

Arts, AV Technology and Communications Career Cluster
Advanced Graphic Output Processes
Course Number 48.57000

Course Description:

As the third course in the Graphics Communication Pathway, students will gain more advanced levels of experience to complete the output processes of various projects in an increasingly independent manner. Students also learn to manage the output and completion process as a whole including customer relations management, printing, finishing, and binding. Students will continue to accumulate work samples that will constitute their personal portfolio. Upon successful completion of the course, students are prepared to move into employment or a post-secondary educational environment where self-motivation and a high level of skill are expected. This is the final course in the Graphic Communication Pathway. The prerequisite for this course is Graphic Design and Production.

Course Standard 1

AAVTC-AGOP-1

Demonstrate employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

- 1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.
- 1.2 Demonstrate creativity with multiple approaches to ask challenging questions resulting in innovative procedures, methods, and products.
- 1.3 Exhibit critical thinking and problem solving skills to locate, analyze, and apply information in career planning and employment situations.
- 1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.
- 1.5 Apply the appropriate skill sets to be productive in a changing, technological, and diverse workplace to be able to work independently, interpret data, and apply teamwork skills.
- 1.6 Present a professional image through appearance, behavior, and language.

Course Standard 2

AAVTC-AGOP-2

Demonstrate proper equipment operation and follow procedures in a safe manner and achieve 100 percent on a written / demonstration safety test.

- 2.1 Demonstrate proper procedures regarding safety features practices for both general to the industry and specific to lab.
- 2.2 Demonstrate the proper use of personal protection equipment needed for both general to the industry and specific to lab.
- 2.3 Demonstrate the proper use equipment operating instructions for both general to the industry and specific to lab.

Course Standard 3

AAVTC-AGOP-3

Investigate entrepreneurship as it relates to economic development.

- 3.1 Compare and contrast the traits of successful and unsuccessful business ventures.

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- 3.2 Examine and report the advantages of entrepreneurship, such as but not limited to control of income, personal responsibility and independency, establishment of professional and community relationships, etc.
- 3.3 Summarize the disadvantages of entrepreneurship, such as but not limited to long work hours, monetary risk, enforcement of workplace standards, paperwork, and record keeping, etc.
- 3.4 Evaluate the market for potential customers.

Course Standard 4

AAVTC-AGOP-4

Develop a portfolio for a graphics-related career plan.

- 4.1 Investigate and report on a career path that leads to a career in graphic communications.
- 4.2 Prepare a portfolio to illustrate student experiences and abilities related to graphic communications that includes the following information:
 - Report the criteria for selecting final product.
 - Collect and refine all previous graphic design projects in a form such as paper, digital, cloud, etc.
 - Develop a professional resume using word processing software. (e.g. Microsoft Word, Google Drive, iWork Pages, or other cloud-based text file writer).
 - Practice giving and receiving constructive criticism of portfolios in verbal and/or written form, as well as in person and/or virtually.
 - Report on characteristics and the content of portfolios for employment and postsecondary admissions.
 - Constructively critique various types of packaging for a professional portfolio (i.e. printed, digital, web pages, etc.).

Course Standard 5

AAVTC-AGOP-5

Implement optimal job production processes.

- 5.1 Accurately read and interpret job specifications.
- 5.2 Maintain project schedule processes, such as a Gantt chart, to meet deadlines.
- 5.3 Accurately generate a job ticket and identify key parts related to production process.
- 5.4 Demonstrate how to determine the best allocation of materials, output processes, binding, finishing, and manpower to job specification.
- 5.5 Summarize appropriate delivery and/or shipping requirements.

Course Standard 6

AAVTC-AGOP-6

Accurately analyze project costs.

- 6.1 Evaluate material and waste management costs, including comparing and contrasting project costs per job specifications to determine the difference in projected profit margin.
- 6.2 Assess and analyze optimal manpower use.
- 6.3 Predict equipment costs.
- 6.4 Demonstrate and explain correct invoicing and collection procedures.

