Letterpress Laboratory Manual & Safety Plan

Texas Tech University

last updated 3/14/14

Table of Contents

Introduction to the Letterpress Laboratory (LPL)

What is the LPL?

The Letterpress Laboratory dedicated to teaching students about textual production during the handpress period. It is used primarily for curricular and extracurricular activities involving students, faculty, and members of the community, including demonstrations and hands-on exercises involving typesetting and printing.

Students and faculty involved with and using the laboratory are primarily those associated with the English Department's specialization in Book History, an area focused on the study of the production of books and relationship between a book's material context and its text.

Who contributes materials to the LPL?

The Letterpress Laboratory exists because of the generosity of several donors. In 2011, it received several type and galley cases, as well as founts of type and blocks from a local business card company that printed business cards using handpress methods. This donation permitted the LPL to begin offering training, outside of the classroom, to volunteers who wished to learn the processes and procedures used in handpress printing. The English Department then purchased a nineteenth-century Washington Roe-style iron handpress for the LPL. The addition of this handpress greatly expanded the roles of students and faculty in the learning of printing in a handpress studio. The LPL continues to receive and accept donations from members of the Texas Tech and local communities.

LPL Director

All queries should be directed to

Dr. Miles Kimball, Director
Letterpress Laboratory
miles.kimball@ttu.edu
806.834.6090 (o)
806.239.2488 (c)

LPL Committee

Dr. Ann R. Hawkins
Dr. Curtis Bauer
Dr. Jennifer Snead
Dirk Fowler

LPL Apprenticeship Program

The apprenticeship program provides participants with a knowledge of handpress printing procedures and processes. Participants must meet progress through the curriculum requirements to gain privileges in the laboratory, as specified below. **Note: The "Starter" level indicates requirements to be completed before a participant can do ANY work in the lab.**

Training requirements to proceed to next stage	Starter	Devil	Monkey	Bear	Printer
TTU Chemical Hygiene Plan Training	•	•	•	•	•
TTU Hazard Communication Training	•	•	•	•	•
TTU Safety Awareness Training	•	•	•	•	•
TTU Lab Safety Training	•	•	•	•	•
LPL Lab Safety Quiz	•	•	•	•	•
Quiz 1, Orientation	•	•	•	•	•
Quiz 3, Distribution		•	•	•	•
Quiz 4, Basic Printing		•	•	•	•
Quiz 5, Typography			•	•	•
Quiz 6, Composition		`	•	•	•
Quiz 7, Imposition				•	•
Quiz 8, Paper				•	•
Quiz 9, Intermediate Printing					•
Quiz 10, Advanced Printing					•
Portfolio and Jury					•
Time requirements to proceed to next stage					
*to maintain privileges)		20	40	60	5/sem*
Privileges during each stage					
Distribute type		•	•	•	•
Handle paper at press		•	•	•	•
Ink type		•	•	•	•
Clean up ink		•	•	•	•
Compose			•	•	•
Impose				•	•
Design				•	•
Makeready				•	•
Presswork				•	•
Press maintenance					•
Give tours and demonstrations					•
Supervise apprentices					•
Work without supervision in the LPL					•

Letterpress Lab Safety Plan

The purpose of this plan is to ensure the safety of all personnel and students who work in the LPL. While the LPL is not particularly dangerous as labs go, we do use small amounts of some hazardous chemicals, heavy equipment, and sharp knives. This plan will help you understand how to keep yourself and others safe in the lab.

These Laboratory Safety Plan extends, but does not supersede, the Departmental Hazard Communication Program or the TTU Chemical Hygiene Plan.

Definitions

Employee	Any person (student, faculty, or staff) employed by Texas Tech.
Hazardous materials	Chemicals or other materials that pose a threat to the health or safety of people in the lab.
Hazardous waste	Hazardous materials that need to be disposed, or materials that have come in contact with hazardous materials, such as rags and paper towels used for cleaning up ink.
Lab Safety Captain	A lab worker or supervisor designated to be in charge of safety issues. Each lab on campus must have a LSC.
MSDS	A Material Safety Data Sheet documents material hazards and details about exposure, handling, PPE, spill containment, and proper disposal.
Personal Protective Equipment	In the LPL, PPE includes gloves, safety glasses, and aprons.
Student	Any person enrolled in a course at the university.
TTU CHP	Texas Tech University's Chemical Hygiene Plan
Visitor	Any person who enters the lab briefly for the purpose of observation.
Working in the lab	Any involvement in setting or distributing type, operating a press, or cleaning up after printing – in short, anything that involves contact with hazardous materials (chemical or physical).

