

Facility Equipment List for Teaching Alt

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Big(ger) equipment

- UVBL light exposure unit such as those made by Jon Edwards (eepjon.com)
- Contact printing frames, well-constructed to enable tight contact between negative and print, preferably minimum size 11x14 (Bostick and Sullivan)
- Portatrace or other brand lightbox for registering negatives (Jerry's Artarama)
- Digital inkjet printer, preferably Epson 2200, 2400, 3800 (about 70 cents an 8.5x11 negative); make sure to have several sets of all inks on hand at any one time
- Flatbed scanner
- Photoshop on a computer connected to the printer
- Digital LCD projector and screen for PowerPoints
- Gram scale
- Humidity gauge
- Thermometer, darkroom
- Clothesline and kiddie hangers or clothespins to hang prints while drying
- Stop watches, timers, anything to time accurately
- Olfa cutter, ruler and self-sealing mat is an excellent aid to the dimroom
- 2-quart saucepan and hot plate to heat up solutions
- Crock pot to keep solutions hot
- Plexiglas pieces to prop prints on for spray development
- Trays (11x14) and tongs, at least one set per student plus several large water holding trays—never can have too many trays!
- Humidifier
- Chemical storage cabinet and disposal
- Paper safes for storing paper if no darkroom (with some processes, especially silver-based ones)

Non-consumables

- 2" Connoisseur 150 series *stitched* hake brushes, at least one per person (my favorite brush)
- Graduates of all sizes: 1 ml, 10 ml, 25 ml, 50 ml, 100 ml, 250 ml, 500 ml, and 1 liter
- Miscellaneous shot glasses with rounded inner bottoms to easily slurp up solutions with an eyedropper
- Brown glass eyedropper bottles, 100 ml (specialtybottle.com)
- Hair dryers for drying before exposure

- Variable mist spray bottles for spray development, a bunch
- Plastic screw-top storage bottles for pigment mixes, etc., 250 or 500 ml sizes
- Brown glass liter bottles for process mixes that require it—argyrotype, Van Dyke brown, cyanotype, etc.
- Hand towels
- Teaspoon measures to include 1/4, 1/2 and 1 teaspoon, a bunch of sets
- Extra eyedroppers
- Funnels, small, medium and large
- Plug for darkroom sink
- Petri dishes, one per student, are good for teaspoon amounts of gum coating
- Pushpins for registration and a large piece of cardboard to pin onto
- Scissors, several
- Stirring rods, liter-size ones for mixing chemistry, several, and glass stirring rods
- Stouffers step wedge, several 31-step ones (Stouffers.com or PrecisionDigitalNegatives.com)—it's amazing what these step wedges can discover
- Reference books on hand

Consumables

- OHP film (Pictorico, Arista, Inkpress; if BW, Kirkland Ink Jet paper from Costco or Ilford Ink Jet Glossy) on hand
- Variety of cotton rag papers such as Fabriano Artistico Hot Pressed Extra White 140 lb weight paper for gum and Arches Platine or Cot 320 for platinum/palladium, Coventry Rag Vellum White, Masa, Weston and Crane's cover for argyrotype, etc.
- Lots and lots of ink cartridges for the ink jet printer
- Latex or nitrile gloves
- Coffee filters, several for filtering mold out of cyanotype
- Coffee stirrers, disposable wood or drink stirring rods or popsicle sticks
- Fine-tip sharpies and pencils (and sharpener) for marking negs (former) and paper (latter)
- Distilled water
- Package of 9 oz. clear plastic disposable wide mouth "wine" cups for the whole class, excellent for gum
- Paper towels
- Disposable 2" foam brushes for sizing
- Rolls of Scotch Magic Tape (the green plaid variety)
- Newsprint or freezer paper to protect counters

Alternative Processes Sample Supply List

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(A mostly-comprehensive chemicals list needed for each process in *Alternative Processes, Condensed* by Christina Z. Anderson)