- 6.5 Analyze and implement color management among color systems including CMYK (cyan, magenta, yellow, and black colors), RGB (red, green, blue colors), and spot colors (according to the Pantone Matching System).
- 6.6 Accurately create printed color with halftones.
- 6.7 Summarize the transition of tone images to dots of an output process.
- 6.8 Connect appropriate output devices with appropriate use, according to the job description.
- 6.9 Report image registration issues.
- 6.10 Design traps and spot color for production.

Course Standard 7

AAVTC-AGOP-7

Practice customer service skills; as well as, follow ethical guidelines and copyright laws.

- 7.1 Analyze project and prepare estimation for client.
- 7.2 Communicate with client during all production phases.
- 7.3 Examine inventory and verify and calculate necessary supplies and materials.
- 7.4 Demonstrate following ethical guidelines and copyright laws, such as but not limited to Intellectual Property, Creative Commons, Work for Hire, Fair Use, etc.

Course Standard 8

AAVTC-AGOP-8

Plan, create, and prepare files for production.

- 8.1 Analyze given project to determine necessary software and provide rationale.
- 8.2 Demonstrate and apply optimal use of design principles.
- 8.3 Design and produce a digital document that includes placed/support graphics, correct color mode, correct/appropriate size, and most appropriate imposition format.
- 8.4 Preflight project and identify problems, such as but not limited to resolution, missing fonts, missing graphics, number of inks, HTML (Hyper Text Markup Language) and CSS (Cascading Style Sheets), trapping, etc.
- 8.5 Demonstrate knowledge of spell check and proofreaders marks to proofread, edit, and make corrections/adjustments to copy.

Course Standard 9

AAVTC-AGOP-9

Identify and describe the major components and operating controls of output devices.

- 9.1 Identify and describe the major components and controls of the output device.
- 9.2 Describe the function of major components and operating controls relating to the final product.
- 9.3 Summarize the correct startup, operation, maintenance, and shutdown of the output device.

Course Standard 10

AAVTC-AGOP-10

Identify the various types of inks and/or toners used in the graphics and printing industry.

- 10.1 Examine the different types of inks and/or toners used in the graphics & design industry, such as but not limited to inkjet (solvent, gel or water based), toner, lithography (oil, acrylic or rubber based), flexography, screen printing (plastisol, enamel, water-based), Ultraviolet (UV), sublimation, etc.
- 10.2 Describe a Pantone Matching System (PMS) Chart and explain its importance.
- 10.3 Produce digital files using appropriate dots per inch (DPI) and pixels per inch (PPI) resolution for media.

Course Standard 11

AAVTC-AGOP-11

Explain the various applications and characteristics of paper substrates.

- 11.1 Describe the common uses of the various types of substrates, such as but not limited to coated/uncoated, bond paper, tag, index, carbonless paper (NCR), cover, recycled paper, etc.
- 11.2 Describe the various substrates qualities, such as but not limited to paper grain, surface texture, caliper, brightness, opacity, etc.
- 11.3 Read and interpret a label on a case/ream of paper, such as brightness, size, pounds, grain, Global System for Mobile Communications (GSM), etc.
- 11.4 Determine size, weight, quantities, type, and amount of paper necessary for fulfilling a job order.
- 11.5 Investigate efficient production methods to minimize material waste during jobs.

Course Standard 12

AAVTC-AGOP-12

Demonstrate knowledge of inks, toners, and substrates for commercial output.

- 12.1 Determine size, weight, quantities, type, and amount of paper necessary for fulfilling a job order.
- 12.2 Explain how paper is manufactured.
- 12.3 Describe the basic ingredients and characteristics of inks (vehicle, pigment/dye, additives).
- 12.4 Describe the basic ingredients and characteristics of toner (particle size, surface additives, etc.).
- 12.5 Explore and report on emerging technologies with new inks and substrates.

Course Standard 13

AAVTC-AGOP-13

Demonstrate the ability to use an output process to create a quality product.

- 13.1 Utilize appropriate software and/or equipment necessary to produce final project.
- 13.2 Select appropriate substrate(s) and ink(s) to produce a quality project.
- 13.3 Interpret and formulate correct liquid measurements for various chemical needs in production processes.
- 13.4 Position images on substrates using appropriate measurements.

