................................................... 20
   6. FOILS ....................................................................................................................................... 20
   7. FOIL ADHESIVE ........................................................................................................................ 20

VIII. SEWING TASK COMPLETION LIST .................................................................................. 21

IX. MONITOR CHECKLIST ........................................................................................................... 22

X. FIBERS STUDIO AFTER-HOURS ACCESS AGREEMENT .................................................... 23

XI. PROJECT PROPOSAL FOR STUDIO ACCESS ..................................................................... 25
[Ok, so here's another page that,
even though it has nothing on it,
it has something on it. These things happen ...]
I. About This Handbook

- This handbook is intended for use in conjunction with University of Michigan CourseTools pages developed for particular courses which use the Fibers Studio. Please refer to the appropriate CourseTools pages within the CourseTools site (http://coursetools.ummu.umich.edu) for specific information for a given course.

- This handbook is not intended to be a "catch-all" and will not be applicable to any-and-all circumstances. Please discuss specific circumstances with those involved.

- Electronic versions of this handbook are located online at http://art-design.umich.edu.

- This handbook is written and maintained by Nancy Thorson, Fibers Studio Coordinator at the School of Art & Design, University of Michigan, Ann Arbor. Please send any suggestions or comments regarding this handbook or its contents to nthorson@umich.edu.
II. **Student Guidelines for Studio Usage**

1. Regular class schedule and timings for each studio are posted outside each studio.

2. Student studio monitors may be chosen/assigned by studio coordinators for after hours monitoring on an “as needed” basis for each academic term.

3. After hours access to studios to individual students will be granted on a case-by-case basis. This will only occur after a student enrolled in a course held within a specific Studio, or an Art & Design student who attended a previously-held Studio course, signs and returns the Fibers Studio After-Hours Access Agreement found at the end of this handbook. This signature page must also include the instructor’s signature.

4. Access will not be granted to students who have not attended a course at the School of Art & Design, nor to non-majors who are not currently enrolled in an A&D course.

5. Access permission to individual students to the specific studios will be at the discretion of the individual studio coordinators in charge.

6. Access will be granted only for specific academic terms or, in the case of courses with durations different from an academic term, the length of the course. (Example: TMP Fibers courses lasting 7 weeks vs. a full 14-week course.)

7. Students who are granted access to specific studios cannot bring in other unauthorized students/acquaintances into those studios at any time.

8. Authorized students need to go through an orientation regarding access, safety, security and individual studio maintenance and supplies usage policies/practices.

9. Students involved with any project must clean up after themselves at the end of each day.

10. Studio coordinators can revoke access to any individual student found to be not in compliance with access, security and maintenance requirements of specific studio policies/practices and will notify the Director of Finance & Facilities and the Associate Dean for Academic Affairs.

11. Emergency/non-emergency contact numbers are posted in the studio:
   - Police/Ambulance/Fire (emergency help) - 911
   - Department of Public Safety (non-emergency help) – 763-1131
   - Occupational Safety and Environmental Health - 647-1143
   - Facilities Supervisor – 763-3132
   - Custodial Supervisor – 763-3132 (4 PM till 10 PM)
III. Fibers Studio Rules

Studios are open during class times (posted on the doors) Monday through Thursday, all other hours available upon approval.

The Studio Coordinator Monday, Tuesday, Wednesday, Thursday and Friday 8:30 am to 4:30 pm. Office is 1075C (Past the phone across from the metals studio. Purchase supplies during class times.

Studio Conduct: Everyone here has the right to work in a clean and well-maintained studio space. This will only happen if you take care of yourself and your own mess. The Custodial staff does NOT sweep the studios daily so you are provided with the equipment to do that yourself. The Studio Coordinator is not here to clean up after you and hope to not have to remind you frequently to clean up after yourself. One or two students per class session will be assigned to monitor the clean up at the end of class. You will all have more then one chance for this duty. You are still expected to clean up after yourself but the monitor will be responsible in the event that you don’t clean up fully so be nice and take care of yourself. If you constantly skip out on your monitoring duties your grades may be affected.