Process	Supplies needed (italicized items may not be necessary)
Gum Printing	Watercolor paints M. Graham 15ml tubes of these watercolors: quinacridone ROSE PV19R, NICKEL azo yellow PY150, and thalo blue PB15:3 plus ivory or lamp black and burnt sienna
	Gum Arabic
	Ammonium dichromate
	<i>Potassium metabisulfite</i>
	Watercolor paper Fabriano Artistico Hot Pressed Extra White 140 lb
	Gamblin PVA sizing
	<i>Thymol (italicized items no longer necessary when PVA is used)</i>
	<i>Methylated alcohol</i>
	<i>4 packs Knox plain gelatin</i>
	<i>Glutaraldehyde 100ml</i>
	<i>Everclear</i>
Cyanotype	Ferric ammonium citrate, 20g per 100ml
	Potassium ferricyanide, 8g per 100ml or 10g in Wares formula
	<i>Ferric ammonium oxalate, 30g per 100ml (Ware's formula)</i>
	<i>ammonium dichromate 1/2ml of 25% (Ware's formula)</i>
	<i>Vinegar</i>
	<i>Citric acid, 1 g. per 100ml</i>
	<i>Tannic acid</i>
	<i>Gallic acid</i>
	<i>Sodium carbonate</i>
<i>Ammonia</i>	
Argyrotype	Sulfamic acid, 7g per 100ml
	Silver I Oxide 7g per 100ml
	Ferric ammonium citrate 22g per 100ml
	Sodium thiosulfate for VDB, argyrotype, salt, lots
	Tween 20
Kallitype	Silver nitrate, 10%
	Ferric oxalate, 20%
	<i>Sodium acetate</i>
	Potassium oxalate
	<i>Borax</i>
	<i>Rochelle salts</i>
	<i>Sodium citrate</i>

	<i>Ammonium citrate</i>
	<i>Sodium formate</i>
	<i>Sodium tungstate</i>
	<i>Tartaric acid</i>
	EDTA
	Citric acid
	Sodium thiosulfate for VDB, argyrotpe, salt, lots
	Sodium sulfite
	Sodium carbonate
	Ammonia
Van Dyke Brown	Ferric ammonium citrate, 9g per 100ml
	Tartaric acid, 1.5g per 100ml
	Silver nitrate, 3.8g per 100ml
	Sodium thiosulfate for VDB, argyrotpe, salt, lots
Platinum/Palladium	Ferric oxalate 15g per 55ml
	Oxalic acid 1g per 55ml
	Potassium chlorate .3g per 55ml
	Potassium chloroplatinite 10g. per 50ml
	Palladium chloride 5g per 55ml
	Sodium chloride 3.5g per 55ml
	Sodium chloroplatinate (NA2) 20%
	Potassium oxalate 30% <i>or</i>
	<i>Ammonium citrate 15% or</i>
	<i>Potassium citrate 30% or</i>
	<i>Sodium citrate 30% or</i>
	<i>Sodium acetate 30%</i>
	<i>di-EDTA 2-3%</i>
	<i>Citric acid 4%</i>
	<i>tetra-EDTA 2-3%</i>
	Heico Permawash 4 oz. to gallon
	<i>Sodium sulfite 2-3%</i>
	Cot 320 Unsensitized paper. Crane's Cover, Coventry Rag, Masa, etc.
Ziatype	Ferric ammonium oxalate 10g to 25ml
	Potassium chlorate .9g to 25ml
	Palladium chloride 2.3g to 25ml
	Lithium chloride 1.7g to 25ml
	Cesium palladium
	Gold chloride 5%

	Ammonium dichromate 5%
	Sodium tungstate 40%
	Clearing baths as per pt/pd above
Salted Paper	<i>Salted paper kit or</i>
	Sodium chloride 20g per 1000ml
	Ammonium chloride 20g per 1000ml
	Gelatin 8g per 1000ml
	Sodium citrate 6-20g per 1000ml
	Potassium citrate 10g per 1000ml
	Silver nitrate 12g per 100ml
	Sodium thiosulfate for VDB, argyrotpe, salt, lots
	<i>Arrowroot starch 35g per 1000ml</i>
	<i>Citric acid 2.5g per 500 to 3 g. per 1000ml</i>
	<i>Borax 3g per 500ml</i>
	<i>Gold chloride 6-12ml of 1%</i>
	<i>Ammonium thiocyanate 2.5g per 500ml</i>
	<i>Tartaric acid 1g per 500ml or 12ml of 10%</i>
	<i>Potassium chloroplatinite 20%, 1 ml to 500ml</i>
	<i>Sodium chloropalladite 2ml of 15% to 500ml</i>
	<i>Thiourea 12ml of 1%</i>
Photopolymer Gravure	Solarplate or Printight KM73 plate
	Piece of magnetic vinyl
	Aquatint screen from Elizabeth Dove or Mark Nelson
	Talc
	Chamois cloth
	Soft nailbrush
	Ink
	Tarlatan
	Printmaking intaglio paper
	Newsprint or newspaper
Modern Varnishes	Super blond shellac or Gamblin or Dorland's Wax or acrylic gloss medium or Maimeri Vernice Brilliante Tempera or Golden Polymer Varnish or Glamour II Inkjet Varnish
Sources for Supplies	Photographer's Formulary 800.922.5255 Bostick and Sullivan 505.474.0890 Artcraft Chemicals 800.682.1730 Daniel Smith 800.426.6740 Jerry's Artarama 800.827.8478 Freestyle Photo 800.292.6137

