

Graphic Communications 1

COURSE OUTLINE - UC

DESCRIPTION:

Graphic Communications 1 is a foundational course in the Graphics Production Technologies pathway designed to prepare students for entry-level employment in desktop publishing and the printing industry. Students will design and create publications using industry-standard software while acquiring basic computer and file management skills. Topics include cost estimation, layout and design, typography and typesetting, visual communication, color theory, platemaking, offset lithography and prepress. Emphasis is placed on workshop safety, career and employability preparation, critical thinking, leadership, and interpersonal skills. Activities in this course include work-based learning that connects students to industry and the local community. Students must successfully complete Graphic Communications 1 and Graphic Communications 2 for pathway completion and/or articulation.

INFORMATION:

PRE-REQUISITE: None

LENGTH: One Year

SECTOR: Manufacturing and Product Development

PATHWAY: Graphic Production Technologies

ARTICULATED: Yes

UC A-G APPROVAL: Yes: Visual and Performing Arts (F)/Visual Arts

O*NET SOC CODES:

43-5061.00 Production, Planning, and Expediting Clerks

51-1011.00 First Line Supervisors

51-5011.00 Helpers-Production Workers

51.5111.00 Prepress Technicians and Workers

51.5112.00 Printing Press Operators

51-5113.00 Print Binding and Finishing Workers

Orientation
<ul style="list-style-type: none"> A. Introduce the course and facilities. B. Discuss the syllabus and major objectives. C. Explain applicable classroom management procedures, and any operational guidelines. D. Review instructor/student expectations. E. Explain attendance requirements and procedures. F. Review grading and student evaluation procedures. G. Discuss the work-based learning aspect of the program, if applicable. H. Discuss the “next steps” related to additional education, training, and employment. I. Review classroom safety, emergency and disaster procedures.
1. Communication Skills
<ul style="list-style-type: none"> A. Demonstrate positive verbal communication skills using appropriate vocabulary, demeanor, and vocal tone in the classroom and/or worksite. B. Read and interpret written information and directions. C. Practice various forms of written communication appropriate to the occupation. D. Practice positive body language skills. E. Practice professional verbal skills for resolving a conflict. F. Demonstrate active listening skills including techniques for checking for understanding, and for obtaining clarification of directions.
2. Interpersonal Skills
<ul style="list-style-type: none"> A. Demonstrate positive teamwork skills by contributing to a group effort. B. Practice the importance of diversity awareness and sensitivity in the workplace. C. Define sexual harassment in the workplace and identify the employee's role and responsibility. D. Practice participation skills. E. Identify different personality types and demonstrate flexibility and adaptability working with diverse individuals. F. Practice business and social etiquette skills appropriate to the occupation. G. Evaluate and discuss the role of business and personal ethics in decision making based on various job-related scenarios. H. Demonstrate the use of time management skills.
3. Employability Skills
<ul style="list-style-type: none"> A. Demonstrate appropriate attendance and punctuality practices for the classroom (and worksite, if applicable). B. Prepare a resume, cover letter, and job application.

- C. Demonstrate interviewing techniques in seeking employment, using appropriate tone, body language and professional dress and grooming standards.
- D. Identify strategies for employment retention.
- E. Identify and analyze sources of job information, including electronic sources and the impact of social networking on employability.
- F. Identify the need for continuing education, professional development, and professional growth in chosen field.
- G. Identify appropriate procedures for leaving a job.
- H. Review company policies and current trends in employee compatibility screening, drug screening, and background checks.

4. Leadership

- A. Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
- B. Work with peers to promote divergent and creative perspectives.
- C. Demonstrate how to organize and structure work, individually and in teams, for effective performance and the attainment of goals.
- D. Explain multiple approaches to conflict resolution and their appropriateness for a variety of situations in the workplace.
- E. Employ ethical behaviors and actions that positively influence others.
- F. Analyze the short-term and long-term effects a leader's actions and attitudes can have on productivity, morale, and organizational culture.

5. Personal and Occupational Safety

- A. Demonstrate procedures to be followed in case of emergencies.
- B. Describe and discuss the procedure for reporting a work-related hazard or injury (worker's comp), including ways to report a potential safety hazard to a supervisor.
- C. Identify and discuss cyber ethics, cyber safety, and cyber security.
- D. Apply personal safety practices to and from the job.
- E. Recognize the effects of substance abuse in the workplace.
- F. Explain the importance of CAL-OSHA in the industry.
- G. Use MSDS sheets to identify potentially hazardous chemicals with their procedures for disposal, and first aid.
- H. Understand the importance of proper maintenance of equipment.
- I. Identify safety hazards commonly found in print/graphic arts lab.
- J. Identify the electrical hazards of working with electrical equipment.
- K. Identify and correct ergonomic concerns as they relate to print graphic arts.