Lab Fees: Your lab fee provides you with 3.5 yards of cotton fabric (TMP), fabric dyes, butcher paper, thread and other assorted miscellaneous supplies. Once you determine what your final project will be you will need to buy additional materials. If you need more than 6 yards of something, you will need to order that yourself. The Studio Coordinator has a suppliers list or you may shop at local stores. Any supplies purchased from the studio will be done at the cashier’s office with a lab fee form. You will need to bring the pink copy of the form to me showing you have paid prior to getting your supplies. Please put your names on everything and keep your supplies in your lockers.

If you use a drop cloth you will need to give me a deposit of $25 cash and when you return the drop cloth washed you will get your deposit back.

Lockers: Lockers are available for you to use free of charge. You can get a lock from the print and copy shop. The studios are too crowded to keep your coats in class and your bags and purses are at risk if left out so please use a locker.

Communicate! Leave notes on everything with day and time left and day and time you will return. Forms are provided. Do not leave your projects or supplies out in the studios when you are not here. There are approximately 70 enrolled students using these studios not to mention others not enrolled in fibers classes. Valuable supplies can disappear.
IV. Fibers Safety

General studio safety includes using your key card for entry and keeping the doors closed after hours so no unauthorized people may enter uninvited. Call the posted public safety numbers in case of emergency or for escort to your cars after hours.

Most of the studio safety is aimed at the dye studio/print room as this is where the chemicals are used.

The substances used in the studios are considered relatively non-toxic, but it is best to avoid unnecessary exposure. Keep in mind that they are industrial chemicals and not intended for inhalation or ingestion. Safety precautions and proper use of safety equipment, clean work habits and responsible use of substances is encouraged. All artists should always use the following common sense safeguards:

1. Do not eat, drink, or smoke in areas where dyes and chemicals are used.
2. Work in a well-ventilated area.
3. If you experience an adverse symptom to anything, move away from the area to fresh air. If the symptoms persist, stop using the substance & consult your instructor or go to your physician.
4. Even though dyes are not absorbed by the skin they do discolor the skin. You should always wear rubber gloves, old clothes or protective clothing, and even old shoes.
5. Wear goggles when working with corrosive chemicals such as acetic acid and lye (you only have one set of eyes).
6. Contact lens wearers should be careful around powders to avoid eye irritation.
7. Cover your work area with dampened newspaper. We mix the dyes for you but if you ever have to mix your own dyes from powder, weigh and mix dyes and other powders with local exhaust ventilation or use a mixing box.
8. Wear a disposable dust/mist respirator if you mix dyes occasionally. If you mix dyes on a regular basis wear a MSHA/NIOSH approved respirator with cartridges for dusts, mists, and fumes. Disposable dust/mist respirators don't help with fumes.
9. Use appropriate utensils to stir solutions and dye baths. If you use food utensils as dyeing tools don't reuse them for food preparation.
10. Avoid exposure to dye powders, auxiliary chemicals and vapors during pregnancy or lactation.
11. Avoid prolonged or repeated contact with the skin.
12. Mop up wet dyes from floors and surfaces, do not sweep. Wipe up spills immediately. Liquid dye dried to a powder can be accidentally inhaled or ingested.
13. Keep mixed dyes in the refrigerator and auxiliary containers closed and in a cool dry place, when not in use.
14. Label containers with your name, content and date mixed so they can be disposed of in a timely manner.
15. Clearly label all solutions and containers of powder. Do not remove the supplier's name or hazard warning labels.
16. Always add acid to water.
17. Always add Lye to cold water.

**Disposal**
Quantities of dyes and auxiliary chemicals used in the school studios do not exceed limits set for disposal in municipal systems. The amount of rinse water used for a normal dye bath is sufficient to dilute your dye bath for disposal purposes. Therefore, waste water disposal should not be a problem.

**Clean Up**
Clean up work area with damp sponge and towels. Remove dye stains with a household cleaner containing bleach. Do not use bleach to remove dye stains from hands. Instead use a specifically designed hand cleaner - ReduRan. While hands are dry, rub a small amount of hand cleaner on hands and work in well. Add a small amount of water and work until dye residue is loosened. Wash off thoroughly with soap and water and dry hands. Repeat as necessary.