319 ALTERNATIVE PROCESSES, SPRING 2011

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(Syllabus is a truncated version for SPE, with only pertinent information included. Class meets for a 3-hour lecture/recitation period and a 3-hour lab period for a 4-credit class.)

REQUIRED TEXTS

Alternative Processes, Condensed! by Christina Z. Anderson

Precision Digital Negatives CD and manual printout by Mark Nelson

COURSE DESCRIPTION

Image creation through the use of historical **contact** printing processes. A variety of alternative processes will be addressed. Extensive aesthetic exploration will be supported through a blend of the old processes and current digital negative making techniques. This semester we will be learning **cyanotype, argyrotype, platinum/palladium, and gum bichromate**. *This class has an extensive digital component and requires a digital background.*

This class an intensive! Be prepared to work.

COURSE GOALS

You will leave class with a complete, custom method of creating digital negatives that will enable you to make perfect negatives with any future hardware/lightsource combination. You will also have a firm foundation of contact printing processes that will allow you to set up your own dimroom, should you so choose, without the dependence on a BW darkroom. Even though contact printing processes are time consuming, they are perhaps the most user-friendly field of photography, and something that you can carry into commercial or fine art fields equally.

PURCHASING SUPPLIES SCHEDULE

(I provide cyanotype, argyrotype, and gum chemistry.)

- 1. INK:** Pay ink fee to Checkout **immediately**. You'll need it next week.
- 2. TEXTS:** Buy texts **immediately** as you will need to read the PDN manual by next Wednesday.
- 3. PT/PD CHEMISTRY:** Buy kit **immediately** from Bostick and Sullivan.
Platinum/palladium kit costs \$200 and makes about 35 8x10s; share with 1 person. Buy the **NA2 palladium** kit (25ml palladium, 25ml ferric oxalate, 10ml 20% NA2)
- 4. PAPER:** BW paper for the darkroom BW assignment only—your choice
Fabriano Artistic Hot Pressed Extra White 140 lb at the bookstore; Coventry Rag and Masa at the bookstore
Weston Diploma Parchment and Crane's Cover—buy from me (\$1.75 and \$2.75 a sheet, respectively)
8.5x11 Pictorico OHP or Arista.edu OHP or Inkpress OHP, at least 2 packets, from the bookstore, freestylephoto.biz or Formulary or B&S
- 5: GUM PRINTING:** (This semester I am providing initial gum supplies so do not buy yet!)
1 pint gum Arabic from Formulary or B&S, 100g ammonium dichromate from Formulary or B&S, One 15ml tube of these EXACT watercolors from the bookstore: M. Graham Quinacridone Rose PV19R; NICKEL Azo Yellow PY150; Phthalocyanine Blue PB 15:3, Carbon Black and Burnt Sienna, optional, 3 or more 125ml nalgene screwtop plastic bottles—I sell for \$1.50, 1 bottle Gamblin PVA sizing
- 6: FOR ALL PROCESSES:**
2 2" stitched hake brushes, **Connoisseur 150 series**, buy at bookstore
2-4" wide foam brushes for sizing, buy at bookstore or hardware store
120 ml brown bottle with eyedropper tops (buy from me)
Box of rubber gloves (purchase individually at checkout)