6. Graphic Communications Industry
<ul style="list-style-type: none"> A. Describe the graphic communications industry and interrelated fields such as graphic design. B. Identify new and emerging trends in the industry. C. Compare and contrast various careers in the graphic communications and printing field. D. Identify the skills, education and training required. E. List personal characteristics and abilities required for success in the field. F. Build a personal brand and a professional portfolio. G. Collect and incorporate work samples and sketches.
7. Safety in the Workshop
<ul style="list-style-type: none"> A. Identify safety rules for working in a print shop. B. Demonstrate correct handling of tools including paper cutters. C. Explain rules for safe operation of equipment. D. Practice proper shutdown and maintenance of machines. E. Pass a safety test.
8. Introduction to Computers
<ul style="list-style-type: none"> A. Identify each computer component and its operation (such as keyboard, mouse, monitor, printer, CPU, and disk drive). B. Properly open software programs for specific use. C. Open, view, save and share documents. D. Check grammar and correct customer messaging by using a spell checker and enlisting the help of a third party. E. Describe plagiarism, the ethics of manipulating images and copyright laws as they relate to the printing industry (e.g., sourced images, fonts, and software). F. Demonstrate ability to obtain help. G. Describe Fair Use and Intellectual Property.
9. File Management
<ul style="list-style-type: none"> A. Determine various forms of file storage including cloud-based storage. B. Demonstrate a working knowledge of various file formats (such as PDF, JPG, PNG) and explain when to use which. C. Open a new image document and create a design using the appropriate image settings for a print or web document.
10. Cost Estimation
<ul style="list-style-type: none"> A. Determine quantities of materials needed for a project. B. Identify types of costs associated with different papers, substrates, labor and inks. C. Calculate costs for project.

11. Layout and Design

- A. Create rough layout sketches with type indications.
- B. Choose an appropriate substrate for a specific project.
- C. Create a document with proper specifications including bleeds and crops marks.
- D. Demonstrate the use of tools in the toolbox.
- E. Demonstrate appropriate selection and use of fonts as specified by customer.
- F. Properly position and balance the elements in a printed product through the use of columns and manipulation of text flow.
- G. Place, resize, and move a graphic.
- H. Demonstrate the appropriate use of image resolution.
- I. Format text using character specifications (e.g., horizontal width, baseline adjustments, leading, etc).
- J. Recognize and use set publication preferences.
- K. Adjust baseline and text spacing; Import, position, manipulate text and text box.
- L. Demonstrate how to set tabs, format multiple pages, create and use master pages.
- M. Create a basic layout applying and formatting text, fonts, and graphics.

12. Typography and Typesetting

- A. Describe effective visual communication principles.
- B. Apply the Four-step Critique of Art: Describe, Analyze, Interpret, and Judge.
- C. Practice the use of visual communication to convey a message clearly to audiences.
- D. Explore how typography is used to influence and communicate a specific message to a target audience.
- E. Define basic typography vocabulary and apply the terms when analyzing and discussing a variety of typography designs.
- F. Research various image resolution, image size, and color modes.
- G. Compare and contrast different types of styles.
- H. Promote emphasis and hierarchy in a design.
- I. Compare and contrast typographical layouts.
- J. Create various multimedia products.
- K. Evaluate graphic arts copies, designs, and layouts for aesthetic value, adherence to specifications, and communication effectiveness.
- L. Produce sketches, rough layouts, and comprehensive layouts for various printed products.
- M. Use the grid system to apply the principles of composition and typography.
- N. Analyze and categorize various company logos (descriptive, typographic, symbolic, and combined).
- O. Create a variety of documents applying images, typography, text and design competencies.

13. Color and Color Theory

- A. Describe the science of color spectrum as it relates to hue, value and chroma.
- B. Identify differences between CMYK, RGB, and spot color.

- C. Use Color Codes: HEX and Pantone.
- D. Demonstrate the use of color in publications.
- E. Create a variety of image documents and select the appropriate color and settings for various design purposes.
- F. Produce a four-page document with a consistent layout and apply design competencies, graphics, CMYK, RGB and spot color.
- G. Produce a printed product in monotone and in color.

14. Image Production and Concepts

- A. Differentiate between vector vs. raster graphics.
- B. Create raster and/or vector based graphic layouts using industry standard graphic arts software.
- C. Utilize the raster graphics imaging software to acquire (import), edit, retouch, and color correct digital photographs.
- D. Create and manipulate digital illustrations using software tools, panels, filters, layer styles, character options, adjustments, and blending modes.
- E. Employ current raster and vector industry software to manipulate type proximity, alignments, spacing, type size and weight.

