Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 1**
Course Number: **8739010**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in the different procedures and skills to perform, first aid, art and copy and pre-press operations.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
04.0 Demonstrate understanding of safety and first aid practices--The student will be able to:		
04.01 Identify location(s) of fire safety equipment.		
04.02 Describe proper use of fire safety equipment.		
04.03 List safety rules involving flammable liquids.		
04.04 List the steps to be taken in case of injury in the lab.		
04.05 Identify location(s) of first aid kit(s) and eye wash station(s).		
04.06 Discuss the importance of the Material Safety Data Sheets (MSDS).		
04.07 Identify protective safety equipment where needed (gloves, goggles, ear plugs, etc.).		
04.08 Practice proper safety procedures when operating equipment.		
04.09 Practice approved shop dress code for safe operation including necessary personal safety equipment.		
04.10 Pass a general lab safety test.		
04.11 Demonstrate acceptable employee health habits.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
04.12 Demonstrate knowledge of the "Right-to-Know Law".		
04.13 Pass a safety test in an individual's specialty area(s).		
04.14 Practice approved methods to dispose of waste materials.		
04.15 Read, comprehend and follow instructions on warning labels.		
04.16 Demonstrate common sense when working with others.		
04.17 Demonstrate a working knowledge of the safety color code.		
05.0 Demonstrate understanding of graphic communications occupations and processes--The student will be able to:		
05.01 Define the role of graphics in the enterprise system.		
05.02 Identify printing markets and types of printing business.		
05.03 List printing's ranking among other industries.		
05.04 Identify the major printing process.		
05.05 List the advantages of each major process.		
05.06 List the disadvantages of each major process.		
05.07 Identify the products produced by each major process.		
05.08 List in order of business flow of printing from initial need to a final product.		
05.09 List in order the technical production flow from idea to a finished product.		
05.10 Identify major occupations in the graphic arts.		
05.11 List the major responsibilities for each occupation.		
05.12 Identify basic salary/wage expectation ranges for local area.		
06.0 Demonstrate proficiency in art and copy preparation--The student will be able to:		
06.01 Identify basic equipment and tools for a paste-up.		
06.02 Identify basic materials and hand tools for a paste-up.		
06.03 Demonstrate how to prepare thumbnail layouts.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
06.04 Demonstrate how to prepare rough layouts.		
06.05 Demonstrate how to prepare comprehensive layouts including a finished working dummy.		
06.06 Employ the use of printers' measurements to compute inches and fractions, points and picas, decimals, percentages, and proportions.		
06.07 Demonstrate how to use copy fitting and mark up procedures to specify type sizes, styles and etc.		
06.08 Prepare a paste-up mechanical with elements including key line for photographs, title blocks and rulings.		
06.09 Prepare a tissue overlay and specify color break, tint percentages and reverses.		
06.10 Check and compare completed mechanical to comprehensive layouts for final proofing.		
07.0 Demonstrate proficiency in prepress/imaging operations--The student will be able to:		
07.01 Identify basic equipment and tools and the safety rules pertaining to prepress/imaging operation.		
07.02 Demonstrate how to choose type using the correct size and format.		
07.03 Identify fundamentals of type and its uses.		
07.04 Identify the various kinds of items that can be designed and produced using a page layout program.		
07.05 Demonstrate keyboarding skills.		
07.06 State how to organize a file management system for opening, copying, saving and deleting files.		
07.07 Demonstrate file management operations for opening, copying, saving and deleting files.		
07.08 Demonstrate how to log-on/boot-up and print out a page layout program and demonstrate a functional knowledge of computer commands/codes/menu/palette for the software in use.		
07.09 Demonstrate how to set text with appropriate margins, formatting, gutters, leading, headings, etc.		
07.10 Demonstrate how to flow copy from a word processing program according to job specifications.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 2**
Course Number: **8739020**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in performing reproduction photography and image assembly/plate making.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
08.0 Demonstrate proficiency in reproduction photography--The student will be able to:		
08.01 Identify the equipment and materials used in reproduction photography and the safety rules pertaining to each.		
08.02 Identify the parts of the process camera and explain their use.		
08.03 Apply basic principles of light pertaining to copy board illuminations and exposure calculations for all camera functions.		