7. NICE TO HAVE BUT NOT REQUIRED (EXCEPT MATTING SUPPLIES):

25ml or 50ml graduate, 100ml and 400ml beakers, a little rubber spatula, a glass stirring rod, shot glass, thermometer, funnel, bottle brush, Petri dishes, LW15 Badger Softener 4" from Jerry's Artarama (\$18) for smoothing a gum coat, and 1 or 1½ inch Richeson Magic Brush if you really pursue platinum/palladium, plastic see thru cups for mixing, brushing and weighing (e.g. 9 oz. clear plastic disposables), Water spray bottle, Kiddie hangers and plastic clothespins, Scotch Brite pad, extra eyedroppers, Scotch tape, scissors, stop watch or timer, matting supplies

SOURCES FOR SUPPLIES OTHER THAN THE MSU BOOKSTORE

Freestyle Photo 800.292.6137

Photographer's Formulary 800.922.5255

Bostick and Sullivan 505.474.0890

Artcraft Chemicals 800.682.1730

Daniel Smith 800.426.6740

Jerry's Artarama 800.827.8478

PURCHASING CHECKLIST EXAMPLE BY STORE

<u>Bookstore</u>	<u>Mail Order</u>	<u>Chris</u>	<u>Home</u>
BW Paper	NA2 palladium kit	Books and CD	Set of teaspoons
OHP 2 packets	Gum Arabic	Weston paper	Towels
Fabriano Artistic	Ammonium dichromate	Plastic pigment bottles	Scissors
3 watercolors		120ml eyedropper bottles	Scotch Tape
Hake brushes			Stop watch
Gamblin PVA			Plastic cups
2" foam brushes			
Gum developing brushes			

ASSIGNMENT OVERVIEW

Black and White

Jan 31 Assignment 1: BPT, SPT, CDRP, TP, Curve, and BC/AC BW print

Cyanotype

Feb 7 Assignment 2: BPT, SPT, CDRP, TP, Curve and Cyanotype

Argyrotype

Feb 14 Assignment 3: BPT, SPT, CDRP, TP, Curve and Argyrotype

Platinum/palladium

Feb 28 Assignment 4: Platinum/Palladium

Mar 7 Assignment 5: Platinum/Palladium *or* Combotype of Platinum and Cyanotype

Gum

Mar 28 Assignment 6: Tricolor Gum and **Final Project Proposal**

Apr 4 Assignment 7: Tricolor Gum

Apr 11 Assignment 8: Tricolor Gum over cyanotype

Final Project:

Date TBA 8-10 matted prints in portfolio 11x14 or larger mats —content to be elucidated in your Final Project Proposal of 200 words or less. Project needs to hang tight conceptually but you are able to do a number of different processes (e.g. 3 tricolor gums, 3 pt/pds, 3 cyanotypes, etc.) that *may not hang together visually*. This way you can put to use your process knowledge you have gleaned all semester into a conceptual body of work, which may lead to future ideas fleshed out more visually coherent. I have had to adopt this policy because to do 10 gum prints is a bit more time consuming than some would like, and yet some want to do a final in gum but feel they can't.

319 CALENDAR (subject to revision)

There will be two tests and numerous quizzes throughout the semester. Tests can only be made up if an excused absence is the reason for missing. Quizzes cannot be made up.

