GRAPHIC COMMUNICATIONS 4
Course Code: 6203

COURSE DESCRIPTION: The Graphic Communications 4 course is the capstone course in the Graphic Communications program. Students will apply their knowledge and skills in hands-on opportunities integrating technology following industry practices. Per the advice of the school advisory board and industry needs, this course may also include instruction in innovative graphic industry topics such as dye-sublimation and wide-format printing, Direct-to-Garment (DTG), plotting and sign-making, and hydrographics, for examples. In the level 4 course, students are preparing to demonstrate their career-readiness: acquiring Adobe certification, building their digital portfolio, and preparing to work for themselves or in small printing plants or the graphic arts departments of companies that publish materials in-house.

RECOMMENDED GRADE LEVEL: 11-12

RECOMMENDED PREREQUISITE Graphic Communications 1, 2, 3

CREDIT: 1 unit (120 hours), 2 units (240 hours)

A. HEALTH AND SAFETY

Proficient professionals know the academic subject matter, including safety as required for proficiency within their area. They will use this knowledge as needed in their positions. The following accountability criteria are considered essential for students in the Graphic Communications program of study.

1. Describe the purpose of a safety and health program. (e.g., OSHA)
2. Explain the importance of machine guards and personal protection. (e.g., PPE, lockout, tagout)
3. Apply the safe handling of materials, tools and equipment as well as proper techniques for lifting.
4. Identify the correct handling, storage and disposal of chemicals and other materials. (e.g., HMIS, SDS)
5. Explain plans for fire prevention.
6. Explain proper noise control.
7. Summarize an ergonomically correct computer workstation. (e.g., posture)
8. Explain ways to reduce and eliminate waste for environmental compliance.

B. STUDENT ORGANIZATIONS

Proficient professionals know the academic subject matter, including professional development, required for proficiency within their area. They will use this knowledge as needed in their positions. The following accountability criteria are considered essential for students in any program of study.

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.
3. Explain the benefits and responsibilities of being a member of a CTSO.
4. List leadership opportunities that are available to students through participation in CTSO

conferences, competitions, community service, philanthropy, and other activities.
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

C. TECHNOLOGY KNOWLEDGE

Proficient professionals know the academic subject matter, including the ethical use of technology as needed in their positions. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; cyberbullying; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).
5. Discuss legal issues and the terms of use related to copyright laws, Creative Commons, fair use laws, and ethics pertaining to downloading of images, photographs, Creative Commons, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.

D. PERSONAL QUALITIES AND INTERPERSONAL SKILLS

Proficient professionals know the academic subject matter, including positive work practices and interpersonal skills, as needed in their positions. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate creativity and innovation.
2. Demonstrate critical thinking and problem-solving skills.
3. Demonstrate initiative and self-direction.
4. Demonstrate integrity.
5. Demonstrate work ethic.
6. Demonstrate conflict resolution skills.
7. Demonstrate listening and speaking skills.
8. Demonstrate respect for diversity.
9. Demonstrate customer service orientation.
10. Demonstrate teamwork.

E. PROFESSIONAL KNOWLEDGE

Proficient professionals know the academic subject matter, including positive work practices and interpersonal skills, as needed in their positions. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate global or "big picture" thinking.
2. Demonstrate career and life management skills and goal-making.
3. Demonstrate continuous learning and adaptability skills to changing job requirements.
4. Demonstrate time and resource management skills.
5. Demonstrates information literacy skills.
6. Demonstrates information security skills.
7. Demonstrates information technology skills.
8. Demonstrates knowledge and use of job-specific tools and technologies.
9. Demonstrate job-specific mathematics skills.
10. Demonstrates professionalism in the workplace.
11. Demonstrates reading and writing skills.
12. Demonstrates workplace safety.

F. ADOBE ILLUSTRATOR KNOWLEDGE AND SKILLS

Graphic professionals demonstrate understanding of Adobe Illustrator. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Complete ACA Adobe Certification.

G. ADOBE PHOTOSHOP KNOWLEDGE AND SKILLS

Graphic professionals demonstrate Adobe Photoshop knowledge and skills. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Complete ACA Adobe Certification.