**Helpful Information**

**Wax**
Waxes pose a specific set of safety concerns. Read and follow the guidelines below before batiking with hot wax.

1. Always use proper ventilation in your work area. Create a local exhaust system by putting a portable fan in your area, so it disperses the air.
2. Heated wax releases irritating chemicals including acrolein and aldehydes. There is no approved MSHA/NIOSH filter for acrolein. A respirator is not a substitute for good ventilation
3. Heat wax to the lowest temperature at which it remains liquid.
4. Hot wax is a fire hazard. Do not leave it unattended.
5. Wax forms potentially hazardous vapors at high temperatures and may ignite. Do not use open flames, such as a gas or propane burner, to heat wax. Instead use a crock pot or electric fry pan with a temperature control.

**Material Safety Data Sheets**
We have a notebook with MSDS (Material Safety Data Sheet) on all our substances. This information sheet details precautions, potential health hazards, and clean up information for industrial applications. This notebook is kept in the Studio Coordinator's office (1057C).
V. Studio Descriptions and Photos

Fibers Department is made up of the following:

**Room 1076: WEAVING STUDIO:**
This is a fully equipped studio including 12 - 48 inch Macomber add-a-harness looms, 10-22 inch Macomber workshop looms and 1-24 harness AVL computerized loom.
Other supplies include ball winders, skein winders, warp winders, many miscellaneous weaving tools and a variety of yarns available for project experiments.

**Room 1068/1067 GENERAL WORK STUDIO:**
This multipurpose room consists of a wet area (room 1067), work area (room 1068) and a separate area for tracing and making photo-screens.

The wet area has a large double sink area good for rinsing large objects, and 4 additional oversized sinks. There are two stovetops with 4 burners for boiling water, discharging (removing color) fabric, and boiling acid dyes. There are large wet storage shelves and containers, pots, and miscellaneous utensils need for any wet procedure. It also has a large drying area for hanging wet fabrics.

The work area has 5 large tables for design, screen-printing and general use.

The dark area has a dark cabinet for drying photo screens and light tables for tracing. An enlarging projector allows for things to be projected on the walls for tracing.
**Room 1075B/ Sewing Room**

This is a fully equipped room with a large table work area. It has 16 Pfaff sewing machines, model 1530 and 2 Pfaff digital sewing machines model 2034 that allow for more intricate sewing. We also have 2 industrial machines for heavy-duty sewing. Most other supplies needed for sewing are available.
VI. Miscellaneous Instructions

A. Dyeing

1. Immersion Dyeing

Dyeing with Procion MX Dyes

(for cellulose fibers- cotton, linen, ramie, jute, sisal, rayon. Will also work on silk.)

These dyes are of the class called fiber reactive. (Common name = cold water dyes) Unlike all the other classes of dyes, they do not have to be boiled to work. In fact, boiling wrecks them. They should be used in quite warm but not hot water, and only work in an alkaline environment, in our case provided by dissolved soda ash. They cannot be used in reactive metal containers, but only in glass, plastic or stainless steel.

In order to take the dye, your cloth or yarn has to be warm and wet in the dye for some length of time. There are at least two procedures:

**Immersion dyeing procedure:**
Use a plastic bucket or other suitable container large enough that your materials will not be crowded.

1. Soak your materials in very warm water.
2. Make up dye bath using very warm water, dye and salt. (Salt = 1/10 weight of materials) Try not to use more dye than necessary, as materials will be harder to rinse or turn too dark in the time they must remain immersed. This precaution also helps to avoid the wasting of the dye and unnecessary contamination of the environment.
3. Dissolve 1/4-cup soda per bucket of dye in hot tap water and let cool.
4. Add materials to dye bath and stir constantly for ten minutes to make the dye take evenly.
5. Remove materials from dye, add soda and stir. Return materials to dye and stir occasionally for 30 to 60 minutes.
6. Remove materials from dye bath when they are slightly darker than desired.
7. Rinse with cold water to stop the dye process. Rinse with hot water until the water runs clear. It is helpful to soak the materials in a bucket of hot water and detergent during this process.
8. Let dry.

