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ABSTRACT

This document contains an introduction to the Ohio Integrated Technical and Academic Competency (ITAC) and Specialization ITAC; an overview of the graphic communications field; a list acknowledging professionals who helped develop the competency list; and a comprehensive list of the professional or occupational competencies deemed essential for graduates to be able to perform proficiently when they graduate from an Ohio specialization workforce development program on graphic communications. The introduction explains the following: (1) critical academic, employability, and information technology skills have been integrated throughout the list to support the technical skills; (2) the competency profile can be used as the basis for curriculum development in Ohio's secondary, adult, and postsecondary programs; and (3) the specialization competency profile is organized so that it can be clustered or grouped in a modular approach. The overview of the graphics communications field describes general duties, some specific tasks, employment opportunities, length of program, type of program (classroom instruction and/or work experience), and types of certificates and/or degrees. The competencies are grouped under broader skills that are, in turn, categorized under these eight major topics: introduction to graphic communications; safety in the graphic communications industry; job planning; design and digital image preparation; film generation; image assembly and platemaking; press operations; and finishing and binding. (YLB)

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Acknowledgements

Overview

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Bob Taft, Governor | Susan Tave Zelman, Superintendent of Public Instruction
Contact ODE | Web site notes | Contact Web Manager | ODE home | Ohio home
Ohio Department of Education, 25 South Front Street, 6th Floor, Columbus, Ohio 43215-4183
1-877-644-6338
Career-Technical and Adult Education 614-466-3430

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R. Bowermeister

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Introduction to the Specialization ITAC

Revised 2001

The Ohio Integrated Technical and Academic Competency (ITAC) profiles are developed under the auspices of the Ohio Department of Education and the Ohio State Board of Education. They provide a broad-based educational response to Ohio's need for a skilled workforce. Each Specialization ITAC represents a profile of the professional or occupational competencies deemed essential for a graduate to perform proficiently when he or she graduates from the specialization workforce development programs in Business and Marketing, Industrial and Engineering Systems, Health Occupations, or Family and Consumer Sciences. The Specialization ITAC profile, in conjunction with the competencies identified in the Foundation and Clusters ITACs, provide a career pathway that can lead to employment or further education.

Process and Intent

The integrated competency lists are the result of all encompassing research and review of existing competency profile lists and includes input from industry, labor, professional organizations, professional and industrial representation, and national standards for a specific industry/profession. Representatives from a broad cross-section of Ohio professional organizations, businesses/professions, industry, and labor played a critical role in identifying current and future knowledge and skills for the industry, and defining the vision and scope of the profession/industry. The instructional methods and teaching strategies are the responsibility of the local school system and/or instructor.

Curriculum Applications Using the ITAC Competency Profiles

Each profile includes a comprehensive listing of occupational skill competencies that reflect the job opportunities and skills that are required to work in a specific profession/career pathway. Critical academic, employability and information technology skills have been integrated throughout the list to support the technical skills. These competency profiles will be used as the basis for curriculum development in Ohio's secondary, adult, and post-secondary programs. The specialization competency profiles are organized so that they can be clustered or grouped in a modular approach. Individual curriculum specialists can use the competencies profiles to develop instructional programs based on local needs as determined in conjunction with their local advisory committees. i.e., the specialization cluster academy approach. Final assessments will be designed to accompany each profile list and to accommodate student evaluation by modules.

Career Pathways | FasTrak ITACs

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Office of Career-Technical and Adult Education
2001 Revision

Graphic Communications

Vicki Melvin, Interim Director

Industrial and Engineering Systems and Health Careers

Robert Bowermeister, Assistant Director
Joyce R. Boudreau, Consultant
Michael Cowles, Consultant
Gayle Parlin, Consultant
Richard Wancho, Consultant

Curriculum Consultants

Dee Allenspach
Joyce Leimbach

Professional Panel

Robert Rateno, Cuyahoga Community College, Parma
Gary Walton, Cincinnati State Technical College, Cincinnati
Nick Racin, Racin Printing, Inc., Mantua
James Hopkins, Hopkins Printing, Columbus
Paul V. Hvizda, Admiral Products, Inc., Cleveland
David Keeler, Dayton Legal Blank, Dayton
Anita Herington, Printing Industries Association, Inc., Westerville
Scot Adkins, Printing Industries Association, Inc., Berea
Angela Walters, Southern Graphic Systems, Newport, Kentucky
James H. Puckett, Jr., Southern Graphic Systems, Newport, Kentucky
Thomas C. Lasik, Printing Industries Association, Inc., Westerville