Training Requirements

All people who work in the LPL must receive Laboratory Safety Training as specified in the LPL Apprenticeship Program table on page 5.

University Training

Any person who will work in the lab must receive online or face-to-face training through TTU Environmental Health and Safety (EHS; see TTU OHP 13.2.1). Specifically, you must complete the EHS training specified for Art Studio Personnel (see www.depts.ttu.edu/ehs/Web/TrainModDesc.aspx), including the following:

- Chemical Hygiene Plan
- Hazard Communication
- Laboratory Safety Training
- Safety Awareness Training

Departmental Training

In addition, all who will work in the lab must receive departmental training initially and annually (see TTU CHP 13.2). The training must include at least the following:

- How to detect the presence or release of a hazardous chemical.
- How to access and read MSDS's for chemicals in the lab.
- What precautions to take for handling physical hazards, including storage, Personal Protective Equipment (PPE), and waste management.
- What to do in case of spills.

Lab Training

All who work in the lab will demonstrate their knowledge of lab safety procedures and information annually by passing a test based on the information in this document.

Training Documentation

Each person working in the LPL is responsible for providing documentation of training, including the appropriate certificates from EHS. No person may work in the LPL without documentation of university, departmental, and lab training.

The Lab Director or his or her designate will maintain records of training.

Visits and Demonstrations

Only certified printers (see LPL Apprenticeship Program, p. 5), the LPL Director, or members of the LPL Committee may conduct tours and observations for visitors.

Visitors to the lab must wear PPE when chemicals (ink or solvents) are out of storage. Visitors must receive training in physical hazards in the laboratory as follows:

1. Before the visitors enter the lab, give a safety briefing outlining health hazards in the lab (chemical and physical), the availability of PPE, and spill procedures.
2. Give each visitor two copies of the safety briefing handout: one to sign and return, and one to keep.
3. Put the signed copies in the appropriate folder by the door.

Visitors may not handle chemicals (including ink), although they may participate in basic procedures such as typesetting and pulling the press.

Visitors must comply with all of the policies in this plan, the Departmental Hazard Communication Program, and the TTU Chemical Hygiene Plan.

Minor Visitors & Apprentices

Minors 13 years of age or younger are not allowed in the LPL except for observations approved in writing by the Lab Director, the Associate Vice President for Research (Research Integrity), and EHS. (See TTU Chemical Hygiene Plan section .8)

Minors 14–18 years of age may participate in basic work in the LPL up to the Devil apprenticeship level with the approval and supervision of the Lab Director or designated personnel. Basic work includes setting type, distributing type, and pulling press. Like any other visitors, minors may not handle chemicals (including ink).

Personal Protective Equipment (PPE)

Every person in the lab must wear closed-toed shoes, and they must not have any exposed skin below the waist.

The Letterpress Lab provides latex and nitrile gloves, safety glasses, and aprons. **Everyone in the lab** must wear gloves and glasses whenever hazardous materials are out of the yellow HazMat storage cabinet.

> Every person in the lab must wear PPE when ink or solvents are out of the HazMat cabinet.

- Gloves and safety glasses are in the wire baskets beside the door.
- Aprons are on the rack to the left as you enter the lab.
- If you will be using mineral spirits (typically for cleaning ink), **wear latex (white) gloves**.
- If you have an allergy to latex, you can wear nitrile (blue) gloves. But limit exposure to no more than 5 minutes (nitrile breaks down in mineral spirits).

Hazardous Materials in the LPL

Material Safety Data Sheets for all of the materials mentioned in this section are available in the MSDS binder on the shelves by the door to the lab.

Return all hazardous materials containers to the yellow HazMat cabinet when they're not in use.

The Letterpress Lab uses three primary hazardous materials: odorless mineral spirits, naptha, and lithographic ink.

Odorless mineral spirits

This liquid is used primarily for cleaning ink from type and the inking table. It is a highly volatile organic compound (VOC) and should be used sparingly and with good ventilation. It comes in a gallon-sized tin can.