- 13.5 Demonstrate an understanding of adjustments that may be needed in the equipment and materials used for output, such as but not limited to pressure settings, ink quantities, and mechanical adjustments.
- 13.6 Demonstrate usage of optimal quality control standards.

Course Standard 14

AAVTC-AGOP-14

Identify, demonstrate, and practice safe & proper paper cutting techniques on various class projects.

- 14.1 Identify and describe the types of paper cutters.
- 14.2 Demonstrate safe and proper cutter operation.
- 14.3 Identify problems and/or special considerations when cutting various paper types.
- 14.4 Demonstrate the ability to cut both standard and combination cuts on a variety of paper stock.
- 14.5 Demonstrate the ability to trim the head, foot, and face of a publication.

Course Standard 15

AAVTC-AGOP-15

Plan and impose the binding and finishing workflow of a multiple page publication.

- 15.1 Read and interpret job ticket/specifications.
- 15.2 Produce a product using an imposition plan, such as but not limited to a greeting card, program, brochure, booklet, etc.
- 15.3 Create thumbnail sketches and folding dummy of the imposition following the job ticket specifications.
- 15.4 Determine what steps are needed to transfer the plan to the digital file.

Course Standard 16

AAVTC-AGOP-16

Identify and describe binding & finishing processes.

- 16.1 List the binding methods and applications, such as but not limited to comb, velo, padding, stitching, perfect, spiral, etc.
- 16.2 List the finishing methods and applications such as but not limited to cutting, folding, embossing, foil stamping, die cutting, thermography, varnishing, etc.
- 16.3 Identify production considerations in using different bindery and finishing techniques, such as but not limited to folding against the grain, etc.

Course Standard 17

AAVTC-AGOP-17

Plan and impose the finishing and binding workflow of a multiple page publication.

- 17.1 Read and interpret job ticket/specification.
- 17.2 Identify and describe the parts of page (head, foot, base, backbone).
- 17.3 Explain and apply industry standards for page numbering.
- 17.4 Create thumbnail sketches and folding dummy of the imposition following the job ticket specifications.
- 17.5 Determine what steps are needed to transfer the plan to the digital file.
- 17.6 Produce the product following the imposition plan.

Course Standard 18

AAVTC-AGOP-18

Identify and describe binding processes as well as demonstrate the ability to bind a printed product.

- 18.1 List and describe the binding methods.
- 18.2 Identify and describe safety considerations in bindery operations.
- 18.3 Identify and describe production considerations in using different binds.
- 18.4 Analyze the proper application of the binding methods.
- 18.5 Demonstrate binding techniques on various printed materials.

Course Standard 19

AAVTC-AGOP-19

Identify and describe finishing processes as well as demonstrate the ability to add finishes to a printed product.

- 19.1. List and describe the possible finishing methods.
- 19.2. Identify and describe safety consideration in finishing operations.
- 19.3. Identify and describe production considerations in using different finishing techniques.
- 19.4. Analyze the proper application of the finishing methods.
- 19.5. Demonstrate finishing techniques on various printed materials.

Course Standard 20

AAVTC-AGOP-20

Exercise effective project preparation following proper customer service and quality control principles.

- 20.1 Develop and interpret a job ticket per customer request.
- 20.2 Estimate costs of a project by determining substrate quantities needed and calculating price of materials used in commercial jobs.
- 20.3 Determine a schedule in terms of capabilities, resources, and deadline.
- 20.4 Prepare digital file layouts.
- 20.5 Generate a proof for customer approval.
- 20.6 Manage customer change requests to fulfill order according to job ticket, accuracy, color, waste, order quantity, and quality.

Course Standard 21

AAVTC-AGOP-21

Examine how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, and competitive events.

- 21.1 Explain the purpose, mission, objectives, motto, colors, official dress and other distinguishing characteristics of SkillsUSA.
- 21.2 Explain how participation in SkillsUSA can promote lifelong responsibility for community service, professional growth and development.
- 21.3 Explore the impact and opportunities SkillsUSA can develop to bring business and industry together with education in a positive working relationship through innovative leadership and career development programs.
- 21.4 Explore the local, state, and national opportunities available to students through in SkillsUSA including but not limited to conferences, competitions, community service, philanthropy, and other SkillsUSA activities.