15. Digital Design and Image Editing

- A. Discuss how to create images that convey messages using software tools.
- B. Design and scan images into Photoshop.
- C. Develop skills for publishing using Adobe InDesign, Photoshop, and Adobe Illustrator.
- D. Create technical illustrations.
- E. Discuss the differences between Macintosh (Mac) and personal computer (PC).
- F. Manipulate, edit and color correct digital images.
- G. Produce a document by applying graphic design and color theory skills while using digital design and image editing.

16. Prepress

- A. Apply principles and processes used to prepare design work for prepress phase of graphic design.
- B. Explain the differences in prepress for different output printing methods.
- C. Use publishing and electronic imaging software.
- D. Develop a product starting with prepress phase through reproduction.

17. Plate Making

- A. Operate plate-making system(s) competently and safely.
- B. Identify proper storage and disposal methods.
- C. Produce poly plastic plates.

18. Offset Lithography
<ul style="list-style-type: none"> A. Operate the offset press competently and safely. B. Use correct fountain solutions and inks. C. Run various substrates such as paper, card stock, NCR, envelopes. D. Perform basic maintenance and clean-up of equipment. E. Print a two-sided project integrating registration in positioning, positioning on the page and various substrates.
19. Finishing and Binding
<ul style="list-style-type: none"> A. Describe finishing activities and processes. B. Demonstrate necessary measurement skills that are associated with the bindery. C. Properly and safely use equipment for finishing operations, including the power cutter, padding press, drill, folder, shrink-wrap equipment, stitcher, and laminator. D. Perform basic maintenance of equipment, i.e., oiling, ink and water balances, and roller problems.
20. Portfolio
<ul style="list-style-type: none"> A. Create a professional digital portfolio reflecting employability skills in the relevant industry to include an "About Me" page. B. Collect original works and documents that demonstrate technical skills and knowledge in the industry. C. Demonstrate knowledge of competencies by accompanying each selected document or work with a journal entry or summary. D. Write a brief resume and cover letter to be included in portfolio. E. Develop interviewing techniques using portfolio materials. F. Display portfolio materials for critique by a professional panel (industry partners and classmates). G. Gather feedback and update portfolio.

Key Assignments

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
1. Students will participate in mock interviews that represent current industry practices (e.g., skills demonstrations, resumes, applications, portfolios, personal websites, etc.).	1A-D 2B, D-G 3A-F 6A-G 20A-G	1 2 3 4 7 10 11	2 3 4 7 10		LS 11-12.6 SLS 11-12.2
2. In teams, students will create posters for safety rules that will be posted in the graphic communications lab. Students will pass a safety test.	1A-D 2A, D, H 4A-D 5A, D, F-K 7A-E 8B-D, F 9B, C	1 2 4 5 6 7 9 10 12	2 4 5 6 7 9 10	A1.0 A3.0 A6.0	LS 11-12.3 RSL 11-12.4 SLS 11-12.2 WS 11-12.6 WS 11-12.7 G-GMD 5 CC 5 PS 1.B
3. After playing a computer component matching game, students will research and write a 250-word paper on the ethics of manipulating images as well as copyright laws, as they relate to the printing industry.	1A-C 2D, H 4A-D 8A-G	1 2 4 5 8 11	2 4 5 8 10	A1.0 A2.0	LS 11-12.6 LS 11-12.3 WS 11-12.3 WS 11-12.6 WS 11-12.7
4. Students will develop a digital magazine reflecting the events that occurred the year they were born and publish their magazine on	1A-C 2D, H	1	2	A1.0	LS 11-12.6

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
the teacher web page. Students will research file formats to determine when/how to use various formats and the best method to save the file(s) for this project.	4A-D 9A-C 12A-O 13A-G	2 4 5 7 9 10 11	4 5 7 9 10	A2.0 A3.0 A6.0	LS 11-12.3 RSL 11-12.4 RSIT 11-12.7 SLS 11-12.2 WS 11-12.3 WS 11-12.6 WS 11-12.7 WS 11-12.8
5. Students will design the cover art of a professional music group/artist of their choice and estimate project costs based on an online price list or catalog.	1A-D 2A, D, H 4A-D 5D 7B, D 8B-D, F 9B, C 10A-C 11A-M	1 2 4 6 7 9 10 11 12	2 4 6 7 9 10	A1.0 A2.0 A3.0 A5.0	LS 11-12.6 LS 11-12.3 SLS 11-12.2 G-GMD 5 PS 1.B
6. Students will design a professional playbill for a high school drama production, working with the drama director, and presenting their products to the drama department. Students will print playbill.	1A-D 2A, D, H 4A-D 5D 7B, D 8B-D, F 9B, C 14A-E 15A-G	1 2 4 5 7 8 9	2 4 5 7 8 9 10	A1.0 A2.0 A3.0 A5.0 A6.0 A7.0 A8.0	LS 11-12.3 SLS 11-12.2 WS 11-12.3 WS 11-12.6 WS 11-12.7 WS 11-12.8 G-GMD 5 PS 1.B

