

Graphic Communication Skills Compencies Training and Competency Profile Student Information

Program: _____ Instructor: _____

Name: _____

Address: _____ Phone: _____

Grade: _____ School: _____

Allergies/Disabilities that might require special accommodation for training (please specify)

In case of emergency, contact: _____ Phone: _____

Record of Enrollment

Date of Enrollment ____ - ____ - ____ Hours Absent _____

Date of Withdrawal ____ - ____ - ____ Total Hours Tardy _____

Date of Completion ____ - ____ - ____

Student Evaluation

Directions: Evaluate the student using one of the rating scales below. Write the appropriate number to indicate the degree of competency achieved. The descriptions associated with each of the numbers focuses on a level of student performance for each of the tasks listed. The written test scorelines are provided for optional teacher use. They may not be applicable in all cases.

Sample

3 – Skilled—Can perform job with no additional training.

2 – Moderately Skilled—Has performed job during training program;
limited additional training may be required.

1 – Unskilled—Is familiar with process, but is unable to perform job.

0 – No Exposure—No information or practice provided during training program.

OFFSET PRESS OPERATIONS/BINDERY & FINISHING

*PrintEd - Offset Press Operations / Bindery & Finishing

A. Offset Press Configurations

- OPO A. 1) Review mechanical safety requirements when working with offset press equipment
- OPO A. 2) Describe a job jacket/ticket
- OPO A. 3) Create a job jacket/ticket using an instructor specified print job
- OPO A. 4) Identify the basic systems and parts of an offset press
 - a. Feeder
 - b. Printing unit
 - c. Delivery
- OPO A. 5) Describe the paper path of a sheetfed offset press
- OPO A. 6) Identify common maximum sheet sizes of sheetfed offset presses
- OPO A. 7) List common speeds (impressions per hour) of sheetfed and webfed presses
- OPO A. 8) Describe paper path of a web (roll) fed offset press
- OPO A. 9) Compare the advantages and disadvantages of a web fed offset press versus a sheetfed offset press
- OPO A. 10) Evaluate printed samples produced on a webfed offset and sheetfed offset press
- OPO A. 11) Describe perfecting and compare the features of a perfecting press versus non-perfecting press
- OPO A. 12) Identify components of a printing unit by sketching an illustration
 - a. Inking System
 - b. Dampening System
 - c. Plate Cylinder
 - d. Blanket Cylinder
 - e. Impression Cylinder
- OPO A. 13) Describe a single color offset press
- OPO A. 14) Describe a multi-color offset press
- OPO A. 15) Describe an offset lithographic plate and explain how it separates an image from a non-image area
- OPO A. 16) Describe the function of the blanket
- OPO A. 17) Describe the function of the impression cylinder
- OPO A. 18) Describe the operation of an offset printing press from feeding, through the printing unit,
- OPO A. 19) Compare the imaging process of digital printing versus offset printing
- OPO A. 20) Rate the advantages and disadvantages of offset printing versus digital printing
- OPO A. 21) Compare the features and capabilities of offset presses offered by three manufacturers
- OPO A. 22) Determine key activities within an offset press operation in a commercial printing plant either on site or online via a virtual tour
- OPO A. 23) Describe how automation tools are being employed on an offset press
 - a. Plate changing
 - b. Ink presets
- OPO A. 24) Discuss roles and responsibilities of pressroom personnel
 - a. Pressroom supervisor
 - b. Lead press operator
 - c. Helper
- OPO A. 25) Construct 5 questions to ask a press operator about the skills required for his or her job

B. Paper

- OPO B. 26) Identify characteristics of paper
 - a. Weight
 - b. Finish
 - c. Thickness
 - d. Brightness
 - e. Opacity
 - f. Grain Direction
- OPO B. 27) Identify weight, coating, and size from a label found on a ream, box, or skid of paper
- OPO B. 28) Determine grain direction of five different types of papers used in the offset printing process
- OPO B. 29) Describe how grain direction will affect the running of a press, folding, scoring, and binding
- OPO B. 30) Describe wire versus felt side of paper
- OPO B. 31) Describe a watermark in paper
- OPO B. 32) Identify specialty substrates
 - a. Carbonless
 - b. Pressure Sensitive
 - c. Gummed Label
 - d. Plastic Based
 - e. Metal
- OPO B. 33) Explain the importance of paper conditioning and describe potential problems that can be created by poor paper conditioning prior to running the press
- OPO B. 34) Describe workflow steps required in printing a process color job on coated versus uncoated paper
- OPO B. 35) Evaluate the quality of five offset printed jobs
 - a. Color
 - b. Register