Educational Review Panel

Rey Collazo, ETL, Trumbull County Career and Technical Center, Warren
Roland Reid, ETL, Southern Hills Career Center, Georgetown
William Delgado, Cuyahoga Valley Career Center, Brecksville
Richard Pollitt, Miami Valley Career and Technical Center, Clayton
Harold Johnson, ETL, Miamisburg

Overview

Graphic Communications

The printing and graphic communication industry is the fourth largest manufacturing industry in the United States – employing over 1,213,700 people in approximately 48,000 establishments, and selling over $150 billion products each year. The industry is dominated by small- and medium-sized businesses, many employing fewer than 20 employees.

Printing and graphic communications are everywhere – documents, brochures, books, magazines, greeting cards, and stamps. But it's more than ink on paper. Look around you – printers manufacture products, packaging, textiles, credit cards, holograms, tickets, decals, labels, and many other items. And printers are becoming full-service marketing and communications providers – offering other services such as multi-media, warehousing, website creation and hosting, and more.

Modern printing is a highly sophisticated, vibrant industry at the cutting edge of innovation, including the combination of new digital and traditional press technologies. The historic role – putting ink on paper – is just one of a broad spectrum of client services provided. Nevertheless, printing holds, and will continue to hold an important role in our culture's communications structure for many years to come.

With a long tradition of craftsmanship from Gutenberg to Benjamin Franklin to the modern printer, printing has always kept pace with, in fact often initiated, new technology. A growth industry, printing and the graphic communications offer a host of career opportunities including management, sales, technicians and operators, artists, customer service, delivery, and more.

America's printing industry offers an exciting career that combines good pay with plenty of challenge and growth, all in a vital industry that has been central to our society and our way of life. Today's printing industry is a competitive, innovative business in which technologically savvy and diverse job skills are in high demand. According to the National Association of Printing Leadership (NAPL), printing has outperformed a national trend since 1980; growing industry employment by 168,000 jobs, or 41.2 percent, while overall manufacturing employment dropped by 1.8 million jobs, or over 9 percent. In Ohio, there are over 2,400 printing establishments employing well over 50,000 individuals, making it the third largest manufacturing industry in the state, accounting for nearly $8 billion in revenue. It is estimated that more than 22,000 new jobs will become available in Ohio in 2001.

A career in Graphic Communication provides an opportunity for expression of creativity along with a sense of pride seeing a product evolve into a unique product.

38.00.00.0 Graphic Communications

38.01.00.0 Introduction to Graphic Communications

38.01.01.0 Define the Graphic Communications industry

38.01.01.01 Outline the scope of Graphic Communications in the free enterprise system *
38.01.01.02 Identify printing markets and types of printing businesses*
38.01.01.03 List printing's ranking among other industries*
38.01.01.04 Identify the employment opportunities in the Graphic Communications industry

38.01.02.0 Determine skills needed to work in the Graphic Communications

38.01.02.01 Match Graphic Communications occupational job titles with qualifications and responsibility*
38.01.02.02 Identify education and training required to work in the various Graphic Communications careers*
38.01.02.03 Identify basic salary/wage expectation ranges for local area*

38.01.03.0 Investigate various aspects of the Graphic Communications

38.01.03.01 Identify the major printing processes*
38.01.03.02 List the advantage of each major process*
38.01.03.03 Identify the products produced by each major process*
38.01.03.04 List in order the business flow of printing from initial need to final product*
38.01.03.05 List in order the technical production flow from idea to finished product*
38.01.03.06 Describe basic printing technology

38.01.04.0 Examine elements of the business cycle

38.01.04.01 Describe job flow from initial customer contact to collection of payment
38.01.04.02 Examine cost factors of printing jobs (e.g., labor, benefits, materials, overhead, sales and administration, debt service, depreciation)
38.01.04.03 Interpret basic business terms (e.g., purchase order, blanket order, invoice)
38.01.04.04 Evaluate the disparity between the estimated and actual cost of the finished product
38.01.04.05 Apply actual job data in preparing future estimates

