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[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 Woodshop. 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 Mark Krecic, Woodshop 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 mrkrecic@umich.edu.
II. Student Guidelines for Studio Usage

1. Regular class schedule and timings for each studio are posted outside the 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. 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.
4. Access permission to individual students to the specific studios will be at the discretion of the individual studio coordinators in charge.
5. 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 Wood courses lasting 7 weeks vs. a full 14-week course.)
6. Students who are granted access to specific studios cannot bring in other unauthorized students/acquaintances into those studios at any time.
7. Authorized students need to go through an orientation regarding access, safety, security and individual studio maintenance and supplies usage policies/practices.
8. Students involved with any project must clean up after themselves at the end of each day.
9. 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.
10. 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. Woodshop Policies

1. **Shop Hours: Fall and Winter**
   - Monday through Thursday
     - 8:30 A.M. - 5:30 P.M.
     - 6:30 P.M. - 10:00 P.M.
   - Friday
     - 8:30 A.M. - 5:30 P.M.
   - Saturday
     - 8:30 A.M. - 12:30 P.M.

   These hours will be maintained while classes are in session (except during closings due to staff illness or inclement weather). Changes in hours will be posted.

2. **General Policies**
   1. The woodshop is intended for the use of Art, Architecture and Urban Planning students for their work on class projects only.
   2. The woodshop Studio Coordinators reserve the right to deny the use of materials potentially hazardous to health or machinery.
   3. The woodshop Studio Coordinators also reserve the right to deny woodshop access to any student abusing the shop facility, other individuals using the facility, or any shop policies.
   4. Project and material storage is to be arranged with shop staff before this storage can occur.
IV. Woodshop Safety Notes

Students must realize that shop knowledge and skills, like all knowledge and skill, can only be acquired with an investment of time and patience.

Our shop orientation provides the student with enough basic information about shop tools, equipment and process to commence this learning process. It is but a beginning; not an end.

In all shop work safety is the first priority. Safety is an attitude or state of mind that assumes responsibility for learning all the critical aspects to any process engaged. It’s rare that accidents “just happen”. As such we hope to arm the student with the rudiments of shop knowledge that will allow the student to ask informed questions and develop the skills and awareness to perform safe and effective shop work.

The following notes are for use during orientation to the woodshop. Please feel free to write additional notes as you see fit.

1. **General Safety**
   1. Facility users are expected to conduct themselves in a mature and courteous fashion in order to maximize safe operation of facility.
   2. Eye protection should be worn.
   3. Contact lens wearers should wear glasses instead of contacts whenever possible.
   4. Loose appendages (hair, clothing, jewelry) should be minimized. Moving machinery will grab such things.
   5. Ask shop staff to review work intentions before proceeding.

2. **Hand Tools, Pencil Sharpeners, Sandpaper, Glue, Putty, Fasteners**

3. **Band Saws**
   - General safety—hands, push sticks, brake, blade breakage
   - Adjustments
     - Guard height
     - Fence and mitre gauge
       - Rip and crosscut
       - Measurement—set and kerf 1/16"
     - Table angle
   - Curvilinear cutting
     - Limiting radii: 1/2", 1/4" blades/2", 1"
     - Conical cuts
     - Kerf
   - Stability on table
     - Table resistant to cutting force
4. **Sanders or Finishing Machines**
   - Light touch firm grip
     - Table resistant to cutting force
     - Table adjust
     - Down side on disc
   - Heat--resin perc, plastic melt, mountain-valleys
   - **No metals**
     - Fire hazard
   - Wood cutting metal
     - Auxiliary table

5. **Drill Presses**
   - General safety
     - Hair
     - Chuck key and chain
   - Adjustments
     - Table
     - Speed
   - Operation
     - Handhold — wood
     - Clamp—metal and plastics/D. P. Vises
     - Types of boring tools
     - Backing

6. **Joiner/Planer**
   - Shop attendant will operate

7. **Wood Lathes**
   - Individual instruction
   - Chisels for lathes only
   - Shaping symmetrically round on single axis

8. **Radial Arm Saw**
   - **CROSSCUTTING ONLY**
   - General safety
     - One piece of material at a time
     - Flat on table
     - Firmly against backboard or fence
     - Operate saw with right hand on handle, NOT guard
     - Retain work with left hand located 6” to 8” to left of blade with fingers in front of backboard
9. **Table Saws - Primarily Ripping**

- Individual instruction
- General safety
  - Work always supported by guide or fixture
  - Body stance and posture critical
    - Hand should straddle fence or rest upon fence when using push stick
- Table and body in resistance to cutting forces, primarily body - posture is critical
- How work is thrown
  - Capacity for bodily injury
  - Bevel ripping - high side of blade never captured
- Operation
  - Blade 1/4" above work
  - Out feed table located
  - Operation
    - Help available
    - Feed material at a steady rate
    - Material must be well supported
      - **NO FREEHAND CUTTING**
      - Wood and plastics only
        - Special blade for plastics
- Every Operator must first receive individual instruction from shop person
- ASK BEFORE USING

10. **Machine Lathes**

- Similar to wood lathe - for metals and plastic
- Individual instruction
- ASK BEFORE USING

11. **Grinders**

- For abrading metal
- Individual instruction
- ASK BEFORE USING
12. **DoAll Metal Cutting Bandsaw**
   - Similar operation to wood bandsaws
   - Requires set-up
   - Blades, gearing, speed varies
   - **ASK BEFORE USING**

13. **Horizontal Bandsaw**
   - For crosscutting metal stock
   - Work and machine requires specific setup
   - **ASK BEFORE USING**

14. **Sheet Metal - 16 gauge Capacity**
   - Break - for bending
   - Shear - for cutting
   - Roll form - for curves
   - Spot welder - fastening
     - Ferrous metals only
     - Requires setup
     - **ASK BEFORE USING**
   - Shop attendant can gauge metal

15. **Soldering Area (portable)**
   - Propane or MAPP gas
   - Soft solder and low temperature brazing
     - Requires instruction & relocation
     - **ASK BEFORE USING**

16. **Buffing - Polishing**
   - Metals and plastic - separate machines
   - Individual instruction

17. **Spray Booth - Light and Exhaust**
   - Spray can painting
   - Any other finishing activity producing fumes

18. **Plastic thermoforming**
   - Strip heater
     - Straight line bending - sheet and rod
   - Heat gun

19. **Vacuum Former**
   - Forming of sheet plastic
   - Positive, negative, template patterns
• Moving forces
  o Heat
  o Scissor frame
  o Vacuum
• Shop personnel will operate vacuum forms
• ASK BEFORE USING
• Potential for injury
V. Disclaimer

This outline is intended to help you recall your orientation lecture only. This is not an instruction manual. We expect you to take advantage of our staff by ASKING QUESTIONS and ASSUMING NOTHING.