08.04 Apply basic principles of darkroom chemistry.		
08.05 Prepare darkroom chemistry.		
08.06 Demonstrate how to establish basic line exposure and exposure time at 100% using standard time and temperature development.		
08.07 Apply basic principles of Kodak halftone computer and density guide.		
08.08 Demonstrate how to establish basic exposure to determine screen range, basic flash, main exposure, and bump exposure at 100% using standard time and temperature development.		
08.09 Demonstrate how to produce line negatives to size.		
08.10 Demonstrate how to inspect and compare line negatives to original mechanical.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
08.11 Demonstrate how to produce a halftone to size.		
08.12 Demonstrate how to inspect and compare halftones to original copy.		
08.13 Demonstrate how to make line and halftone diffusion transfer prints.		
08.14 Demonstrate how to inspect and compare prints to original mechanical.		
08.15 Identify the parts of a contact frame and point light source and explain their use.		
08.16 Demonstrate how to reduce contacts using orthochromatic and duplicating film, transmission density guide and standard time and temperature development.		
09.0 Demonstrate proficiency in image assembly/plate making--The student will be able to:		
09.01 Identify basic stripping equipment and hand tools.		
09.02 Identify basic stripping materials and supplies.		
09.03 Demonstrate how to produce a single color flat with correct dimensions and window(s).		
09.04 Demonstrate how to make necessary corrections to flat (IE, opaque/scribing).		
09.05 Identify plate making equipment and tools for offset metal plates.		
09.06 Identify plate material types and processing chemicals for making offset metal plates.		
09.07 Demonstrate how to produce a correctly exposed and processed metal plate for offset printing.		
09.08 Identify direct transfer plate making equipment.		
09.09 Identify direct transfer plate and processing materials.		
09.10 Demonstrate how to produce a direct transfer plate for offset printing.		
09.11 Identify pin registration systems.		
10.0 Demonstrate proficiency in performing basic offset press operations--The student will be able to:		
10.01 Identify basic offset duplicator parts and operations.		
10.02 Identify basic safety and operation procedures for an Offset Duplicator 1 or single color printing.		
10.03 Demonstrate basic setup procedures for printing a single color job.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
10.04 Produce a printed single color job using an offset duplicator.		

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Course Title: **Printing & Graphic Communications 3**
Course Number: **8739030**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in the different procedures for finishing/binding operations and basic skills.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
11.0 Demonstrate proficiency in basic finishing/binding operations--The student will be able to:		
11.01 Identify operational and safety parts of a paper cutter.		
11.02 Identify grain direction of paper.		
11.03 Demonstrate how to calculate basic paper cuts from a stock sheet.		
11.04 Demonstrate how to draw a master cutting diagram for making cuts.		
11.05 Demonstrate how to make accurate paper cuts using a mechanized paper cutter.		
11.06 Identify basic paper types, weights, grades and classifications used in the printing industry.		
11.07 Identify padding materials.		
11.08 Demonstrate how to produce correctly made pads of paper.		
11.09 Identify stapling and stitching equipment and hand tools.		
11.10 Identify stapling and stitching materials and supplies.		
11.11 Demonstrate how to produce side and saddle stitched/stapled products.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