**Low water immersion dyeing procedure:**

This process should be used when evenness of dye is not needed. (Example- shibori dyeing, painting warps and space dyed skeins)
1. Soak materials in hot water.
2. Add an inch or two of water to the bottom of a smaller container. Add dye and dissolved soda ash to container. If you are painting with dye or pouring dye on, mix it with dissolved soda ash in small quantities before use. The soda ash effect starts to lessen in 20 minutes. The dye should be stronger than the previous process requires.
3. Put materials into dye. You can cram the materials into a small space; pour other colors in if lots of color variation is desired. Leave materials in dye for at least 15 minutes.
4. Remove the materials and prepare to set dye.

Now the dye has to be set

For this process there are two options:
*Cold batch*- Put material in a plastic bag in a warm place overnight
*Microwave*- this technique only works if there is no metal present. Put materials in a plastic container; place in microwave along with a cup with water in it. Cook for 1 1/2 minutes. Let stand a couple of minutes and repeat.

Setting in the steamer is an alternative for materials that have been dyed.

In any of these processes, now rinse out all of the excess dye (similar to immersion process).

2. **Acid Dyeing**
(for protein fibers: silk, wool, mohair, etc… all animal products) Nylon can also be dyed in this way.

These dyes must be used hot, at or near a boil. They work only in an acidic environment. We will use vinegar. These dyes will be in powdered form, you must take care that they not become airborne, that containers are kept covered.

Procedure:

1. Soak materials in hot water. Longer is better.
2. Fill dye pot with hot water and put on stove to heat. You need plenty of water so that your materials move around freely.
3. Add 1/4 cup salt and 1/4 cup vinegar to the pot on the stove.
4. Mix dye powder with enough hot water to make a paste and add to pot. Be economical, you can always mix more dye and add it. If you manage to dye to exhaustion, that is to use up all of the dye in the pot, your materials will be easy to rinse, less dye will enter the environment, and you will save money.
5. When water is nearly at a boil, add materials. Stir often to rearrange materials. Cook at a boil or just below until desired depth of shade is reached. It will dry lighter, so dye darker. If more dye is needed, remove materials before adding dye. Stir and return materials.

6. Rinse materials in hot water until they rinse clear. Do not handle too much or felting may result.

B. Sewing

1. Inserting A Bobbin

Bobbin Case/ Hook Cover

Hold the side of the bobbin case/Hook cover and open it towards you.
Removing the bobbin case

Raise the bobbin case lever and pull the case towards you. Release the lever and remove the bobbin.

Thread Tension

Checking the bobbin tension

Hold the bobbin case by the thread and pull the thread upwards. The thread should move smoothly.
2. Winding A Bobbin
**Winding the bobbin from the spool holder**
Place the sewing thread on the spool holder. To guarantee free movement of the thread and to give additional hold to the thread spool, fit a spool cap corresponding to the size of the thread spool.

**Threading**
Place the thread into guide A and pull it through opening B and to the right under the hook D. Wind the thread clockwise a few times around the bobbin.

Slide the bobbin to the right against the guide.
Switch on the main Switch

Turn the handwheel release disk fully toward you to disengage the needle

Hold the end of the thread firmly and press the foot control. The winding action should stop automatically as soon as the bobbin is full. Cut the thread and push the bobbin to the left and remove it.

Don’t forget to turn the handwheel release disk fully away from you. Then turn the handwheel towards you until it snaps into place

*Preparing the machine for bobbin winding*

Hold the handwheel firmly and turn the handwheel release disc toward you until it stops. This stops the needle from moving while the machine is winding the bobbin.
Placing the Bobbin

Place the empty bobbin so that the black pin of the bobbin winder fits into the slot on the bottom of the bobbin.

Push the bobbin to the right. DO NOT MOVE THE GUIDE ARM.
4. Threading A Machine

Operate your Pfaff select

Threading the needle thread
Switch off the main switch

Raise the presser foot lifter (19) and turn the handwheel until the take-up lever (9) has moved to the top. Place the thread on the spool holder (8) and fit the corresponding spool cap.

Now, using both hands, pull the thread into guide A and under thread guide hook D. Pass the thread through the lefthand threading slot (11) and downwards. Pull the thread around stop E into the righthand threading slot and upwards to the take-up lever (9).

The thread must be pulled into the take up lever (9) from left to right and downwards again in the righthand threading slot. Finally, pass the thread from the side behind one of the two thread guides (25).