H. ADOBE INDESIGN KNOWLEDGE AND SKILLS

Graphic professionals demonstrate Adobe InDesign knowledge and skills. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Complete ACA Adobe Certification.

I. GRAPHIC COMMUNICATIONS WORK ENVIRONMENT

Graphic professionals demonstrate appropriate workplace skills in the graphic communications industry. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Differentiate among skilled technical, creative, management, and support positions.
2. Recall the different levels of careers in terms of career preparations.
3. Summarize tools you can use to find a job.
4. Explain the importance of having good work habits.
5. Summarize the advantages and disadvantages of owning your own business.
6. Give examples of how changing technology is affecting the career outlook.
7. Identify and practice professional appearance and personal hygiene appropriate specific to the workplace.
8. Display ethical behavior in use of time, resources, computers and information.
9. Identify the mission of the organization and/or department.
10. Work productively with individuals and in teams.
11. Develop positive mentoring and collaborative relationships within the work environment.
12. Show respect and collegiality, both formally and informally.
13. Explain and follow workplace policy on the use of cell phones and other forms of social media.
14. Maintain focus on tasks and avoid negative topics or excessive personal conversations in the workplace.

J. PREPARING FOR A CAREER IN GRAPHIC COMMUNICATIONS

Graphic professionals demonstrate appropriate professional development skills and knowledge. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Create an effective resume.
2. Explain the advantages of different types of portfolios.
3. Develop a digital portfolio of student work.
4. Research different kinds of networking opportunities.
5. Describe basic copyright laws.
6. List what is necessary to start an independent graphic design business.

K. EVALUATION AND CRITIQUE

Graphic professionals demonstrate knowledge of additional printing processes as needed. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Set project requirements.
    a. Identify the purpose, target market and audience market for preparing graphics.
    b. Demonstrate knowledge of project management tasks and responsibilities.
    c. Communicate with others (such as peers and clients) about design plans.
    d. Ensure ADA compliance.
2. Analyze your design.
3. Critique your own work effectively.
4. Critique other work effectively.
5. Properly accept constructive criticism.
6. Comfortably receive feedback.

L. THE BUSINESS OF GRAPHIC COMMUNICATIONS

Graphic professionals demonstrate appropriate business skills and knowledge. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Summarize practices for planning and growing a successful business.
2. Explain the basic fundamentals of business, such as cost, estimates, and productivity.
3. Summarize the use and application of various industry standards and specifications.
4. Explain how copyright laws apply to printing companies.
5. Describe the differences between, and the advantages/disadvantages of: in-line; off-line; and, near-line finishing.

ADVANCED GRAPHIC COMMUNICATIONS STANDARDS ADDENDUM

The following additional topics can be included based on local Advisory Council recommendations and/or local industry needs.

M. ADDITIONAL PRINTING PROCESSES USED IN GRAPHIC COMMUNICATIONS (OPTIONAL)

Graphic professionals demonstrate knowledge of additional printing processes as needed. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Demonstrate effective digital printing practices according to current industry standards.
   a. Compare and contrast various types of digital printing types.
   b. Configure electronic files for digital output.
   c. Manage RIP workstation / job queue (e.g., Fiery, Command Workstation).
   d. Demonstrate knowledge of scanning in the input of appropriate specifications for document scanning.
   e. Scan a document using a document handler or flatbed onto a digital printer.
   f. Load substrate into the appropriate feeder.
   g. Adjust digital printer for the type of stock.
   h. Perform color correction or black and white adjustments for best results.
   i. Configure settings for finishing unit on digital printer.
   j. Demonstrate removal and installation of toner/ink and change waste container to printer.

2. Demonstrate plotting and sign making practices.
   a. Prepare the plotter for different substrates. (e.g., blade depth, material setup).
   b. Prepare and execute files for plotting (e.g., LXI or Create Space).
   c. Demonstrate proper weeding technique.
   d. Demonstrate proper application of transfer tape.
   e. Select material for use in sign making and plotting. (e.g., vinyl or heat transfer)
   f. Prepare substrate and properly apply the vinyl and remove transfer tape.