38.01.05.0 Practice effective business skills

38.01.05.01 Demonstrate professional customer relations skills
38.01.05.02 Describe basic expectations of employees in terms of quality, quantity, timeliness, and materials usage
38.01.05.03 Demonstrate organizational skills
38.01.05.04 Identify priority of job tasks
38.01.05.05 Demonstrate basic math proficiency (e.g., conversion tables, measure density, volume, ratios,
38.01.05.06 Demonstrate reading comprehension

38.02.00.0 Safety in the Graphic Communications Industry

38.02.01.0 Practice Lab Safety

38.02.01.01 Identify Occupational Safety and Health Administration (OSHA) standards as they relate to the Graphic Communications industry
38.02.01.02 Explain the purpose of the Occupational Safety and Health Administration (OSHA) and how it promotes safety on the job
38.02.01.03 Report unsafe conditions in accordance with Occupational Safety and Health Administration (OSHA) guidelines
38.02.01.04 Identify the location of Material Safety Data Sheets (MSDS)*
38.02.01.05 Follow safety procedures as outlined on MSDS*
38.02.01.06 Identify consequences of disregarding safety rules
38.02.01.07 Follow manufacturer's recommendations for the safe use of chemical products (e.g., proper ventilation)*
38.02.01.08 Identify the established procedures/regulations for storing/handling hazardous materials*
38.02.01.09 Dispose of hazardous materials in accordance with Environmental Protection Agency (EPA) standards
38.02.01.10 Identify location of fire extinguishers and fire exits*
38.02.01.11 Conduct routine inspections of safety and fire equipment
38.02.01.12 Demonstrate established procedures for the use of fire extinguishers*
38.02.01.13 Identify health hazards in the workplace
38.02.01.14 Identify basic first aid procedures*
38.02.01.15 Demonstrate knowledge of appropriate actions to take in response to given emergencies*
38.02.01.16 Identify the procedures for responding to a medical emergency*
38.02.01.17 Lift/transport objects and materials in accordance with established safety practices

38.02.02.0 Handle tools in accordance with established safety procedures

38.02.02.01 Use safety apparatus and equipment in accordance with job requirements and safety standards*
38.02.02.02 Handle all tools according to manufacturer's specifications regarding safe use*
38.02.02.03 Wear personal protective equipment, safety gear or clothing appropriate for given jobs*
38.02.02.04 Conduct routine inspections of tools and power equipment
38.02.02.05 Interpret instructional manuals for safe operation of power tools and power equipment
38.02.02.06 Maintain safety guards and switches on all machinery*
38.02.02.07 Shut down power in dangerous situations using power-kill switches*

38.02.03.0 Protect workers from ergonomic injuries

38.02.03.01 Identify furniture and work practices that insure healthy ergonomic practices
38.02.03.02 Identify repetitive motion activities that might cause injury
38.02.03.03 Maintain posture to prevent injuries

38.03.00.0 Job Planning

38.03.01.0 Communicate with customers in a professional manner

38.03.01.01 Identify customer specifications
38.03.01.02 Use effective communication skills
38.03.01.03 Complete work orders or estimate sheets
38.03.01.04 Communicate job estimate to customer

38.03.02.0 Interpret job specifications

38.03.02.01 Determine press size and finish size
38.03.02.02 Specify composition methods
38.03.02.03 Select finishing method
38.03.02.04 Specify outside services
38.03.02.05 Prepare single- and multiple-sheet dummies
38.03.02.06 Determine layout and imposition
38.03.02.07 Specify paper
38.03.02.08 Specify ink
38.03.02.09 Determine reproduction processes that fit job requirements
38.03.02.10 Provide detailed information for production

38.03.03.0 Calculate paper needs according to job specifications

38.03.03.01 Calculate number of pieces per sheet considering grain direction
38.03.03.02 Determine appropriate and most efficient cut from a parent sheet based on job specifications
38.03.03.03 Recognize standard sizes and weights of paper
38.03.03.04 Measure thickness of paper using a micrometer
38.03.03.05 Calculate a combination cut using stock cutting formula
38.03.03.06 Calculate number of sheets required
38.03.03.07 Identify finishes of paper