OFFSET PRESS OPERATIONS/BINDERY & FINISHING

C. Ink

- ___ OPO C. 36) Describe inks used with an offset press
 - a. Oil-based
 - b. Rubber-based
 - c. Soy-based
 - d. UV
- ___ OPO C. 37) Describe process (CMYK) and spot (PMS) color inks
- ___ OPO C. 38) Identify process and spot color areas from selected sample print job
- ___ OPO C. 39) Describe the procedure for mixing and testing custom colored inks
- ___ OPO C. 40) Describe causes of ink problems and possible solutions
- ___ OPO C. 41) Review solutions for common ink problems
- ___ OPO C. 42) Discuss coatings
 - a. Aqueous
 - b. Ultraviolet cured
 - c. Varnish

D. Dampening Solution

- ___ OPO D. 43) Describe the components of dampening solution
- ___ OPO D. 44) Describe the purpose and operation of a dampening system
- ___ OPO D. 45) Demonstrate the proper mixing of dampening solution using appropriate ratios
- ___ OPO D. 46) Describe and demonstrate the use of pH strips and conductivity meters to monitor dampening solution to maintain print quality

E. Make-ready

- ___ OPO E. 47) Analyze a job ticket for printing instructions
 - a. Number of colors
 - b. Imposition
 - c. Quantity
 - d. Type of paper
- ___ OPO E. 48) Describe a folding dummy
- ___ OPO E. 49) Distinguish imposition of printing jobs
 - a. Sheetwise
 - b. Work-and-turn
 - c. Work-and-tumble
- ___ OPO E. 50) Identify marks on press sheet
 - a. Registration
 - b. Trim
 - c. Bleed
 - d. Fold
- ___ OPO E. 51) Specify the steps required to execute make-ready for a printing job
- ___ OPO E. 52) Describe the purpose of a gripper
- ___ OPO E. 53) Describe the purpose of a side guide
- ___ OPO E. 54) Describe types of blankets
 - a. Compressible
 - b. Conventional
- ___ OPO E. 55) Describe packing sheets (Blanket and Plate)
- ___ OPO E. 56) Describe cylinder to cylinder pressure measurements
- ___ OPO E. 57) Demonstrate paper handling make-ready steps
- ___ OPO E. 58) Demonstrate mounting plate to plate cylinder
- ___ OPO E. 59) Demonstrate inking system make-ready
- ___ OPO E. 60) Demonstrate dampening system make-ready
- ___ OPO E. 61) Demonstrate printing unit make-ready
- ___ OPO E. 62) Demonstrate ink roller, dampener roller, and cylinder pressure settings on a press
- ___ OPO E. 63) Estimate time and materials used during five make-ready jobs

F. Print

- ___ OPO F. 64) Explain the operational procedures, controls, and adjustments for each system (feeding, printing, delivery) on the offset press
- ___ OPO F. 65) Describe the use of flags to signify waste sheets during a pressrun
- ___ OPO F. 66) Print a single-color one-sided job
- ___ OPO F. 67) Print a single-color registered two-sided job
- ___ OPO F. 68) Locate gripper and guide sides on a single-color registered two-sided job
- ___ OPO F. 69) Print a job on heavyweight stock
- ___ OPO F. 70) Print a two-sided job using the following methods
 - a. Sheetwise
 - b. Work-and-turn
 - c. Work-and-tumble
- ___ OPO F. 71) Print a multi-color job that contains register marks and color bars with accurate registration and monitored ink density
- ___ OPO F. 72) Print a process color job on coated paper

OFFSET PRESS OPERATIONS/BINDERY & FINISHING

- ___ OPO F. 73) Explain the purpose of spray powder on an offset press
- ___ OPO F. 74) Explain the purpose of a drying unit on an offset press
- ___ OPO F. 75) Demonstrate wash-up techniques for the inking system (including a color wash), dampening system, and cylinders
- ___ OPO F. 76) Describe the use of a press console