Naphtha

This liquid is used primarily for cleaning the residue of mineral spirits from type and the inking table. It is a highly volatile organic compound (VOC) and should be used sparingly and with good ventilation. It comes in a quart-sized tin can.

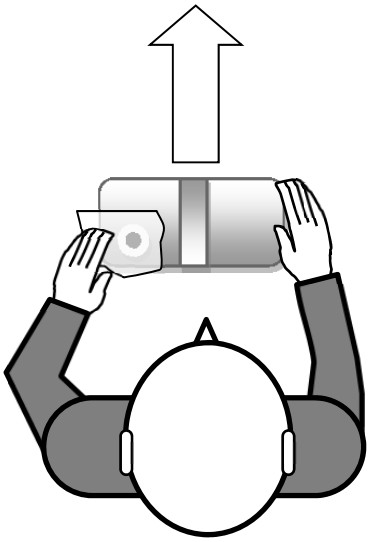
Lithographic and letterpress ink

Ink is not particularly volatile, but it is an oil-based material that should be handled carefully.

Procedure for cleaning type and presses

Prepare for cleaning.

1. Before getting the chemicals out of the yellow HazMat cabinet, ask ***everyone in the room*** to put on aprons, safety glasses, and latex gloves. Everyone includes visitors and observers.
2. Open the door for ventilation.
3. Collect the following materials:
   - Paper towels or rags (referred to as “rags” in this procedure)
   - Mineral spirits
   - Naphtha



Pouring mineral spirits from a can, viewed from above. Put a folded rag or paper towel over the mouth of the can. Tilt the can away from yourself to moisten the rag or towel.

Moisten a rag with mineral spirits.

1. Carefully open the can of mineral spirits.
2. Hold a folded rag completely over the mouth of the can.
3. Hold the can with the mouth on the side close to you.
4. Gently and briefly tip the can away from you until a little of the liquid gets on the rag. You won’t need much.
5. Immediately put the lid back on the can and screw it down completely.

Clean the type with mineral spirits.

1. Use the rag or paper towel to wipe the ink from the type. Don't scrub.
2. Put the used towel or rag in the red HazWaste bucket.

Clean the inking table with mineral spirits.

1. Get a fresh paper towel or rag and wet it with a little mineral spirits as described above.
2. Wipe down the inking table with the towel or rag. It may take several towels or rags to clean the table fully.
3. Put the used towels or rags in the red HazWaste bucket.

Clean the mineral spirit residue with naphtha.

1. Carefully open the can of naphtha.
2. Hold a fresh rag or paper towel completely over the mouth of the can.
3. Briefly tip the can until a little of the liquid gets on the rag or paper towel. You'll need even less naphtha than you did mineral spirits.
4. Gently wipe the mineral spirits residue from the type. Don't scrub.
5. Wipe down the ink table.
6. Put the used towel or rag in the red HazWaste bucket.

Clean up.

1. Return the mineral spirits and naphtha to the yellow HazMat cabinet.
2. Take off your gloves and put them in the red HazWaste bucket.
3. Wash your hands.

Handling Hazardous Waste

Hazardous waste generated by the lab will be mostly rags and paper towels with solvent and ink on them. We need to dispose of these waste materials properly and safely.

- Wear PPE before handling any hazardous waste.
- Wash your hands after handling any hazardous waste. Use Gojo hand cleaner, soap, and water.

Solid hazardous waste

- Place all solid hazardous waste in the red HazWaste bucket by the door. Make sure the lid to the bucket closes completely.
- When the bucket comes close to being full, fill out the pickup form at http://www.depts.ttu.edu/ehs/Web/HWDRequestForm.aspx
- Do not place hazardous waste in the regular trash.

Liquid hazardous waste

We don't anticipate that the LPL will generate much liquid waste. But if some mineral spirits or naptha needs to be disposed of in liquid form (as opposed to on rags or paper towels), pour it into the brown, glass, gallon-sized container labeled for that purpose.

Immediately fill out this form to request pick up:
http://www.depts.ttu.edu/ehs/Web/HWDRequestForm.aspx

Do not wait for the container to be filled before requesting pick up.

Handwashing

Wash your hands thoroughly after handling anything in the lab, including ink, type, furniture, and solvents. Use the sink in the lab. Using the bathroom down the hall spreads hazardous chemicals.