38.03.04.0 Complete job ticket and job schedule for a job

38.03.04.01 Review customer specifications
38.03.04.02 Prepare job ticket, including individual job operations
38.03.04.03 Compare job ticket to customer specifications and job estimate
38.03.04.04 Review job ticket
38.03.04.05 Check inventory
38.03.04.06 Order needed supplies
38.03.04.07 Designate production timeline and completion date
38.03.04.08 Schedule work flow

38.03.05.0 Prepare cost estimates

38.03.05.01 Prepare cost estimates using given items, costs, and specifications for a one-color, one-up job, step job, four-page job, eight-page job, and/or four-over-four sixteen-page folded saddle-stitched job
38.03.05.02 Identify component costs

38.04.00.0 Design and Digital Image Preparation

38.04.01.0 Design layouts

38.04.01.01 Review job ticket**
38.04.01.02 Draw thumbnail sketches
38.04.01.03 Draw rough sketch
38.04.01.04 Select art
38.04.01.05 Prepare comprehensive
38.04.01.06 Review comprehensive with customer to obtain approval
38.04.01.07 Identify the various kinds of items that can be designed and produced using desktop publishing**
38.04.01.08 Identify the basic principles of design (i.e., unity, contrast, page proportion, balance)**
38.04.01.09 Incorporate the basic design principles in hand drawn sketches and measured layouts**

38.04.02.0 Operate desktop publishing systems according to manufacturer's specifications and program documentation*

38.04.02.01 Identify the various kinds of items that can be designed and produced using desktop publishing*
38.04.02.02 Log-on/boot-up and print out a page layout program *
38.04.02.03 Demonstrate a functional knowledge of computer commands/codes/menus/palette for the software in
38.04.02.04 Identify fundamentals of type and its uses*
38.04.02.05 Choose type using correct size and format*
38.04.02.06 Demonstrate keyboard typing proficiency of 30 WPM*
38.04.02.07 Set text with appropriate margins, formatting, gutters, leading headings, guides, trims and folds*
38.04.02.08 Flow copy from word-processing program to page layout program according to job specifications*
38.04.02.09 Define the difference between raster and vector*
38.04.02.10 Define removable media*
38.04.02.11 Import an image in a page layout document*
38.04.02.12 Identify line images**

38.04.02.13 Identify continuous tone/halftone images**
38.04.02.14 Identify basic process color principles and kinds of four-color printing**
38.04.02.15 Identify digital color proofing techniques**
38.04.02.16 Identify digital image preparation and output equipment**
38.04.02.17 Identify basic desktop publishing equipment**
38.04.02.18 Explain the limitations and capabilities of desktop publishing**
38.04.02.19 Identify the differences between bitmap and vector**
38.04.02.20 Define postscript**
38.04.02.21 Distinguish between word-process, page layout, and graphic software**
38.04.02.22 Demonstrate the operation of digital image preparation**
38.04.02.23 Select appropriate software for word-processing, graphics, scanning and page layout**
38.04.02.24 Explain basic components of typographical compositions (i.e., by their point sizes and styles, basic type styles and their uses, serif and sans serif types, spacing, tracking and kerning of type characters, spacing and measurement principles of the leading text, type arrangements, flush left-ragged right, flush right-raged left, centered and justified
38.04.02.25 Explain the difference among postscript type, true type, and multiple-master font

38.04.03.0 Demonstrate file management operations for opening, copying, saving, and deleting files*

38.04.03.01 Organize a file management system for opening, copying, saving, and deleting files*
38.04.03.02 Collect components of a job (i.e., fonts, images, document, instructions)*
38.04.03.03 Produce/maintain backup files*