3. Demonstrate an understanding of wide-format printing practices.

a. Compare and contrast various types of wide format printing types.
b. Explain resolution requirements and guidelines for wide-format output (e.g., ICC profiles)
c. Perform preventive maintenance routines to ensure quality product.
d. Navigate paper selection menu to match paper to intended output.
e. Prepare documents to be printed on various substrates.
f. Mount document on backing.
g. Laminate, trim and finish large format print (including grommets).

4. Demonstrate an understanding dye-sublimation printing practices.

a. Describe resolution requirements and guidelines for dye-sub output (e.g., ICC profiles).
b. Describe transfer material requirements for intended substrate.
c. Perform preventive maintenance routines to ensure quality product.
d. Prepare a document to be printed on various substrates.
e. Navigate substrate selection menu to match paper requirements for intended destination.
f. Align transfer paper to substrate and secure against movement during transfer.
g. Demonstrate handling procedures appropriate to substrate being used.
h. Prepare heat press for transfer. (e.g., protective sheet, temperature, pressure & time).

5. Demonstrate an understanding of basic hydrographics.

a. Configure electronic files for digital output.
b. Identify main components and elements for output.
c. Identify safety procedures for print production.
d. Identify common products produced using hydrographics.
e. Identify key market segments using hydrographics.
f. Production of an entry-level piece comparable to that of their local industry.

6. Demonstrate an understanding of basic embroidery.

a. Configure electronic files for digital output.
b. Identify main components and elements for output.
c. Identify safety procedures for print production.
d. Identify common products produced using embroider. Identify key market segments using embroidery.
e. Production of an entry-level piece comparable to that of their local industry.

7. Demonstrate an understanding of basic direct-to-garment (DTG).

a. Configure electronic files for digital output.
b. Identify main components and elements for output.
c. Identify safety procedures for print production.
d. Identify common products produced using DTG.
e. Identify key market segments using DTG.
f. Production of an entry-level piece comparable to that of their local industry.

8. Demonstrate an understanding of basic pad printing.

a. Configure electronic files for digital output.
b. Identify main components and elements for output.
c. Identify safety procedures for print production.
d. Identify common products produced using pad printing.
e. Identify key market segments using pad printing.
f. Production of an entry-level piece comparable to that of their local industry.

9. Demonstrate an understanding of basic rotary screen printing.

a. Configure electronic files for digital output.
b. Identify main components and elements for output.
c. Identify safety procedures for print production.
d. Identify common products produced using rotary screen-printing.
e. Identify key market segments using rotary screen-printing.
f. Production of an entry-level piece comparable to that of their local industry.

10. Demonstrate an understanding of basic laser engraving.

a. Differentiate the different ways materials react to laser engraving.
b. Import design image into the laser engraving software.
c. Identify the sequence images will be engraved.
d. Define the difference between raster and vector engraving (not the same as Ai or Ps raster vs. vector).
e. Establish which images are raster or vector in the laser engraving software.
f. Determine power (strength) and speed (how fast it moves) of the laser for various substrates.
g. Locate the center of image and center of substrate.
h. Adjust engraving bed height for various substrates.
i. Calibrate laser.
j. Clean substrate.
k. Perform maintenance to keep the engraving area free from debris.

11. Demonstrate an understanding of image capture.

a. Recall the difference between analog format and digital format.
b. Identify the various types of light sensors used in imaging devices.
c. Identify differences between point-and-shoot cameras and digital singles lens reflex (DSLR) cameras
d. Summarize the function of each component on a digital camera
e. Explain the advantages and disadvantages of shooting in JPEG and RAW format.
f. Understand the importance of proper lighting and its effect on the capture image.
g. Recall the specific characteristics of each type of scanner.
h. Recall the different types of resolution.
i. Explain how spatial resolution and affect the performance of digital imaging devices.
j. Identify the use of commission image manipulation program tools.

Additional Course Materials and Resources

Academic Standards and Indicators