

Florida Department of Education
Curriculum Framework

Program Title: Digital Photography Technology
Program Type: Career Preparatory
Career Cluster: Arts, A/V Technology and Communication

Career Certificate Program

Program Number	K100300
CIP Number	0650060502
Grade Level	30, 31
Standard Length	1050 hours
Teacher Certification	Refer to the Program Structure section.
CTSO	SkillsUSA
SOC Codes (all applicable)	27-4021 – Photographers 27-4032 – Film and Video editors
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

Purpose

The purpose of this program is to prepare students for careers in the photography industry.

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Arts, A/V Technology and Communication career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Arts, A/V Technology and Communication career cluster.

The content includes, but is not limited to, communication skills, leadership skills, human relations and employability skills, safe and efficient work practices, and the use of digital cameras techniques, commercial and industrial applications with emphasis on composition and color dynamics, printing, workflow, software and use, care, and maintenance of photographic equipment.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of four occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	PGY0190	Photographic Specialist	PHOTOG @7 G	150 hours	27-4021
B	PGY0191	Photography Technician		300 hours	27-4021
C	PGY0192	Studio Photographer		300 hours	27-4032
D	PGY0193	Digital Photographer		300 hours	27-4021

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

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

Standards

After successfully completing this program, the student will be able to perform the following:

- 1.0 Demonstrate understanding of the history of photography.
- 2.0 Evaluate the production process.
- 3.0 Demonstrate understanding of intellectual property rights, copyright laws and plagiarism as each applies to creative assets.
- 4.0 Operate parts of a camera system.
- 5.0 Demonstrate use of camera support equipment.
- 6.0 Take basic photographs.
- 7.0 Use photographic workflow applications.
- 8.0 Develop a production plan.
- 9.0 Demonstrate knowledge of art/creative direction.
- 10.0 Demonstrate proficiency in computer skills.
- 11.0 Use photo editing software.
- 12.0 Use photographic lights.
- 13.0 Use photography sets, backgrounds and stages.
- 14.0 Process and print photographs.
- 15.0 Demonstrate knowledge of photo/video journalism.
- 16.0 Demonstrate knowledge of digital single-lens reflex (DSLR) video production.
- 17.0 Demonstrate knowledge of video software.
- 18.0 Practice the business of commercial digital photography.
- 19.0 Operate various format cameras.
- 20.0 Demonstrate knowledge of High Dynamic Range (HDR) photography.
- 21.0 Develop a professional portfolio of work.

Florida Department of Education
Student Performance Standards

Program Title: Digital Photography Technology
Career Certificate Program Number: K100300

Course Number: PGY0190
Occupational Completion Point: A
Photography Specialist – 150 Hours – SOC Code 27-1019

1.0	Demonstrate understanding of the history of photography. The student will be able to:
1.1	Demonstrate knowledge of photography as an invention.
1.2	Demonstrate knowledge of early uses of photography.
1.3	Describe the mechanics of early photographic systems.
1.4	Identify photography as art.
1.5	Show the concept of the “decisive moment.”
1.6	Demonstrate knowledge of pictorial photography.
1.7	Demonstrate knowledge of straight photography.
1.8	Demonstrate knowledge of documentary photography.
1.9	Define aspects of photojournalism.
2.0	Evaluate the production process. The student will be able to:
2.1	Identify the job titles associated with digital photography.
2.2	Identify various tools and equipment used in digital photography.
2.3	Use speed and efficiency concepts (workflow).
2.4	Identify the different types of photographic media (photojournalism, fine art, event, family portrait, fashion, sports, magazine and product).
2.5	Identify the interrelationships between artists.
2.6	Use basic communication concepts (e.g., verbal, memos, paperwork and purchase orders).