38.04.04.0 Demonstrate page layout to meet job specifications

38.04.04.01 Demonstrate a knowledge of available page layout programs: capabilities, advantages, and disadvantages**
38.04.04.02 Demonstrate the use of electronic dictionary, spell checker, and automatic hyphenation**
38.04.04.03 Demonstrate a functional knowledge of computer menus and palette for the software in use**
38.04.04.04 Demonstrate text alignment element positioning and rules of page design for printed matter**
38.04.04.05 Set up column grids for electronic page-layout according to job specifications**
38.04.04.06 Proof-read manuscript copy and make necessary corrections using basic proof-reading marks**
38.04.04.07 Set up/select appropriate pagination for a given job**
38.04.04.08 Set text with appropriate margins, formatting, gutters, leading headings**
38.04.04.09 Import copy from word-processing program to page layout program according to job specifications**
38.04.04.10 Design/produce a document using desired font styles, margins, indents, and tabs**
38.04.04.11 Proofread, edit, and make corrections/adjustments to copy on screen
38.04.04.12 Place graphics from an existing file into a publication**
38.04.04.13 Demonstrate the procedure for cropping graphics electronically**
38.04.04.14 Create a two-sided, three-panel brochure using graphics and text from publication**
38.04.04.15 Create a four-page newsletter using windows, blocks, text graphics, frames, and headings**
38.04.04.16 Create a two-page newsletter using drop caps for paragraph openings, wrap-arounds (run-arounds) and graphics**
38.04.04.17 Create a printed piece using tints, reverses, and manipulated type for effect**
38.04.04.18 Produce a multicolor flyer by outputting individual spot colors**
38.04.04.19 Place scanned graphics/photos into existing page layout**
38.04.04.20 Demonstrate knowledge of page layout programs**

38.04.05.0 Check finished proof

38.04.05.01 Review alignment
38.04.05.02 Produce proof copy of mechanical
38.04.05.03 Check proof for accuracy
38.04.05.04 Obtain written customer approval
38.04.05.05 Make needed corrections

38.04.06.0 Perform scanning operations

38.04.06.01 Identify DPL, LPI and PPI **
38.04.06.02 Compare and contrast DPI and PPI**
38.04.06.03 Demonstrate knowledge of scaling**
38.04.06.04 Identify scanner hardware and its basic components and operations**
38.04.06.05 Identify basic scanner software, its uses and limitations**
38.04.06.06 Demonstrate appropriate scanner program operations for line artwork**
38.04.06.07 Demonstrate appropriate scanner program operations for continuous tone copy**

38.04.07.0 Demonstrate raster and vector applications

38.04.07.01 Demonstrate a functional knowledge of commands/codes/menus and procedures for graphic usage**
38.04.07.02 Draw a design appropriate for a given job using a graphic program**
38.04.07.03 Create a design using tints and fills for a given job using a graphics program**
38.04.07.04 Create a design using manipulated type (i.e., rotated, circled, extended) for a publication)**
38.04.07.05 Trace a drawing/photograph using a graphics program**
38.04.07.06 Create a design/publication using electronic clip art**
38.04.07.07 Explain the differences among TIFF, EPS, PICT, PDF and DCS in a PostScript environment**
38.04.07.08 Translate files from Windows to MacIntosh formats and MacIntosh to Windows
38.04.07.09 Convert documents to PDF format

38.04.08.0 Create color documents

38.04.08.01 Use a file compression utility for file transfer or storage
38.04.08.02 Describe the differences between True Type and PostScript fonts
38.04.08.03 Create a single-color layout using clip art
38.04.08.04 Create a single-color layout using work and turn/work and tumble
38.04.08.05 Change contrast using tint screens and shading techniques
38.04.08.06 Create logo design on computer and integrate into a brochure design
38.04.08.07 Produce curved or special effects type using graphic applications
38.04.08.08 Produce a job on the computer using electronic imposition
38.04.08.09 Create a job that incorporates electronic trapping
38.04.08.10 Produce a multicolor job that includes scans, text, and spot color artwork

38.05.00.0 Film Generation*

38.05.01.0 Generate analog film images*

38.05.01.01 Identify basic darkroom equipment and hand tools*
38.05.01.02 Identify basic materials and supplies for line photography*
38.05.01.03 Produce a quality line negative and halftone using sensitivity guide/scale*
38.05.01.04 Explain contact and duplication films

38.05.02.0 Generate digital film images*

38.05.02.01 List the capabilities and functions of imagesetters
38.05.02.02 Calibrate/verify equipment settings
38.05.02.03 Produce quality line and halftone images*

38.05.03.0 Evaluate images

38.05.03.01 Identify evaluation tools
38.05.03.02 Identify over and under exposure in both analog and digital
38.05.03.03 Identify over and under development

38.06.00.0 Image Assembly and Platemaking

38.06.01.0 Follow safety practices in image assembly

38.06.01.01 Identify safety considerations in image assembly operations***
38.06.01.02 Practice safe working habits in image assembly operations***