Cleaning, Trash, and Other Housekeeping

The custodial staff does not have the training to enter the lab, so they will not empty the trash or sweep the floor.

- Check to make sure there are no solvent-soaked rags or paper towels in the trash. If you find some, put on gloves and place the hazardous waste in the red HazWaste bucket.
- Take out the trash when the waste paper basket is full. You can put waste paper in the trash cans in the hallway, or take it down to the dumpster in the English/Philosophy parking lot.
- Sweep the floor regularly.
- Clean off the countertops regularly.

Responding to Spills

If anyone in the lab spills any hazardous materials, follow this procedure.

1. Immediately ask all visitors, students, and non-essential personnel to leave the room.
2. Determine the size of spill:
   - **For small spills** (under about 4 liters), use paper towels to clean up. Dispose of the paper towels in the red HazWaste bucket and fill out the request form for pick up: http://www.depts.ttu.edu/ehs/Web/HWDRequestForm.aspx
   - **For large spills** (4 liters or more), contact EHS immediately (Day: 806.742.3876; Night: 806.742.3328). We shouldn't have any large spills, because the total amount of chemicals in the lab is typically well under 4 liters.
3. Regardless of the size of spill, contact the Lab Safety Captain as soon as possible at 806.239.2488 to report the spill.

Responding to Accidents

1. Perform first aid as necessary.
   - The first aid kit is located in the shelves to the right of the door as you enter the lab.
   - For eye accidents, use the eyewash attachment on the sink.
2. If the accident requires medical attention, immediately call the campus police at 9-911.
3. Contact the Lab Safety Captain at 806.239.2488

For actual incidents involving injury, fill out an **Incident Report Form**. For a near miss or potential hazard, fill out a **Near Miss Form**. See www.depts.ttu.edu/ehs/Web/IncidentReports.aspx for more details.

Handling Type

Type is made from an alloy of lead, tin, and antimony. Lead is highly toxic if ingested. Follow these practices while handling type:

- Do not eat or drink after or while handling type.
- Do not lick your fingers (to turn a page or pick up a sheet of paper, for example).
- Wash your hands as soon as possible after handling type. Use Gojo hand cleaner, soap, and water.

Handling Heavy Objects

The Letterpress Lab has a lot of heavy objects, including especially presses and type. Follow these tips when moving heavy objects:

- Get help before attempting to move something too heavy for you.
- Bend your knees before lifting, keeping your back vertical.
- Do not attempt to hold heavy objects out at arm's length.
- When removing a type case from the cabinets, pull out the case **below** the case you want out about 6". Then pull out the case you want. This practice helps avoid accidentally dropping the case.
- Hold type drawers by placing your hands in the middle of the sides.

Using Sharp Tools

We often use utility knives in the lab to cut paper, pressboard, and other materials. Follow these practices:

- Use a sharp blade. Sharp blades are easier to control and less likely to slip than dull blades.

- Keep the knife blade retracted until you are about to use it, and retract the blade again when you are done.
- To guide your cut, use a straightedge placed over the part of the paper you want to keep. That way if your cut goes astray it will go into the waste.
- When holding the straightedge on the paper, make sure your fingers don't extend into the path of the blade.
- Use a light touch and several passes to cut through material. Don't press down hard or try to get through all the material at one go.
- Dispose of dull blades by placing them in the sharps container. When the sharps container is full, contact EHS for disposal.

Eating or Drinking in the Lab

Do not eat or drink in the Lab. Do not bring food or drink into the Lab.

Contact Information

Letterpress Lab Director and Lab Safety Captain ..... Miles A. Kimball | miles.kimball@ttu.edu | 806.239.2488

Letterpress Lab Co-Director ..... Jennifer Snead | jennifer.snead@ttu.edu | 806.317.5655

Letterpress Lab Co-Director ..... Curtis Bauer | curtis.bauer@ttu.edu | 806.224.3371

Letterpress Lab Co-Director ..... Ann R. Hawkins | ann.hawkins@ttu.edu | 806.789.3571

Laboratory Safety Manager ..... Jared Martin | jared.martin@ttu.edu | 806.742.3876

Environmental Health & Safety ..... Day: 806.742.3876 | Night: 806.742.3328

Police Emergency 9-911

Police Non-Emergency 806.742.3931