11.12　Identify punching/drilling equipment and hand tools.		
11.13　Demonstrate how to measure to drill 3 ring notebook pages.		
11.14　Demonstrate how to make holes for 3 ring notebooks.		
11.15　Identify folding equipment and hand tools.		
11.16　Identify basic folds for printed products.		
11.17　Demonstrate how to make a single fold using an automatic folding machine.		
11.18　Identify collating equipment and hand tools.		
11.19　Demonstrate how to make sets of paper using collating equipment in proper sequence.		
11.20　Demonstrate how to hand collate sets in proper sequence.		
11.21　Identify the cut products and the basic procedure for die cutting.		
11.22　Identify hot foil stamped products, basic equipment materials and procedures for foil stamping.		
15.0　Demonstrate appropriate math skills--The student will be able to:		
15.01　Demonstrate how to solve addition, subtraction, multiplication and division of whole numbers.		
15.02　Demonstrate how to solve addition, subtraction, multiplication and division of fractions.		
15.03　Demonstrate how to solve addition, subtraction, multiplication and division of decimals.		
15.04　Demonstrate how to solve fraction to decimal and decimal to fraction conversion problems.		
15.05　Demonstrate how to solve decimal to percent and percent to decimal conversion problems.		
15.06　Demonstrate how to solve basic ratio and proportion problems.		
15.07　Demonstrate how to solve basic liner measurement problems.		
15.08　Demonstrate how to solve basic inches to picas and picas to inches conversion problems.		
15.09　Demonstrate how to solve inches to points and points to inches conversion problems.		
15.10　Demonstrate how to solve cost calculating problems.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 4**
Course Number: **8739040**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in the different procedures for performing basic film assembly and plate making.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
16.0 Demonstrate proficiency in performing basic film assembly and plate making competencies-- The student will be able to:		
16.01 Read and comprehend production information on a job jacket/ticket.		
16.02 Identify the equipment, tools and materials used in film assembly operations their parts, functions, and safety rules relating to their operation.		
16.03 Apply basic math skills to the film assembly operations.		
16.04 Demonstrate how to establish the "true edge" and "vertical alignment" on a film assembly table (squaring the table).		
16.05 Demonstrate how to layout, measure and rule an unlined masking sheet showing relevant guidelines (guide edge of the sheet, gripper margins, plate clamp, center marks, etc.) for 8 1/2" X 11" single color work.		
16.06 Demonstrate how to assemble and properly attach negatives to an 8 1/2" X 11" or larger size color flat.		
16.07 Demonstrate how to make appropriate corrections to a film negative and flat.		
16.08 Demonstrate how to layout, measure and rule an unlined masking sheet showing relevant guidelines (guide edge of the sheet, gripper margins, plate clamp, center marks, side guides, etc.) for an 11" X 17" or larger single color work.		
16.09 Demonstrate how to assemble and properly attach negatives to an 11" X 17" or larger single color flat.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
16.10 Demonstrate how to assemble and properly attach negatives to a 10" X 15" or larger single color pre-ruled flat.		
16.11 Demonstrate how to layout, measure and rule an unlined masking sheet showing relevant guidelines (guide edge of the sheet, gripper margins, plate clamp, center marks, side guides, etc.) for an 8 1/2" X 11" multicolor work using pin register system.		
16.12 Demonstrate how to assemble a single color flat for an envelope.		
16.13 Demonstrate how to assemble a single color flat for a work and turn imposition.		
16.14 Demonstrate how to assemble a single color flat for a work and tumble imposition.		
16.15 Demonstrate how to assemble a single color flat for a screen tint.		
16.16 Demonstrate how to assemble a single color flat for a 4-page sheet wise imposition.		
16.17 Demonstrate how to assemble a single color flat for an 8-page signature.		
16.18 Demonstrate how to assemble a single color flat for a line and halftone combination flat.		

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Student Performance Standards

Course Title: **Printing & Graphic Communications 5**
Course Number: **8739050**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in the different procedures for performing basic film assembly and plate making.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
16.0 Demonstrate proficiency in performing basic film assembly and plate making competencies -- The student will be able to:		
16.21 Demonstrate how to assemble a single color flat for step and repeat with a pin register system.		
16.22 Demonstrate how to assemble a multi-color job that uses masking film as a mechanical negative.		
16.23 Demonstrate how to perform exposure tests for light-sensitive materials used in the film assembly area.		
16.24 Demonstrate how to check registration of multiple flats using daylight proofing material.		
16.25 Demonstrate how to prepare a spread negative or positive for image fit using a contact control wedge as a guide.		
16.26 Demonstrate how to produce a choke negative or positive for image fit using a contact wedge as a guide.		
16.27 Demonstrate how to produce a composite negative.		
16.28 Demonstrate how to assembly multicolor, emulsion-up, flats with registration marks, color bars and slur bars on clear masking material.		