38.06.02.0 Perform image assembly

38.06.02.01 Identify basic hand tools in image assembly
38.06.02.02 Identify basic materials in image assembly
38.06.02.03 Identify basic equipment in image assembly
38.06.02.04 Establish "true edge" and "vertical alignment" on an image assembly table (square up)
38.06.02.05 Lay out, measure, and rule an unlined masking sheet showing relevant guidelines (edge of sheet, gripper margins, plate-clamp, center marks) for 8-+ inch by 11-inch single-color work
38.06.02.06 Assemble an 8 + inch by 11 inch negative into a flat
38.06.02.07 Make appropriate corrections to film negative and flat
38.06.02.08 Layout, measure, and rule an unlined masking sheet showing relevant guidelines (edge of sheet, gripper margins, plate clamp, center marks) for 11 inch by 17 inch single-color work
38.06.02.09 Assemble and strip single color flat for 11 inch by 17 inch using pre-ruled masking sheet
38.06.02.10 Layout, measure and rule on unlined masking sheet showing relevant guidelines (edge of sheet, gripper margins, plate, clamper, center marks) for 8-+ inch by 11-inch multicolor work using pin register system

38.06.03.0 Assemble single and multicolor flats

38.06.03.01 Assemble a flat for single color-envelopes
38.06.03.02 Assemble a flat for single color-work and turn imposition
38.06.03.03 Assemble a flat for single color-work and tumble imposition
38.06.03.04 Assemble a single-color flat that includes screen tints
38.06.03.05 Assemble single-color flats for a four-page signature
38.06.03.06 Assemble single-color flat for an eight-page signature
38.06.03.07 Assemble a line and halftone combination flat
38.06.03.08 Assemble a multicolor job with color quality control bars for a four-page signature
38.06.03.09 Assemble a single color step and repeat flat (without pin register)
38.06.03.10 Assemble single color step and repeat flat using a pin register system
38.06.03.11 Check registration of multiple flats using daylight-proofing material
38.06.03.12 Assemble a multicolor job that uses masking film as a mechanical negative on one of the above
38.06.03.13 Identify and strip a multicolor job using registration marks and clear masking materials
38.06.03.14 Proof color work with color proofing materials
38.06.03.15 Produce a dummy for a book with a lip signature
38.06.03.16 Produce a 16-page signature dummy with proper imposition, pagination, and directions

38.06.04.0 Follow safety practices in platemaking

38.06.04.01 Use safety practices in platemaking
38.06.04.02 Identify safety considerations for platemaking
38.06.04.03 Practice safe work habits in platemaking operations

38.06.05.0 Prepare various types of plates
38.06.05.01 Identify basic parts of the platemaker and metal plates
38.06.05.02 Identify basic parts of the photo direct or direct transfer platemaker
38.06.05.03 Identify plate materials and plate types
38.06.05.04 Identify processing chemicals and methods
38.06.05.05 Identify plate-making procedures for metal plates
38.06.05.06 Determine exposure time for metal plates using transparent step scale and rub down test
38.06.05.07 Prepare metal plates (e.g., expose, process, and store)
38.06.05.08 Make additions, deletions and repairs to offset plate
38.06.05.09 Define CTP (computer to plate) technology

38.07.00.0 Press Operations

38.07.01.0 Identify parts of a printing press
38.07.01.01 Identify basic parts and systems of a press*
38.07.01.02 Identify basic press operation procedures*
38.07.01.03 Identify basic offset press parts and operations*
38.07.01.04 Identify basic safety and operation procedures for an offset press for single color printing*
38.07.01.05 Perform basic setup for printing a single-color job*
38.07.01.06 Produce a printed single-color job using an offset press*
38.07.01.07 Perform daily clean up and maintenance*

38.07.02.0 Use safety precautions when operating a press
38.07.02.01 Practice safe work habits in press operations
38.07.02.02 Identify safety considerations for press operations
38.07.02.03 Practice safe work habits on press operations
38.07.02.04 Clean and secure press for down time

38.07.03.0 Select and handle paper according to job specifications
38.07.03.01 Identify basic paper types and sizes***
38.07.03.02 Determine grain directions of paper***
38.07.03.03 Handle and jog paper stock (wire/felt, watermarks, carbonless sequence)***
38.07.03.04 Identify paper weight, coating and sizes***
38.07.03.05 Identify paper problems (curling)***