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
	16A-D 17A-C	10 11			
7. Students will create printed programs for the high school's sports team/event. Students will work with coaches or boosters and present the product to the head coach. Students will use offset lithography and finishing skills to create the final product.	1A-D 2A, D, H 4A-D 5D 7B, D 8B-D, F 9B, C 18A-E 19A-D	1 2 4 5 7 8 9 10	2 4 5 7 8 9 10	A1.0 A2.0 A3.0 A4.0 A5.0 A6.0 A7.0 A8.0	LS 11-12.3 RSIT 11-12.7 SLS 11-12.2 SLS 11-12.1d WS 11-12.3 WS 11-12.6 WS 11-12.7 G-GMD 5 PS 1.B
8. Students will compile a digital portfolio that illustrates their skills and abilities at the end of the program	1A-D 2B, D-H 3A-F 6A-G 20A-G	1 2 3 5 7 8 10 11	2 3 4 5 7 8 10	A1.0 A2.0 A3.0	LS 11-12.3 LS 11-12.6 SLS 11-12.1d WS 11-12.3 WS 11-12.6 WS 11-12.7

Standards Assessed in this Program

Career Ready Practices

1. Apply appropriate technical skills and academic knowledge.
2. Communicate clearly, effectively, and with reason.
3. Develop an education and career plan aligned to personal goals.
4. Apply technology to enhance productivity.
5. Utilize critical thinking to make sense of problems and persevere in solving them.
6. Practice personal health and understand financial well-being.
7. Act as a responsible citizen in the workplace and the community.
8. Model integrity, ethical leadership, and effective management.
9. Work productively in teams while integrating cultural/global competence.
10. Demonstrate creativity and innovation.
11. Employ valid and reliable research strategies.
12. Understand the environmental, social, and economic impacts of decisions.

Anchor Standards

2.0 Communications

- Acquire and use accurately sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management

- Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology

- Use existing and emerging technology, to investigate, research, and produce products and services, including new information, as required in the sector workplace environment.

5.0 Problem Solving and Critical Thinking

- Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety

- Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the sector workplace environment.

7.0 Responsibility and Flexibility

- Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities

- Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork

- Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution.

10.0 Technical Knowledge and Skills

- Apply essential technical knowledge and skills common to all pathways in the sector following procedures when carrying out experiments or performing technical tasks.

Pathway Standards

Manufacturing and Product Development-Graphic Production Technologies Pathway

- A1.0** Apply the basic graphic design principles to achieve effective visual communication.
- A2.0** Demonstrate an understanding of the psychology of color and color theory as it relates to visual communication.
- A3.0** Apply graphic design software and desktop publishing as a means of creating effective communication.
- A4.0** Demonstrate technical illustration and vector drawing skills.
- A5.0** Adhere to the prepress process and procedures required to reproduce single color and multicolor printing.
- A6.0** Apply the processes and procedures involved in producing image files for the reproduction of single color and multicolor products.
- A7.0** Develop a proficiency in applying the processes and procedures required for the reproduction of printed products and the image transfer process.
- A8.0** Understand various binding and finishing processes.

Common Core State Standards

ENGLISH LANGUAGE ARTS

Language Standards

LS 11-12.3: Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

LS 11-12.6: Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the (career and college) readiness level, demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Reading Standards for Literature

RSL 11-12.4: Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.

Reading Standards for Information Text

RSIT 11-12.7: Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Speaking and Listening Standards

SLS 11-12.2: Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions, and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

SLS 11-12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others ideas and expressing their own clearly and persuasively.

SLS 11-12.1d: Respond thoughtfully to diverse perspectives, synthesize comments, claims and evidence made on all sides of an issue, resolve contradictions when possible, and determine what additional information or research is required to deepen the investigation or complete the work.

Writing Standards

WS 11-12.3: Write narratives to develop real or imaged experiences or events using effective technique, well-chosen details, and well-structured event sequences.

WS 11-12.6: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback including new arguments and information.

WS 11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

WS 11-12.8: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation including footnotes and endnotes.

MATHEMATICS:

Geometry - Geometric Measurement and Dimensions

G-GMD 5: Determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.

SCIENCE:

Crosscutting Concept

CC 3: Scale, proportion, and quantity

CC 5: Energy and matter: Flows, cycles, and conservation

Physical Science

PS 1.B: Chemical Reactions