Week 1 W, Jan 12	Lab: Intro, class biz, syllabus, supplies, presentation signup Homework due next Wed: Read entire <i>PDN</i> ; bring BW paper/supplies to lab
Week 2 Jan 17/19	NO CLASS—MARTIN LUTHER KING HOLIDAY Lab: BW PDN—BPT SPT CDRP and tonal palette
Week 3 Jan 24/26	Lecture: Syntax of alt; PDN Homework due today: Reread <i>PDN</i> Lab: BW, cont.: tonal palette, scan, curve, and print BW
Week 4 Jan 31/Feb 2	Lecture: Cyanotype; PDN Homework due today: Assignment 1 BW and read Cyanotype chapter Lab: Cyanotype demo, calibration, and toning
Week 5 Feb 7/9	Lecture: Argyrotype and brownprint processes Homework due today: Assignment 2 Cyanotype and read Argyrotype chapter Lab: Argyrotype demo, calibration, and toning
Week 6 Feb 14/16	Lecture: Platinum Homework due today: Assignment 3 Argyrotype; read Platinum chapter Lab: <i>NO LAB; KENTUCKY LECTURE</i>
Week 7 Feb 21/23	NO CLASS—PRESIDENT'S DAY HOLIDAY Lab: Platinum demo and calibration
Week 8 Feb 28/Mar 2	Lecture: TEST 1; Platinum/Palladium Homework due today: Assignment 4 Platinum/Palladium Lab: Platinum and cyanotype combo demo and calibration
Week 9 Mar 7/9	Lecture: Gum Homework due today: Assignment 5 Platinum/Palladium or Combotype Lab: <i>OPEN LAB; GONE TO SPE IN ATLANTA</i>
BREAK!	**SPRING BREAK MARCH 14-18 NO CLASSES**
Week 10 Mar 21/23	Lecture: Gum Homework due today: Read Gum chapter Lab: Gum demo
Week 11 Mar 28/30	Lecture: Combotypes of all sorts Homework due today: Assignment 6 Tricolor Gum; read Combotype chapter; hand in TYPED 200 words or less Final Project Proposal Lab: Gum demo
Week 12 Apr 4/6	Lecture: TBA Homework due today: Assignment 7 Tricolor Gum Lab: Gum
Week 13 Apr 11/13	Lecture: 21 st century alt practitioners Homework due today: Assignment 8 Tricolor Gum over Cyanotype Lab: <i>Open lab; work on Final Project</i>
Week 14 Apr 18/20	Lecture: The business of alt Homework due today: none; work on Final Project Lab: <i>Open lab; work on Final Project</i>
Week 15 Apr 25/27	Lecture: TEST 2 Homework due today: study for test Lab: <i>Open lab; work on Final Project</i>
Week 16 May 2-6	Final Project TBA

Pleasures and Pitfalls of Teaching Alt

A comprehensive list of all the things that could go wrong with an alt class with some suggested remedies

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Industry woes

- ❖ Some of the new generation printers are “ink savers” = less ink laid down on negative (*up Ink Density under Advanced Media Control, complain to Epson, HP, and Canon*)
- ❖ Snow Leopard and CS5 and Epson: no way to turn off color management (*remove the Apple Epson driver and download the real Epson driver, for one, complain*)
- ❖ Digital negative making still a niche market, not enough for Epson/Apple to worry about problem solving (*lobby and write and complain!*)

Pedagogy woes

- ❖ In the 21st century **process** is considered theoretically vapid (*find alt-friendly venues like alternativephotography.com, Tilt Gallery in AZ, Soho Photo in NYC, 23 Sandy in OR, etc.*)
- ❖ Professor needs to be all-knowing from 19th-21st century (*admit you have clay feet*)
- ❖ Myths about alt abound (e.g. ammonium dichromate has a shelf life or one must do alt under yellow bug lights—NOT) (*do your research instead of parroting other books as gospel*)
- ❖ Initial setup of an alt dimroom takes time (*start small—cyanotype outside, clothesline, table, sink*)
- ❖ Mixing of chemistry takes time (*no cure*)
- ❖ Allotted class time may be too short (*alt needs a minimum 2-hour stretch, 3 hours even better*)
- ❖ Students (especially at workshops) vary widely in digital expertise creating a gap too broad for the professor to bridge (*set prereqs carefully, intermediate Photoshop a must, teach it they will come*)
- ❖ Students consider ‘operator error’ the last of possible reasons why something goes awry (*hmmm...*)
- ❖ A lot of supplies need to be mail ordered which precludes last minute purchases (*bulk order*)
- ❖ Supplies seem more expensive than other classes, especially when doing platinum (*they’re not; also, share platinum kits*)
- ❖ Traffic jam of students waiting at the printer and the light exposure unit (*explain that alt is “hurry up and wait” and go get a cup of coffee*)
- ❖ Students spend time printing an image in alt that isn’t worth the time, or doesn’t fit the process (*ask, “Why in alt?” and expect the latter to become a learned behavior*)
- ❖ Students feel alt is too time consuming and not applicable to commercial work (*explain alt as an added-value service, e.g. a platinum wedding portrait that lasts longer than the marriage*)
- ❖ Students are chemistry-phobic and/or think it is too complex to order or mix chemistry (*always, always mix while they watch!*)
- ❖ Digital negatives are a bit too complex for some (*develop a quick ‘n’ easy method*)