38.07.04.0 Prepare ink for the press
38.07.04.01 Identify offset ink types and uses***
38.07.04.02 Identify ink additives***
38.07.04.03 Identify ink problems***
38.07.04.04 Describe a procedure to set up, mix and test ink for printing using ink color chart for mixing requirements***
38.07.04.05 Identify fountain solutions and additives***
38.07.04.06 Identify mixed fountain solution testing materials, equipment and procedures***
38.07.04.07 Mix fountain solutions using appropriate ratios***

38.07.05.0 Ready press systems according to manufacturer's specifications
38.07.05.01 Review job ticket
38.07.05.02 Set up feeder for paper or envelope size
38.07.05.03 Load paper
38.07.05.04 Mix ink to color specifications
38.07.05.05 Inspect dampening system
38.07.05.06 Mix dampening solutions
38.07.05.07 Test dampening system for pH
38.07.05.08 Fill dampening system
38.07.05.09 Adjust dampening system
38.07.05.10 Clean plate
38.07.05.11 Install plate
38.07.05.12 Fill inking system
38.07.05.13 Adjust inking system
38.07.05.14 Set impression cylinder to paper thickness and press specification
38.07.05.15 Set up/adjust register system
38.07.05.16 Set delivery adjustments
38.07.05.17 Set spray powder

38.07.06.0 Set up and print in color
38.07.06.01 Make-ready paper systems***
38.07.06.02 Make-ready inking systems***
38.07.06.03 Make-ready dampening systems***
38.07.06.04 Print single-color job using a metal plate***
38.07.06.05 Print single-color job using photo direct and/or electrostatic masters***
38.07.06.06 Print a single-color job two-sided***
38.07.06.07 Print a single-color job on carbonless stock***
38.07.06.08 Print a single-color job on envelopes***

38.07.06.09 Print a single-color job on heavy stock***
38.07.06.10 Print a single-color job work and tumble***
38.07.06.11 Print a single-color job work and turn***
38.07.06.12 Print a two-color job on a press without register marks***
38.07.06.13 Print a two-color job using register marks***
38.07.06.14 Print a two-color job with color bars***
38.07.06.15 Print a two-sided/two-color job***
38.07.06.16 Print a two-color job on a press using a T-head***
38.07.06.17 Evaluate print quality and make needed adjustments to improve printed piece***
38.07.06.18 Print close register color work***
38.07.06.19 Print heavy solid work making needed adjustments to improve quality***

38.07.07.0 Produce printed images according to customer's signed proof

38.07.07.01 Feed paper
38.07.07.02 Ensure that image positions are correct
38.07.07.03 Ensure that registration is correct
38.07.07.04 Compare printed piece to final customer proof
38.07.07.05 Clean plate and blanket
38.07.07.06 Set counter
38.07.07.07 Print images
38.07.07.08 Maintain ink/water balance and water pH
38.07.07.09 Maintain image density and ink coverage
38.07.07.10 Perform quality inspections
38.07.07.11 Unload delivery system
38.07.07.12 Preserve/store plate
38.07.07.13 Clean blanket
38.07.07.14 Drain dampening system
38.07.07.15 Protect inking system

38.07.08.0 Wash up press according to manufacturer's specifications, OSHA, and EPA regulations***

38.07.08.01 Protect dampening system
38.07.08.02 Clean ink fountain(s)
38.07.08.03 Protect delivery system
38.07.08.04 Install wash-up devices
38.07.08.05 Apply solvents
38.07.08.06 Operate wash-up system
38.07.08.07 Clean wash-up devices
38.07.08.08 Perform deglazing operations
38.07.08.09 Clean cylinders
38.07.08.10 Clean bearers and press covers
38.07.08.11 Store supplies
38.07.08.12 Clean work area
38.07.08.13 Dispose of cleaning rags, solvents, used ink, and fountain solution

38.07.09.0 Maintain presses according to manufacturer's specifications***

38.07.09.01 Consult maintenance manual
38.07.09.02 Lubricate press system
38.07.09.03 Check all key components (e.g., blanket, ink train rollers, dampening rollers)
38.07.09.04 Replace worn blankets
38.07.09.05 Adjust ink train rollers
38.07.09.06 Replace dampening covers
38.07.09.07 Adjust dampening rollers
38.07.09.08 Maintain air/vacuum system (e.g., clean, adjust)
38.07.09.09 Maintain feed and delivery systems
38.07.09.10 Perform factory-recommended maintenance
38.07.09.11 Set up a preventive maintenance schedule chart
38.07.09.12 Inventory spare parts

