

GRAPHIC COMMUNICATIONS 3

Course Code: 6202

COURSE DESCRIPTION: The Graphic Communications 3 course builds upon the knowledge and skills from Graphic Communications 2. Students will be learning about color management, substrates, inks, and flexographic printing applications. Using the Adobe Creative suite to design and create products, students will also have hands-on opportunities integrating technology following industry practices. A balance of classroom study and practical application assures the development of a solid theoretical background, good production skills and appropriate work attitudes. Students will have an opportunity to earn the Flexo Level 1 certification. Health and safety and equipment maintenance techniques are embedded in instruction and practices.

RECOMMENDED GRADE LEVEL: 11-12

RECOMMENDED PREREQUISITE Graphic Communications 1 and 2

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

COMPUTER REQUIRED: One computer per student

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. COLOR AND COLOR MANAGEMENT

Graphic professionals apply appropriate color and color management skills. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Explain the basic principles of visible light.
2. Identify various color space and organizational methods (e.g., HSB, HVC, CIE, The Pantone System).
3. Create and label the standard color wheel using the standard colors of light.
4. Summarize the characteristics of additive and subtractive color formation.
5. Explain the basic principles of color separation.
6. Identify various color measurements and the use of each.
7. Identify the parts of the human eye and each function.
8. Explain how the color management system regulates color conversion through the workflow.
9. Explain how International Color Consortium (ICC) profiles work.
10. Explain several methods used in color separation and correction.
11. Explain trapping and list conventional and electronic methods.
12. Explain the various screening methods used in graphic arts.
13. Explain how color may be affected in the preflighting stage.
14. Explain the importance of ensuring that ink colors are used correctly.
15. Describe the fundamentals of the effect of light conditions and paper characteristics on color perception.

G. SUBSTRATES

Graphic professionals demonstrate knowledge of various types of paper and their uses. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Explain how paper is manufactured.
2. Identify the basic characteristics of various types of paper.
3. Describe the applications of coated and uncoated paper.
4. Explain the basic size and basic weights of paper.
5. List basic paper types, weights, grades and classifications commonly used in the printing industry.
6. Determine various paper weights.
7. Summarize the characteristics of plastic substrates.
8. Explain the changes occurring with substrates based on environmental issues.

H. INKS

Graphic professionals demonstrate knowledge of various types of ink and their uses. The following accountability criteria are considered essential for students in the Graphic Communications program.

1. Summarize the various ingredients and properties of ink.
2. Identify the characteristics of ink formulations used for different printing processes.
3. Summarize the characteristics of some specialized inks.
4. Explain how to mix and match ink.
5. Give examples of ways ink challenges affect the printed product.
6. Identify methods used to analyze process inks.

I. FLEXOGRAPHIC PRINTING APPLICATIONS (IF APPLICABLE)

Graphic professionals demonstrate knowledge of flexographic printing practices. The following accountability criteria are considered essential for students in the Graphic Communications program.

- 1. Demonstrate an understanding of flexographic platemaking practices.**
 - a. Identify plate materials used in industry and the classroom (photopolymer, molded rubber and laser engraved).
 - b. Describe the plate-making process and what occurs at each step.
 - c. Identify the parts of a plate to include: floor, shoulder, surface, calculate relief using a micrometer
 - d. Identify procedure for an exposure test.
 - e. Performing a plate exposure test to determine proper plate exposure times.
 - f. Properly make a flexo plate: choose the correct negative, determine face/back, back exposure, remove protective sheet, clean and examine negative, face exposure, washout, post-expose and de-tack, dry.
 - g. Evaluate flexo plates for quality and identify imperfections.
- 2. Demonstrate an understanding of pre-press practices specific to flexography.**
 - a. Identify software to be used to build artwork and dielines.
 - b. Identify limitations for artwork.
 - c. Create a dieline given a press sample of the diecut.
 - d. Identify and trap artwork where necessary.
 - e. Identify and add proper running targets to artwork.

- f. Perform file distortion to prepare file for output.
 - g. Perform file output following the given specifications: Negative, Emulsion Up Right Reading, Separations.
- 3. Demonstrate an understanding of press make-ready for flexography.**
- a. Identify materials needed to assemble each given station.
 - b. Identify and demonstrate knowledge of proper sequence and materials to assemble a station for a one color run.
 - c. Identify and demonstrate knowledge of proper sequence and materials to assemble two stations for a two color run.
 - d. Perform proper installation of a doctor blade (where applicable).
 - e. Test inks (pH, viscosity) and record data.
 - f. Perform ink metering using a two roll metering system.
 - g. Perform ink metering using a doctor blade (where applicable).
- 4. Demonstrate an understanding of the plate mounting process.**
- a. Identify the three plate systems, disadvantages and advantages to each: integral, demountable and sleeve.
 - b. Identify the correct cylinder for the given repeat.
 - c. Identify the correct sticky back for the press run.
 - d. Perform application sticky back to the correct plate cylinder for a given job.
 - e. Perform plate mounting onto the correct plate cylinder for a given job.
 - f. Describe why we mount our plates in a specific location.
- 5. Demonstrate an understanding for press operations.**
- a. Identify and splice the correct stock for press run.
 - b. Identify basic parts of the press.
 - c. Identify volume of anilox roll.
 - d. Perform safe installation of an anilox roll (as applicable).
 - e. Demonstrate how to determine stock type (paper v poly).
 - f. Perform checks of each station for proper assembly.
 - g. Perform checks of unwind and rewind for bladder inflation.
 - h. Perform installation of a plate cylinder and check for gears to interlock.
 - i. Identify and explain uses of the jog, start, stop and e-stop.
 - j. Identify and explain uses of web side-guides.
 - k. Perform setting of impression of plate to substrate.
 - l. Utilize standard settings for the dryer making sure to check that unused areas are off.
 - m. Identify ink types.
 - n. Describe the purpose of a doctor blade.
 - o. Perform standard press operations to register and die cut for a given color job, if applicable.
 - p. Utilizing safe practices, strip waste matrix.
 - q. Identify anilox roll capacity and how it affects the volume of ink.
 - r. Utilizing best and safe practices, clean up ink stations used.
 - s. Identify and utilize best practices as they relate to material usage and storage.
 - t. Identify proper webbing of a press.
 - u. Estimate ink usage and calculate cost.
 - v. Demonstrate maintenance procedures.

J. 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. Continue professional illustration software applications: ACA Adobe Certification Objectives (Certiport).

K. 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. Continue professional Image Editing software applications: ACA Adobe Certification Objectives (Certiport).

L. 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.

2. Continue professional page layout software applications: ACA Adobe Certification Objectives (Certiport).

[Additional Course Materials and Resources](#)

[Academic Standards and Indicators](#)