16.29 Demonstrate how to expose and process a multicolor job using blue line/color proofing materials.		
16.30 Demonstrate how to inspect and compare proof to originals.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
16.31 Identify the equipment, tools, and materials used in plate making operations, their parts, functions, and safety rules relating to their operation.		
16.32 Apply the basic math skills to the plate making operations.		
16.33 Demonstrate how to perform exposure tests for light-sensitive materials used in the plate making area using a sensitivity guide.		
16.34 Identify the different plate materials, types and processing chemicals and methods used for each.		
16.35 Demonstrate how to expose, process and preserve metal plates.		
16.36 Demonstrate how to make additions, deletions and repairs to metal plates.		
16.37 Demonstrate how to expose, process and protect photo direct or transfer plates.		
16.38 Demonstrate how to make additions, deletions and repairs to photo direct or transfer plates.		
16.39 Demonstrate how to inspect and compare plates to proofs.		
16.40 Demonstrate how to properly handle, file, store and retrieve flats and plates.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 6**
Course Number: **8739060**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in electronic imaging, and typography.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
17.0 Demonstrate proficiency in basic electronic imaging competencies--The student will be able to:		
17.01 Read and comprehend production information on a job jacket/ticket.		
17.02 Identify the various kinds of items that can be designed and produced using desktop publishing.		
17.03 Identify the basic principles of design (i.e. unity, contrast, page proportions, balance, etc.)		
17.04 Demonstrate how to incorporate the basic design principles in hand drawn sketches and measured layouts.		
17.05 Identify line copy.		
17.06 Identify continuous tone, halftone copy.		
17.07 Identify basic process color principles and four kinds of color printing.		
17.08 Demonstrate understanding of electronic color proofing techniques.		
17.09 Identify basic desktop publishing equipment.		
17.10 Define the limitations and capabilities of desktop publishing.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
17.11 Define the differences in quality of photo-processed output and laser printer output.		
17.12 Demonstrate understanding of postscript software capabilities.		
17.13 Define the operation of the hardware components of a computer aided publishing system.		
17.14 Demonstrate how to select appropriate software for word processing, graphics, scanning and page layout.		
17.15 Demonstrate a keyboard typing proficiency of a minimum of 30 WPM.		
17.16 State how to organize a file management system for opening, copying, saving and deleting files.		
17.17 Demonstrate file management operations for opening, copying, saving and deleting files.		
17.18 Demonstrate how to prepare a series of hand drawn sketches for layouts incorporating appropriate marks (i.e. gutters, register marks, fold lines, etc.).		
17.19 Demonstrate how to prepare a dummy for a multi-page signature.		
17.20 Demonstrate an understanding of data exchange.		
18.0 Demonstrate proficiency in the use of type and typography--The student will be able to:		
18.01 Demonstrate how to measure copy/text in points and picas using a line gauge.		
18.02 Demonstrate how to measure type using a type fitting gauge.		
18.03 Demonstrate how to identify x-height, mean-line, baseline, ascenders, descenders, and their roles in measuring and designing with type.		
18.04 Demonstrate how to identify caps, lowercase, uppercase, small caps and ligatures.		
18.05 Define dingbats, bullets, rules, and symbols and their uses in publications.		
18.06 Demonstrate how to distinguish between display (headline) type and body (text) type by their point sizes and styles.		
18.07 Demonstrate how to identify the basic type styles and their uses.		
18.08 Define the "weight" and "posture" of type.		
18.09 Demonstrate how to distinguish between serif and sans serif type styles.		
18.10 Define letter spacing and kerning of type characters.		
18.11 Define word spacing and the relationship of em and en in paragraph spacing.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
18.12 Define line spacing and explain the measurement principles for the leading of text.		
18.13 Define the type arrangements: flush left, ragged right, flush right, ragged left, centered, justified, and forced justified.		