38.07.10.0 Troubleshoot problems

38.07.10.01 Solve ink and dampening problems
38.07.10.02 Solve paper stock problems
38.07.10.03 Solve process problems
38.07.10.04 Solve mechanical problems

38.08.00.0 Finishing and Binding

38.08.01.0 Follow safety procedures in a bindery

38.08.01.01 Identify safety considerations in bindery operations*
38.08.01.02 Practice safe work habits in bindery operations*

38.08.02.0 Describe and identify offline-finishing systems

38.08.02.01 Describe the fundamentals of saddle stitching and perfect binding
38.08.02.02 Identify packaging and shrink-wrapping equipment and materials
38.08.02.03 Demonstrate knowledge of mail class rates (i.e.,bulk, pre-sorted)
38.08.02.04 Identify the components of a case bound book
38.08.02.05 Identify die-cut products and the basic procedure for die cutting
38.08.02.06 Describe basic equipment materials and procedures for foil stamping and embossing
38.08.02.07 Identify soft-and hard-case binding to include methods and glue applications
38.08.02.08 Prepare folding dummies for the most commonly used impositions
38.08.02.09 Describe various coating and laminating techniques
38.08.02.10 Describe the techniques used in waste control reproduction and disposal
38.08.02.11 Identify spiral binding and wire binding equipment and products
38.08.02.12 Describe tipping in procedures
38.08.02.13 Identify common production problems in the bindery
38.08.02.14 Identify various ancillary equipment such as gluing and ink jetting
38.08.02.15 Describe binding processes and techniques

38.08.03.0 Operate a paper cutter

38.08.03.01 Identify operational and safety part of a paper cutter*
38.08.03.02 Identify grain direction of paper*
38.08.03.03 Calculate basic paper cuts from stock sheets*
38.08.03.04 Draw a master cutting diagram for making cuts*
38.08.03.05 Square stock*
38.08.03.06 Make accurate paper cuts using a mechanized paper cutter*
38.08.03.07 Identify basic paper types, weights, grades and classification used in the printing industry*
38.08.03.08 Perform preventive maintenance on a paper cutter*

38.08.04.0 Operate padding equipment and hand tools*

38.08.04.01 Identify padding equipment, hand tools, and materials*
38.08.04.02 Produce correctly made pads of paper*

38.08.05.0 Produce saddle-stitched/stapled products*

38.08.05.01 Set up stapling and stitching equipment and hand tools*
38.08.05.02 Produce side and saddle-stitched/stapled products*

38.08.06.0 Drill three-ring notebook pages*

38.08.06.01 Demonstrate punching/drilling equipment and hand tools*
38.08.06.02 Measure to drill three-ring notebook pages*
38.08.06.03 Set-up/demonstrate a three-hold drill to produce a drill job*
38.08.06.04 Make holes for three-ring notebook*

38.08.07.0 Demonstrate binding techniques

38.08.07.01 Explain basic paper counting techniques to include spoon method, thumb method and fanning method and automated counting
38.08.07.02 Demonstrate safe paper carrying methods, including roll method
38.08.07.03 Demonstrate basic paper jogging techniques
38.08.07.04 Demonstrate a working knowledge of registration and pagination

38.08.08.0 Operate folding equipment

38.08.08.01 Define folding terminology
38.08.08.02 Identify different folding techniques
38.08.08.03 Make ready folder according to job specifications on a folder
38.08.08.04 Set up/operate folder consistent with job specifications
38.08.08.05 Describe and identify the uses of right angle folding*
38.08.08.06 Use folding equipment to produce an accordion fold
38.08.08.07 Use folding equipment to produce a double-folded job
38.08.08.08 Use folding equipment to slit, perforate, fold and score
38.08.08.09 Describe and identify inline-finishing systems
38.08.08.10 Prepare folding dummies for the most commonly used impositions
38.08.08.11 Perform preventive maintenance and knife folding/combination folding

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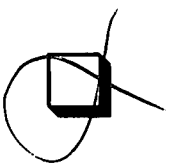

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