Department woes

- ❖ The need for a good computer/printer setup as well as dimroom set up can initially be a financial challenge (*explain to dean that student engagement retains students, makes happy alumni*)
- ❖ Crummy contact printing frames don’t provide tight enough contact and blurry spots occur (*throw them out! NOW!*)
- ❖ Inconsistent water, humidity, and room temperatures in the dimroom (*monitor, buy a humidity gauge and thermometer*)
- ❖ Alkaline water supply (*use citric acid or vinegar*)

Negative woes

- ❖ Ink heads get clogged and print out banded negatives (*clean ink heads first thing, turn off printers when not in use*)

- ❖ Printer's pizza wheels leave marks on the negative (*check web for ways to remove*)
- ❖ Some printers subject to uneven "venetian blind" effect in larger midtone areas (*no known cure; return printer*)
- ❖ Negative in sRGB mode and not in Adobe 1998 colorspace; sRGB mode does not produce dense enough negatives (*check last thing before printing in printer driver, watch that Photoshop has not defaulted back to sRGB and set default Edit/Color Settings/Adobe 1998*)
- ❖ Students print on the wrong side of OHP material (*teach the LICK 'N' STICK test*)
- ❖ Students forget to invert image before printing, put layers in correct order, forget to uncheck "scale to fit media" and negs may come out different sizes (*post checklist in bold next to printer!*)
- ❖ Students forget to de-saturate or grayscale a color image that will become a monochrome negative and negative prints with areas of color (*see above*)
- ❖ Students forget to flip image horizontally so emulsion to emulsion is impossible (*see above*)
- ❖ Registration of negatives is off and print is ruined (*use registration marks on output, pencil marks, registration pins, can even go so far as to affix print with dry mount tissue to aluminum!*)
- ❖ Tricolor layers not printed with correct channel (e.g. R=C, G=M, and B=Y) (*have students mark negs with a sharpie as soon as they come out of the printer with CMY*)
- ❖ Print shows posterized areas because of:
 - Not turning adjustments off in the scanner
 - Not working in 16 bit mode
 - Too drastic a curve due usually due to incorrect SPT
 - Something happening during the editing in Photoshop
 - Keeping all sorts of adjustment layers on the negative instead of the three

Alt process woes

- ❖ Paper specificity!!! Van Dyke brown, argyrotypes, cyanotype, platinum all experience this (*buy the best papers in bulk and have on hand for purchase, and LABEL!*)
- ❖ Black specks randomly appearing on paper due to paper impurities (*not under our control*)
- ❖ Students confuse stock and working strength (*mark containers, e.g. stock—dilute before use*)
- ❖ Students decide if print is too dark (or too light) to adjust the Standard Printing Time (SPT) which *should* remain invariable once it is determined (*ask this on a test; btw DO give tests!*)
- ❖ Different light boxes have different speeds (*test with a Stouffers and post on the lightbox*)
- ❖ A correct coating procedure needs to be learned for each process (*demonstrate first and watch*)
- ❖ Coating mixtures get slopped onto the counter and stain (*make students clean the darkrooms*)
- ❖ An unnamed student (always) spills or contaminates the chemistry—on a weekend—when professor is completely unavailable (*peer reprisal does wonders; don't ever rescue on the weekends*)
- ❖ Hotpots can be left on and burn down the lab (*no kidding! equipment should have safety shutoffs*)

More suggestions

- ❖ Send around a "Before You Begin" handout to warn students of additional expense and time
- ❖ Define your goal for class: is it merely an intro? A concentration on one process? (*4 max*)
- ❖ Scout the web for free information, handouts, videos for class material
- ❖ Start small—cyanotype exposed outside—get students "hooked"
- ❖ Have students research and PowerPoint a process or artist so you aren't doing all the legwork
- ❖ Purchase bulk chemicals and paper and charge a per-student class fee
- ❖ Have students set up actions and printer digineg presets to perform repetitive tasks
- ❖ Best-case scenario? Department pays for TWO Epson 3800s, TWO Edwards 20x24 exposure units, faculty development workshops and in-house workshops
- ❖ Worst-case scenario? Professor learns all things on the fly, in front of students, making every mistake in the book—*priceless!*