18.14 Define and demonstrate copy fitting.		

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Course Title: **Printing & Graphic Communications 7**
Course Number: **8739070**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in page layout operations and scanning operations.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
19.0 Demonstrate proficiency in using page layout operations--The student will be able to:		
19.01 Demonstrate how to markup a copy for production of a printed piece.		
19.02 Demonstrate how to select appropriate page layout software for a given job.		
19.03 Demonstrate how to log-on/boot-up and print out a page layout program and demonstrate a functional knowledge of computer commands/codes/menus/palette for the software in use.		
19.04 Demonstrate text alignment, element positioning and rules of page design for printed matter.		
19.05 Demonstrate how to set up column grids for electronic page layout according to job specifications.		
19.06 Demonstrate how to set up/select appropriate pagination for a given job.		
19.07 Demonstrate the uses of footers and headers.		
19.08 Demonstrate how to set text with appropriate margins, formatting, gutters, leading, headings etc.		
19.09 Demonstrate a proficiency in conducting basic search operations.		
19.10 Demonstrate how to place copy from word processing program to a page layout program according to job specifications.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
19.11 Demonstrate how to proofread, edit and make corrections/adjustment to copy on screen.		
19.12 Demonstrate how to download fonts.		
19.13 Demonstrate how to place graphics, rules, dingbats, from an existing file into a publication.		
19.14 Demonstrate the procedure for cropping graphics electronically.		
19.15 Demonstrate how to create a 2 sided, 3 panel brochure using graphics and text for publication.		
19.16 Demonstrate how to create a 4-page newsletter using windows, blocks, text, graphics, frames and headings.		
19.17 Demonstrate how to create a 2-page newsletter using drop caps for paragraph openings, wraparound (run-around) and graphics.		
19.18 Demonstrate how to create a printed piece using tints, reverses and manipulated type for effect.		
19.19 Demonstrate how to produce a multicolor flyer using electronic spot color separations.		
19.20 Demonstrate knowledge of available page layout programs - capabilities, advantage, and disadvantages.		
19.21 Demonstrate the use of an electronic dictionary, spell checker, and automatic hyphenation.		
20.0 Demonstrate proficiency in scanning operations--The student will be able to:		
20.01 Identify scanner hardware and its basic components and operations.		
20.02 Identify basic scanner software, its uses and limitations.		
20.03 Demonstrate appropriate scanner/program operations for continuous tone copy.		
20.04 Demonstrate how to place scanned graphics/photos into existing page layout program.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 8**
Course Number: **8739080**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in vector based graphics and electronic pre-press operation.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
21.0 Demonstrate understanding of a vector base graphics program--The student will be able to:		
21.01 Demonstrate how to log-on/boot-up vector-based graphics program and demonstrate a functional knowledge of commands/codes/menus/hand tools and procedures for their uses.		
21.02 Demonstrate how to draw a design appropriate for a given job using a graphic program.		
21.03 Demonstrate how to create a design using tints, fills and paint for a given job using a graphics program.		
21.04 Demonstrate how to create a design using manipulated type (rotated, circled, extended, etc.) for a publication.		
21.05 Demonstrate how to trace a drawing/photograph using a graphics program.		
21.06 Demonstrate how to create a design/publication using electronic clip art.		
22.0 Demonstrate proficiency in electronic prepress operations--The student will be able to:		
22.01 Define the application of digital photography in electronic imaging.		
22.02 List the capabilities and functions of image setters.		
22.03 Identify and compare digital proofs.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
22.04 Identify and compare networking systems.		
22.05 Define the current systems/techniques for outputting files direct to plate material.		
22.06 Demonstrate an understanding of the PostScript page description language.		
22.07 Demonstrate how to compare the leading operating systems in performance, use and capabilities.		
22.08 Define storage guidelines and limitations.		
22.09 List the advantages and disadvantages of different storage media, such as syquest, optical, etc.		
22.10 List the use and capabilities of storage devices for electronic imaging work, transport and storage.		
22.11 Describe the strengths and weaknesses of TIFF, EPS, PICT and DCS in a Postscript environment.		
22.12 Demonstrate how to translate files from DOS to Mac formats.		
22.13 Demonstrate how to use a file compression utility for file transfer or storage.		
22.14 Describe the differences between True Type and PostScript fonts.		
22.15 Demonstrate how to use a telecommunications program and a modem to transfer files.		
22.16 Demonstrate how to create a single color layout using clip art.		
22.17 Demonstrate how to create a single color layout using work and turn.		
22.18 Demonstrate how to change contrast using tint screens and shading techniques.		
22.19 Demonstrate how to create a logo design on a computer and integrate it into a brochure design.		
22.20 Demonstrate how to produce special effects type using a graphics application.		
22.21 Demonstrate how to produce a job on the computer using electronic imposition.		
22.22 Demonstrate how to create a job that incorporates electronic trapping.		
22.23 Demonstrate how to produce a multicolor job that includes scans, text and spot color artwork.		
22.24 Demonstrate how to prepare page layout files containing graphic images for remote output.		
22.25 Demonstrate how to follow instructions to produce, modify or output files according to a customer supplied criteria.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
22.26 Demonstrate how to use OCR software to capture text.		
22.27 Demonstrate how to calibrate a desktop color scanner.		
22.28 Demonstrate how to produce a color scan.		
22.29 Demonstrate how to use a photo manipulation program to perform basic color correction and basic image cloning.		
22.30 Demonstrate how to calibrate a color monitor.		
22.31 Define how film processor variations affect final output.		
22.32 Define quality control checks on the film processor.		
22.33 Define the use and capabilities of storage devices for electronic imaging work transport and storage.		
22.34 Define the strengths and weaknesses of TIFF, EPS, PICT and DCS in a Postscript environment.		
22.35 Demonstrate how to translate files from DOS to Mac formats.		
22.36 Use a file compression utility for file transfer or storage.		
22.37 Define the differences between True Type and Postscript fonts.		
22.38 Demonstrate how to use a telecommunications program and a modem to transfer files.		
22.39 Demonstrate how to create a single color layout using clip art.		
22.40 Demonstrate how to create a single color layout using work and turn.		
22.41 Demonstrate how to change contrast using tint screens and shading techniques.		
22.42 Demonstrate how to create logo design on a computer and integrate into a brochure design.		
22.43 Demonstrate how to produce special effects type using a graphics application.		
22.44 Demonstrate how to produce a job on the computer using electronic imposition.		
22.45 Demonstrate how to create a job that incorporates electronic trapping.		
22.46 Demonstrate how to produce a multicolor job that includes scans, text and spot color artwork.		
22.47 Demonstrate how to prepare page layout files containing graphic images for remote output.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
22.48 Demonstrate how to follow instructions to produce, modify or output files according to customer supplied criteria.		
22.49 Demonstrate how to use OCR software to capture text.		
22.50 Demonstrate how to calibrate a desktop color scanner.		
22.51 Demonstrate how to produce a color scan.		
22.52 Demonstrate how to use a photo manipulation program to perform basic color correction and basic image cloning.		
22.53 Demonstrate how to calibrate a color monitor.		
22.54 Define how film processor variations affect final output.		
22.55 Define quality control checks on the film processor.		

Florida Department of Education
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Course Title: **Printing & Graphic Communications 9**
Course Number: **8739090**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in basic offset press operation.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
23.0 Demonstrate proficiency in operation of basic offset press--The student will be able to:		
23.01 Identify the equipment and materials used in offset press operations, their parts and functions, and the safety rules relating to their operation.		
23.02 Apply basic principles of offset lithography pertaining to physical and chemical properties of ink components (pigment, vehicle, and dryer).		
23.03 Apply basic principles of offset lithography pertaining to dampening systems (ducted and continuous).		
23.04 Apply basic principles of offset lithography pertaining to fountain solutions chemical components (acid, alkaline, and neutral).		
23.05 Apply basic principles of offset lithography pertaining to ph-control and its effects on the lithographic process.		
23.06 Apply basic principles of offset lithography pertaining to interrelationships upon the process of paper (coated and uncoated and various grades within).		
23.07 Demonstrate how to determine grain directions of paper.		
23.08 Demonstrate how to handle and jog paper stock (wire/felt, watermarks, and carbonless sequence).		
23.09 Demonstrate how to identify paper weight, coating and sizes.		
23.10 Demonstrate how to identify paper problems, curling, dust, moisture, flaring, etc.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
23.11 Apply basic principles of offset lithography pertaining to the interrelationships of textured or smooth paper; paper, plastic, metal plates, and conventional or compressible blankets.		
23.12 Apply basic principles of offset lithography pertaining to ink and its drying properties in relation to fountain solution, plate and paper used (including effects of ink film thickness and drying time and set off; and problems associated with inappropriate use of spray powder).		
23.13 Apply basic principles of plate preservation after presswork for long-time storage (use of gum Arabic and Asphaltum).		
23.14 Demonstrate how to prepare a press for operation by reviewing job-ticket specifications and then selecting appropriate press and materials.		
23.15 Demonstrate how to prepare a press for operation based on interrelationships of lithographic process.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 10**
Course Number: **8739091**
Course Credit: **1**

Course Description:

This course is designed to provide instruction basic offset press operation.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
23.0 Demonstrate proficiency in operation of basic offset press--The student should be able to:		
23.16 Demonstrate how to mix fountain solution from concentrate.		
23.17 Demonstrate how to mix ink to color matching systems specifications (PMS, etc.).		
23.18 Demonstrate how to introduce ink and fountain solution to press in proper sequence.		
23.19 Demonstrate how to set up and adjust feeder to paper specifications (air blast, vacuum and choke).		
23.20 Demonstrate how to set up and adjust register system to single sheet or stream fed, side guide, and head register.		
23.21 Demonstrate how to set up and adjust delivery (chute or chain).		
23.22 Demonstrate how to mount blanket (pack if necessary) and adjust to press specifications.		
23.23 Demonstrate how to set impression cylinder to paper thickness and press specifications.		
23.24 Demonstrate how to set and adjust ink and water rollers pressures to press specifications.		
23.25 Demonstrate how to make-ready a press to assure ink and water balance for uniform coverage, volume and replenishment of ink, image position, cylinder pressure, and sheet		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
registration.		
23.26 Demonstrate how to make additions, deletions and repairs to offset plate.		
23.27 Demonstrate how to inspect and evaluate final make-ready sheet to job-ticket specifications and obtain proof approval to run.		
23.28 Demonstrate how to set spray powder.		
23.29 Demonstrate how to produce required number of press sheets to job-ticket specifications.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 11**
Course Number: **8739092**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in basic offset press operation.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
23.0 Demonstrate proficiency in operation of basic offset press--The student should be able to:		
23.30 Demonstrate how to preserve plate for long-term storage.		
23.31 Demonstrate how to perform press wash-up and roller treatment.		
23.32 Demonstrate how to perform press maintenance to manufacturers' specifications.		
23.33 Demonstrate how to apply basic principles of offset press operations with regard to work and turn, work and tumble and sheet wise printed products.		
23.34 Demonstrate how to produce a tight register one-color project.		
23.35 Demonstrate how to produce a tight register one or two-color, pre-collated carbonless project.		
23.36 Demonstrate how to produce a two color tight register project.		
23.37 Demonstrate how to print a two color job on a duplicator using a T-head.		
23.38 Demonstrate how to produce a one or two color tight register envelope project.		
23.39 Demonstrate how to produce a tight register one-color metallic ink project.		
23.40 Demonstrate how to produce a tight register one or two color folding two sided project.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
23.41 Demonstrate how to produce a multicolor tight register project.		
23.42 Demonstrate an understanding and identify troubleshooting problems on a duplicator.		
23.43 Define and identify direct imaging technologies.		
23.44 Demonstrate how to clean and secure duplicator for down time.		

Florida Department of Education
Student Performance Standards

Course Title: **Printing & Graphic Communications 12**
Course Number: **8739093**
Course Credit: **1**

Course Description:

This course is designed to provide instruction in basic finishing and distribution.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA and NGSSS-Sci.

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
24.0 Demonstrate proficiency in performing basic finishing and distribution competencies--The student will be able to:		
24.01 Demonstrate how to read and comprehend production information on a job jacket/ticket.		
24.02 Demonstrate how to identify the equipment and materials used in finishing and distribution operations, their parts, functions, and safety rules relating to their operation.		
24.03 Demonstrate how to apply basic math skills to the binding and distribution operations.		
24.04 Demonstrate how to prepare folding dummy from press sheet in accordance with job ticket specifications and approved proof.		
24.05 Demonstrate how to setup and operate folder in accordance with job ticket specifications and folding dummy		
24.06 Demonstrate how to use folding equipment to produce single, gate and accordion folds.		
24.07 Define and identify right angle folds.		
24.08 Apply basic principles of finishing and distribution following folded bound signature impositions to allow for lips, trims and bleeds according to saddle and side-stitch binding method.		
24.09 Define and identify slitting, perforating and scoring functions and equipment pertaining to folding operations.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
24.10 Define how to use and setup cutters.		
24.11 Demonstrate how to prepare rule-out of press sheet for finishing operations according to job ticket specifications and approved proof.		
24.12 Demonstrate how to setup and operate cutter in accordance with rule-out.		
24.13 Demonstrate how to square substrate.		
24.14 Define and identify problems with substrate.		
24.15 Define the proper maintenance procedures for paper cutters.		
24.16 Define how to change the blade on a paper cutter.		
24.17 Define and identify the most commonly used types of paper.		
24.18 Demonstrate knowledge of paper types related to their printing, folding and binding characteristics.		
24.19 Demonstrate how to hand-jog 8 1/2" x 11" substrate.		
24.20 Demonstrate how to hand-jog 17" x 22" or larger substrate.		
24.21 Demonstrate how to machine-jog substrate.		
24.22 Define and identify off-line finishing systems.		
24.23 Define the fundamentals of saddle stitching and perfect binding.		
24.24 Define and identify the use of automated sorting and labeling equipment.		
24.25 Define and identify mail class rates (bulk, presorted, etc.)		
24.26 Define and identify the quality control methods for bar codes in relation to postal standards.		
24.27 Define and identify embossing procedures and equipment.		
24.28 List the common problems encountered in embossing.		
24.29 Identify the components of case, spiral and perfect bound books.		
24.30 Define and identify modern book binding equipment with hand binding techniques.		
24.31 Demonstrate how to store and properly handle substrates.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
24.32 Define and identify U-V coatings.		
24.33 List the advantages and disadvantages of U-V coatings.		
24.34 Demonstrate how to estimate the cost of materials and production for performing bindery operations; cutting, scoring, folding, packaging and coating.		
24.35 Demonstrate how to setup and operate stitcher (side and saddle).		
24.36 List the techniques used to control waste production and disposal in a modern bindery.		
24.37 Define and identify spiral, comb and wire binding equipment and supplies.		
24.38 Define tipping procedures.		
24.39 Demonstrate how to perform preventive maintenance on binding and finishing equipment.		
24.40 Demonstrate methods of counting substrate (machine, measurement, weight and rapid multiple-sheet manual counting by fives).		
24.41 Define collating flat sheets.		
24.42 Demonstrate how to setup and operate a paper drill for standard loose-leaf binder.		
24.43 Define and identify packaging and shrink wrapping equipment.		
24.44 Demonstrate how to package and identify completed job according to job specifications.		