G. Quality

- ___ OPO G. 77) Describe the use of color bars for quality control
- ___ OPO G. 78) Describe the functions of optical measurement tools used for quality control
 - a. Densitometer
 - b. Spectrophotometer
- ___ OPO G. 79) Interpret color bars on a press sheet to determine corrective actions, if necessary
- ___ OPO G. 80) Describe the importance of print industry specifications
 - a. Web Offset Publications (SWOP)
 - b. Specifications for Newsprint Advertising Production (SNAP)
 - c. General Requirements for Applications in Commercial Offset Lithography (GRACoL)
- ___ OPO G. 81) Adjust inking and/or dampening system so that solid ink density matches print specifications (SNAP, GRACoL, SWOP)
- ___ OPO G. 82) Discuss the use of color-controlled lighting in press sheet evaluation

H. Maintenance

- ___ OPO H. 83) Review the procedures for daily, weekly, and monthly maintenance on a press
- ___ OPO H. 84) Discuss the importance of maintenance recording in a log
- ___ OPO H. 85) Perform press maintenance and record the information in a log
- ___ OPO H. 86) Perform roller care and maintenance of inking and dampening systems

I. Math and Measurement

- ___ OPO I. 87) Solve addition of fraction problems
 - Calculate total amount of ink if can one contains 1 ½ pounds and can two contains 4 ¾ pounds
- ___ OPO I. 88) Solve subtraction of decimal problems—two and three digits
 - Calculate the hourly pay if employee is paid \$15.00 per hour and is late 30 minutes
 - Calculate remaining space if total space of print center is 10,450 square feet and bindery takes up 364 square feet
- ___ OPO I. 89) Solve basic ratio and proportion problems
 - If a 5000 sheet job can be completed in 30 minutes, how many sheets will be completed in 20 minutes
- ___ OPO I. 90) Solve basic liquid measurement problems
 - Calculate the total of a one quart bottle and a 13 ounce bottle of aqueous lamination liquid
- ___ OPO I. 91) Convert English to Metric
 - Calculate to meters the length of a roll of paper that is 500 foot long.
 - Calculate paper weight from pounds to grams per square meter
- ___ OPO I. 92) Estimate a small offset press job. Labor costs to include make-ready, running and clean-up
- ___ OPO I. 93) Estimate ink and paper costs on a common print job

BINDERY & FINISHING

A. Bindery and Finishing Technologies

- ___ BF A. 94) Review the mechanical safety requirements when working with bindery and finishing equipment
- ___ BF A. 95) Summarize the finishing production information on a job jacket/ticket
- ___ BF A. 96) Prepare folding dummies from instructor specified impositions
- ___ BF A. 97) Demonstrate how to check the squareness of stock
- ___ BF A. 98) Demonstrate paper jogging techniques
- ___ BF A. 99) Demonstrate paper sheet counting techniques by
 - a. Ream marker
 - b. Weight
 - c. Caliper
- ___ BF A. 100) Identify hand tools, equipment, and materials in bindery operations
- ___ BF A. 101) Identify in-line finishing systems
- ___ BF A. 102) Identify off-line finishing systems
- ___ BF A. 103) Describe specialty finishing techniques
 - a. Foil stamping
 - b. Embossing / Debossing
 - c. Perforation
 - d. Drilling / punching
 - e. Scoring
 - f. Die cutting
 - g. Coating
 - h. Lamination
- ___ BF A. 104) Determine key activities within a bindery operation in a commercial printing plant either on site or online via a virtual tour
- ___ BF A. 105) Determine the skills required to work in a bindery operation

B. Cutting

- ___ BF B. 106) Identify a guillotine cutter

OFFSET PRESS OPERATIONS/BINDERY & FINISHING

- ___ BF B. 107) Define a parent sheet
- ___ BF B. 108) Assess instructor supplied paper samples for suitability when cutting
- ___ BF B. 109) Calculate basic paper cuts from a parent sheet, considering job requirements and grain direction
- ___ BF B. 110) Draw a layout of cuts required for an instructor specified printed job
- ___ BF B. 111) Create numbered sequence of cuts for an instructor specified printed job
- ___ BF B. 112) Describe setup and use of programmable guillotine cutter
- ___ BF B. 113) Demonstrate proper cutting procedures for an instructor specified job