To thread the needle, place the thread from front to back through the needle eye.
VII. Resources

1. Fabrics
   • "Testfabrics, Inc"  www.testfabrics.com  570-603-0432
   • Thai Silk  www.thaisilks.com  650-948-8611
   • Exotic silks (large amounts)  www.exoticsilks.com  800-722-7455
   • Rupert Gibbon & Spider  www.jacquardproducts.com  800-442-0455
     or  www.silkconnection.com  $20 minimum credit card order
   • Wimpfheimer Velvet  www.wimpvel.com  800-223-7228
   • The Prairie Fibers Company  www.prairiefibers.com  515-232-0912

2. Dyes and fabric paints
   • Pro chemical & Dye  www.prochemical.com  1-800-228-9393  1-800-2-buy-dye
   • Dharma Trading Co  www.dharmatading.com  1-800-542-5227

3. Weaving supplies
   • Forma  Whitmore Lake, Michigan  734-761-1102

4. Silk painting
   • Dharma Trading Co  www.dharmatading.com  1-800-542-5227
   • Pro chemical & Dye  www.prochemical.com  1-800-228-9393  1-800-2-buy-dye

5. Photo screens
   • Dick Blick  www.dickblick.com  1-800-828-4548
   • Speedball Art Products  www.speedballart.com  1-800-898-7224

6. Foils
   • Screen-Trans Development Corp  1-201-933-7800

7. Foil adhesive
   • Itsastudio  www.itsastudio.com
VIII. Sewing Task Completion List

Task Completion list for after hours studio access: Sewing Room:

- Wind bobbin
- Thread machine
- Bring bobbin thread up from the bottom
- Change the needle
- Fix the bobbin case (Unbend the points/checking for thread down center of the bobbin)

Other helpful tips:

- Thread cutter
- Feed dogs
- Walking foot
- Check dials (upper thread tension/Letter)
- Loop of bobbin thread
IX. Monitor Checklist

Start about 15 to 30 minutes before closing.

Sewing room:
- Machines off?
- Tables cleaned off?
- Around machines?
- Floor swept?

Print room/Wet room
- **Stoves turned off?**
- Light above stove turned off?
- Buckets put away?
- Area around sink:
  - Small Containers put away?
  - Spoons and utensils put away?
  - Sink drains free of string?
  - Scraps picked up off of table and floor?

Refrigerator door wiped off?

Studio closing: All students without keycard access must leave.

All Students with keycard access must swipe their cards.
X. Fibers Studio After-Hours Access Agreement

General Guidelines:

- All Students must be approved for access at other than scheduled course meeting times.
- Only the Studio Coordinator may approve after hours access.
- Training for safety, security, studio maintenance, supply usage, and the operation of studio equipment must be completed.
- Unauthorized students or acquaintances are not allowed in the studio without first requesting special permission from the studio coordinator.
- Alcohol and illegal drugs are prohibited in the studios.
- Residue from work must be cleaned up before leaving the studios. If you do not speak up when another student is leaving and remind them of their mess it now becomes your mess.
- Studio Coordinators may revoke access for non-compliance with these guidelines.
- Misconduct in one fibers studio may cause your privileges to be revoked in all fibers studios.
- Tampering with any locking mechanisms or monitoring devices will result in immediate disciplinary action.

My signature indicates that I have read and agree to the above guidelines:

Access granted to circled room numbers: 1068 1072 1075 B

_________________________________ _________________________________
Fibers Studio Student User, printed name  Fibers Course Instructor, printed name

_________________________________ _________________________________
Fibers Studio Student User, signature*  Studio Coordinator, signature**

Date Signed  Date Signed

______________  Student Level:  Course Type:  Course Length:
UMID  ___ Graduate  ___ TMP  ___ 7 Weeks
   ___ Undergraduate  ___ Non-TMP  ___ 14 Weeks

* Once you have completed as much of this form as completely as possible, submit it to the Studio Coordinator to officially request Mcard access to the Fibers Studios.
** This form can only be submitted by the Studio Coordinator.
XI. Project Proposal for Studio Access

Application to Studio # ________________________________

Name ________________________________

UMID # ________________________________

Class ________________________________

Instructor ________________________________

Project Duration (1/4, 1/2, Full semester) ________________________________

Final Completion Date ________________________________

Project Description (Consider Size, Material, Construction Method):

Materials Needed: