

# GRAPHIC COMMUNICATIONS TECHNOLOGY 30

## Description

This course is designed to enhance the student's background and knowledge of electronic publishing by selecting appropriate page layout and processes used with electronic publishing. Electronic publishing hardware and software applications will be stressed. Electronic pagination systems and their current roles will be covered. Major software used are Illustrator, Photoshop and InDesign.

During the first semester, the major emphasis is on digital printing operations of color process work. Digital photography and state of the art computer-to-plate system will be used in creating students' projects. Using graphics software, students will collaborate to design a company logo for their own business. A computer graphics logo will be used to design a letterhead, envelope, business card, brochure, flyer and a screened shirt for their business creation. Some of the other projects include business cards, calendars, greeting cards, and personalized stationery.

During the second semester, the major emphasis will be in graphic design. Students will work as graphic designers, enhancing the way a package was designed for such items as a soda can, bar of soap, gum, candy. They will produce a deck of cards, print, laminate, cut, round corner the edges and create the box for the cards to fit. They will create a simulated billboard, game board, and the packaging for the game, product labels, box design, and cellophane wrappers design. Other areas to be explored will be vinyl applications for vehicles and banners, screen- printing and dye-sublimation design projects.

## Course Overview

### Course Objectives

Students should be able to:

- use safely and efficiently, the resources, processes, concepts, and tools of the graphic communications industry.
- understand and apply practical technological methods with a hands-on approach to graphic production.
- develop a vocabulary for use in the graphic communications field.
- create and edit digital graphics and imagery.
- identify and demonstrate appropriate use of graphical elements for web pages.
- interpret and apply color models through graphic manipulations.
- identify and describe the major components and operating controls of the output device.
- explain the various applications and characteristics of paper substrates.
- exercise effective project preparation.

### Essential Questions

- How does digital file preparation enable the designer to be efficient in design and production?
- What role does print publishing have in society?
- What types of resources need to be considered to produce finished products suitable for print, web, and multimedia?
- What role does design composition play in the utilization of a design for the web?
- Why are controls so essential in output operations?
- Why is it important to know the various applications and characteristics of paper substrates?
- What role does ink have in the final product of a document?
- How do the processes of finishing and binding influence the designer before work

### Assessments

- Quizzes and Tests on Unit subject matter
- Projects-Performance based assessments

	begins? <ul style="list-style-type: none"> <li>• How does the practice of finishing and binding impact a printed product?</li> <li>• What does modeling proper customer service and sales principles have to do with success in business?</li> <li>• Why does scheduling have such an essential place in the world of business?</li> </ul>	
<b>Content Outline</b> I. <a href="#">Unit 1</a> - Digital Images and Controls II. <a href="#">Unit 2</a> – Print Publishing III. <a href="#">Unit 3</a> - Web Publishing IV. <a href="#">Unit 4</a> - Output Operations V. <a href="#">Unit 5</a> - Binding and Finishing VI. <a href="#">Unit 6</a> - Ink and Substrates VII. <a href="#">Unit 7</a> - Work Flow	<b>Standards</b> <a href="https://www.georgiastandards.org/standards/Georgia%20Performance%20Standards%20CTAE/Graphic%20Output%20Processes.pdf">https://www.georgiastandards.org/standards/Georgia%20Performance%20Standards%20CTAE/Graphic%20Output%20Processes.pdf</a>	

Pacing Guide						
1 <sup>st</sup> Marking Period	2 <sup>nd</sup> Marking Period	3 <sup>rd</sup> Marking Period	4 <sup>th</sup> Marking Period			
Unit 1  <u><a href="#">Digital Images and Controls</a></u>  6 weeks	Unit 2  <u><a href="#">Print Publishing</a></u>  6 weeks	Unit 3  <u><a href="#">Web Publishing</a></u>  6 weeks	Unit 4  <u><a href="#">Output Operations</a></u>  4 weeks	Unit 5  <u><a href="#">Binding and Finishing</a></u>  3 weeks	Unit 6  <u><a href="#">Ink and Substrates</a></u>  2 weeks	Unit 7  <u><a href="#">Work Flow</a></u>  9 weeks

**Unit 1- Digital Images and Controls, 6 weeks [top](#)**

**Standards**

**ACCT-GDP-11 Students will demonstrate knowledge of digital file preparation.**

**Unit Objectives**

Students will be able to:

- describe how software is used to reproduce, redo, revise, rework, and re-envision traditionally and digitally created artwork and imagery.
- describe the use of artboard, toolbox, menu bar, panels, control panel, status bar, context menus, and preferences in Illustrator.
- set preferences and customize the Illustrator digital image process.
- develop a basic understanding of the two types of digital images - bitmap (raster) and vector.
- learn about image formats and get an overview of common image format types.

**Essential Question**

- How does digital file preparation enable the designer to be efficient in design and production?

**Focus Questions**

- Why is using vector drawings and images important in the digital image world?
- Why are some programs designed specifically to work with vector graphics?
- What is the importance of graphics programs being able to handle importing and translating both vector and bitmap images.
- What is the difference between image format types?

**Assessments**

- Quizzes (practical computer based) on Unit subject matter

**Skill Objectives**

Students will:

- use the hand and zoom tools, navigator panel, and screen and view modes.
- explore the Illustrator interface and the use of artboard, toolbox, menu bar, panels, control panel, status bar, context menus, and preferences in Illustrator.
- describe fundamental design elements.
- describe how images are created in relation to fundamental design elements.
- describe how vector images are constructed using straight and curved paths drawn point-by-point.
- distinguish between image's distinguishing characteristics - bitmaps (rasters) vs. vectors.
- identify image's format type, such as TIFF, EPS, JPG, AI.

**Unit 2 –Print Publishing, 6 weeks [top](#)**

**Standards**

- ACCT-GDP-2 Students will interpret and apply color models through graphic manipulations.**
- ACCT-GDP-3 Students will identify the output issues involving color and demonstrate the proper usage.**
- ACCT-GDP-7 Students will continue to explore different outlets for typography and define its role in design.**

**Unit Objectives**

Students will be able to:

- learn about the different methods of printing.
- understand halftoning and the color separation process.
- know what to do about printing transparencies, gradient meshes, complex paths, and fonts.
- understand the importance of the Print dialog box.
- explore printing technologies used in then graphic communication industry.
- understand and demonstrate knowledge of typographic principles as they relate to layout and page composition.
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**Essential Question**

- What role does print publishing have in society?

**Focus Questions**

- Why is it important to know about the different methods of printing?
- What are halftones and how are they used in printing?
- What is the role of typography in design?]
- How does effective use of software enable a designer to be productive?

**Assessments**

- Quizzes(practical computer based) on Unit subject matter
- Print Projects

**Skill Objectives**

Students will:

- utilize Desktop printers.
- utilize Digital printing (duplicator, plotter, copier).
- use a mechanical press.
- analyze and implement color management among color systems including CMYK, RGB, and spot.
- demonstrate knowledge of typographic principles as they relate to layout and page composition.
- create PDF or postscript files.
- apply settings in Illustrator for gradients and complex paths.
- utilize Illustrator’s Print dialog box to set preferences for printing.
- design and produce a digital document in a page layout program. Layout should include placed graphics of print quality, correct number of inks, correct margins, and gutters for folding purposes.
- demonstrate image conversion.

**Unit 3- Web Publishing , 6 weeks [top](#)**

**Standards**

- BCS-FWD-5 Students will identify and demonstrate appropriate use of graphical elements for web pages.**
- BCS-FWD-6 Students will demonstrate knowledge of web page layout fundamentals.**

**Unit Objectives**

Students will be able to:

- become an image optimization master.
- understand the use of web file formats, including SVG and SWF.
- learn about web image color and compression.
- discover the reusability of symbols.
- three interrelated areas to consider in the web optimization process.
- gain an understanding of using raster versus vector-based formats.
- describe how image size can impact optimization.
- explore the use of Image slicing.

**Essential Questions**

- What types of resources need to be considered to produce finished products suitable for print, web, and multimedia?
- What role does design composition play in the utilization of a design for the web?

**Focus Questions**

- Why are web images saved in the RGB color space?
- What role do color reduction algorithms or “color tables” have to an optimized image?
- What is slicing is useful for in table placement?
- Why should one consider optimizing independent sections of an image or web page?
- What are the results of creating smaller image files?
- Why create interactive effects, like rollover buttons?

**Assessments**

- Quizzes(practical computer based) on Unit subject matter
- Web Page design

**Skill Objectives**

Students will:

- slice a web page by dividing up areas of an image or a complete web page layout into smaller, independent files.
- engage in web optimization process of Image format, Image color, Image size.
- apply image compression.
- apply appropriate format to files when saving web images; raster (GIF, JPEG, or PNG )or vector (SWF or SVG).
- describe different types of color tables such as Perceptual, Selective, Adaptive, Web-Safe, and Grayscale.
- use horizontal rules, data tables, and lists in web pages.
- add images to web pages.
- create image maps.

**Unit 4 – Output Operations, 4 weeks [top](#)**

**Standards**

**ACCT-GDP-13 Students will identify and describe the major components and operating controls of the output device.  
 ACCT-GDP-14 Students will print a product according to customer specifications.**

**Unit Objectives**

Students will be able to:

- describe the major components and operating controls of the output device
- print a product according to customer specifications

**Essential Question**

- Why are controls so essential in output operations?

**Focus Questions**

- Why are understanding device operation and function necessary to be successful in outputs?
- What does process order have to do with completing the job?
- Why are the customer’s specifications important?

**Assessments**

- Quizzes(practical computer based) on Unit subject matter
- Projects

**Skill Objectives**

Students will:

- identify the major components and controls of the output device.
- describe their function and how it relates to the printed product.
- describe how to correctly start up and shutdown the output device.
- read/Interpret the job ticket and prepare and make ready the machine to print job.
- produce a sample using customer specifications outlined on the job ticket.
- produce order according to job ticket, accuracy, color, waste, and order quantity.
- maintain output devices properly.

**Unit 5 – Binding and Finishing, 3 weeks [top](#)**

**Standards**

- ACCT-GDP-15. Students will impose and plan correctly the finishing and binding workflow of a multiple page publication.**
- ACCT-GDP-16. Students will identify binding processes, describe the binding processes, and demonstrate the ability to bind a printed product.**
- ACCT-GDP-17. Students will identify finishing processes, describe the finishing processes, and demonstrate the ability to add finishes to a printed product.**
- ACCT-GDP-18. Students will identify, demonstrate, and practice proper, safe paper cutting techniques on various class projects.**

**Unit Objectives**

- Students will be able to:
- identify problems or special considerations when cutting various paper types.
  - follow industry standards for page numbering.
  - produce the product following the imposition plan.
  - analyze the proper application of the binding methods.
  - analyze the proper application of the finishing methods.

**Essential Questions**

- How do the processes of finishing and binding influence the designer before work begins?
- How does the practice of finishing and binding impact a printed product?

**Focus Questions**

- What problems or special considerations need to be considered when cutting various paper types?
- What are the industry standards for safety in binding and finishing?
- What are the different binding methods and how are they applied?

**Assessments**

- Quizzes on Unit subject matter
- Projects

**Skill Objectives**

- Students will:
- read and comprehend job ticket/specification.
  - identify the parts of page (head, foot, base, backbone).
  - draw the imposition following the job ticket specifications.
  - transfer the plan to the digital file.
  - list the binding methods.
  - identify safety considerations in bindery operations.
  - identify production considerations in using different binds.
  - demonstrate binding techniques on various printed materials.
  - list the finishing methods.
  - identify safety consideration in finishing operations.
  - identify production considerations in using different finishing techniques.
  - demonstrate finishing techniques on various printed materials.
  - identify the types of paper cutters.
  - demonstrate proper, safe cutter operation.
  - demonstrate the ability to cut both standard and combination cuts on a variety of paper stock.
  - demonstrate the ability to trim the head, foot, and face of a publication.

**Unit 6 – Ink and Substrates, 2 weeks [top](#)**

**Standards**

**ACCT-GDP-19. Students will explain the various applications and characteristics of paper substrates.**

**ACCT-GDP-20. Students will identify the various types of inks used in the graphics and printing industry.**

**Unit Objectives**

Students will be able to:

- describe the various paper qualities.
- describe the common uses of the various types of paper.
- examine the different types of inks used in lithography, flexography, digital, and screen printing.
- interpret a Pantone Matching System (PMS) Chart and explain its importance.

**Essential Questions**

- Why is it important to know the various applications and characteristics of paper substrates?
- What role does ink have in the final product of a document?

**Focus Questions**

- What are types of inks used in lithography, flexography, digital, and screen printing ?
- What are different types of paper and how are they used in the printing industry?
- Why is it important to match the ink to a specific substrate?

**Assessments**

- Quizzes on Unit subject matter
- Projects

**Skill Objectives**

Students will:

- explain how paper is manufactured.
- read and interpret a label on a box of paper.
- define the three basic ingredients of lithographic inks.
- describe types of screen printing inks.
- choose the appropriate ink for the matching substrate.



**Unit 7 – Work Flow, 9 weeks** [top](#)

**Standards**

- ACCT-GDP-21. Students will model proper customer service and sales principles.**
- ACCT-GDP-22. Students will exercise effective project preparation.**
- ACCT-GDP-23. Students will implement optimal job production processes.**

**Unit Objectives**

Students will be able to:

- understand print production processes from concept to final output.
- manage the output process.
- complete a job with finishing and binding as required.
- experience project delivery.

**Essential Questions**

- What does modeling proper customer service and sales principles have to do with success in business?
- Why does scheduling have such an essential place in the world of business?

**Focus Questions**

- What is important about being able to estimate costs?
- Why does a customer have the right for approval before production?
- What does workflow planning do to increase the success of the job?

**Assessments**

- Work Flow Projects

**Skill Objectives**

Students will:

- interpret a customer job request.
- estimate costs of a project.
- determine a schedule in terms of capabilities, resources, and deadline.
- develop and interpret a job ticket.
- prepare digital file layouts.
- generate a proof for customer approval.
- deal with customer change requests successfully.
- prepare the output successfully.
- apply finishing and binding as required.