C. Folding

- ___ BF C. 114) Assess instructor supplied paper samples for suitability when folding
- ___ BF C. 115) Describe folding configurations
 - a. Half fold
 - b. Tri fold
 - c. Z fold
 - d. Accordion fold
 - e. Gate fold
 - f. French fold
- ___ BF C. 116) Demonstrate the use of folding equipment to produce:
 - a. Half fold
 - b. Tri fold
 - c. Z fold
 - d. Accordion fold
 - e. Gate fold
 - f. French fold
- ___ BF C. 117) Describe the uses and customer application of common folds
- ___ BF C. 118) Describe folding techniques
 - a. Right angle folding
 - b. Knife folding
 - c. Buckle folding
 - d. Combination folding
- 119) Describe scoring
- 120) Describe the advantages / disadvantages of using a press or a folder to score or perforate sheets

D. Collation

- ___ BF D. 121) Review workflow steps used for collating sets of print
- ___ BF D. 122) Compare the collating ability of digital presses versus offset
- ___ BF D. 123) Demonstrate proper collation of sets in correct sequence for an instructor specified job

E. Binding

- ___ BF E. 124) Describe binding
 - a. Side stitch
 - b. Saddle stitch
 - c. Perfect bind
 - d. Coil bind
 - e. Wire bound
 - f. Comb binding
 - g. Velo binding
 - h. Padding
- ___ BF E. 125) Discuss reasons why customers choose different binding applications
- ___ BF E. 126) Assess instructor supplied paper samples for suitability when binding
- ___ BF E. 127) Identify spiral binding, perfect bind, and wire binding equipment
- ___ BF E. 128) Define crossover
- ___ BF E. 129) Define creep of pages when folding a signature

F. Trimming

- ___ BF F. 130) Discuss type of project that require trimming
- ___ BF F. 131) Explain the role of trimming to create a bleed effect
- ___ BF F. 132) Use a paper cutter to trim bound books.

G. Packing

- ___ BF G. 133) Identify packaging and shrink wrap equipment and materials
- ___ BF G. 134) Summarize packaging information on job jacket/ticket

H. Mailing

- ___ BF H. 135) Review USPS capabilities
- ___ BF H. 136) Review USPS postal regulations
 - a. Size
 - b. Weight
 - c. Rates
- ___ BF H. 137) Demonstrate the correct placement of addressing and additional elements on job that will be mailed
- ___ BF H. 138) Discuss the benefit of maintaining correct postal zip code order while performing bindery operations
- ___ BF H. 139) Review the quality assurance procedures of maintaining correct postal zip code order while performing bindery operations

OFFSET PRESS OPERATIONS/BINDERY & FINISHING

I. Maintenance

- ___ BF I 140) Demonstrate preventative maintenance on instructor specified bindery equipment
- ___ BF I 141) Determine when a blade needs to be changed on a paper cutter
- ___ BF I 142) Perform preventive maintenance on a paper cutter

J. Math and Measurement

- ___ BF J. 143) Solve subtraction of whole number problems—two and three digits
 - Calculate how much paper is left after completing a job that required 6,355 sheets when starting with 12, 000 sheets
 - Calculate remaining booklets if initial quantity is 900 and 26 are spoiled in bindery
- ___ BF J. 144) Solve multiplication of decimal problems—two and three digits
 - Calculate the value of 2000 pounds of scrap paper at 2.5 cents per pound
 - Calculate total cost of a \$250 job after a 6.55 percent sales tax is added
- ___ BF J. 145) Solve division of whole number problems—two and three digits
 - Calculate how many 24 page booklets are created from a total run of 1450 pages
 - Calculate average salary of seven employees if total payroll is \$125,000
- ___ BF J. 146) Solve basic paper cutting calculations
 - Calculate the number of 8.5 x 11 sheets that can be cut from a 23 x 35 inch sheet
- ___ BF J. 147) Estimate the cost of materials and production for performing three instructor specified bindery operations