2.7	Identify the stages of production.
2.8	Examine photographic terms and jargon.
2.9	Create and organize contact sheets or prepare for presentations online and in person.
3.0	Demonstrate understanding of intellectual property rights, copyright laws and plagiarism as each applies to creative assets. The student will be able to:
3.1	Examine the limits and expectations of copyright protection.
3.2	Analyze the rights of “fair use” and “fair dealing.”
3.3	Demonstrate understanding of the transfer and licensing of creative works.
3.4	Articulate the use of “exclusive rights” to intellectual creations.
3.5	Demonstrate the use of digital watermarking and embedding file information.
4.0	Operate parts of a camera system. The student will be able to:
4.1	Identify basic camera anatomy (e.g., lens, battery, flash, shutter and display).
4.2	Remove and attach standard lenses.
4.3	Charge and connect batteries.
4.4	Identify, insert and format recording media.
4.5	Use basic camera functions (e.g., power, date/time and menu navigation).
4.6	Set image format and size.
4.7	Use camera auto, program and scene modes.
4.8	Use camera viewfinder and LCD displays for image review.
4.9	Use basic lens controls (auto, manual focus and zoom).
4.10	Use image International Standards Organization (ISO) and metering functions.
4.11	Use white balance operations.
4.12	Use shutter and aperture priority modes.
4.13	Set proper f-stop and shutter speeds.
4.14	Use camera drive modes such as delayed, multiple and remote.

4.15	Operate a camera mounted flash and use fill and red-eye reduction.
5.0	Demonstrate use of camera support equipment. The student will be able to:
5.1	Perform basic handholds of camera in portrait and landscape.
5.2	Identify basic components of a tripod (head, sticks and spreader).
5.3	Assemble fluid head and friction head tripod components.
5.4	Setup and level tripod for use in portrait and landscape.
5.5	Attach camera to support equipment.
5.6	Identify auxiliary support devices.
6.0	Take basic photographs. The student will be able to:
6.1	Apply camera care and maintenance principles.
6.2	Define the subject of a photograph.
6.3	Identify available light sources.
6.4	Demonstrate understanding of photo composition (rule of thirds).
6.5	Select an appropriate lens for subject (wide, tight, macro).
6.6	Take still life photographs using available light.
6.7	Take portrait photographs using available light.
6.8	Take action photographs using available light.
6.9	Create a series (picture study) of photographs around a defined subject.
7.0	Use photographic workflow applications. The student will be able to:
7.1	Establish system requirements for workflow application software.
7.2	Install and configure workflow application software.
7.3	Identify parts of the software interface (menus and palettes).
7.4	Import photographs from various media sources (CF, SD and DVD formats).
7.5	Define and create keyword tags for imported images.

7.6	Organize, rate, label and rename image collections.
7.7	Create and modify image metadata.
7.8	Perform image post-processing (white balance, color, tone and crop).
7.9	Export images to disk or photo editing software.
7.10	Create and upload a web gallery to online photo sharing sites.

Course Number: PGY0191	
Occupational Completion Point: B	
Photographic Technician – 300 Hours – SOC Code 27-4021	
8.0	Develop a production plan. The student will be able to:
8.1	Work with the client to define the scope of work.
8.2	Work with the client to identify the message.
8.3	Determine distribution requirements and client deliverables.
8.4	Identify the stages of production.
8.5	Create basic communication concepts verbally and through memos and paperwork.
8.6	Develop a production schedule.
8.7	Define roles and coordinate needed production crew.
8.8	Evaluate the scope and use of model releases.
8.9	Evaluate the scope and use of property releases.
8.10	Evaluate the scope and use of liability releases.
8.11	Identify need and use for production insurance.
8.12	Determine and secure equipment.
8.13	Examine industry terms and jargon.
9.0	Demonstrate knowledge of art/creative direction. The student will be able to:
9.1	Develop the overall visual appearance of a photograph/video.
9.2	Demonstrate the ability to create moods with style.

9.3	Describe the importance of art direction as it pertains to the message to be conveyed.
9.4	Identify the use of color in art direction.
9.5	Document the technical aspects of art direction for use in production.
9.6	Perform the various assignments in a professional manner according to industry standards.
10.0	Demonstrate proficiency in computer skills. The student will be able to:
10.1	Identify all computer parts.
10.2	Demonstrate understanding of computer performance specifications.
10.3	Compare and contrast differences between business machines and workstations.
10.4	Demonstrate best practices of computer safety and ergonomics.
10.5	Demonstrate understanding of operating systems.
10.6	Perform software installation and setup.
10.7	Perform peripheral device installation and setup.
10.8	Perform computer upgrades (memory, hard disks and cards).
10.9	Perform storage management operations (project/file).
10.10	Demonstrate knowledge of computer maintenance.
10.11	Troubleshoot computer hardware and software issues.
11.0	Use photo editing software. The student will be able to:
11.1	Identify the computer requirements for photographic software.
11.2	Demonstrate understanding of file formats and storage options.
11.3	Compare and contrast available photographic software.
11.4	Identify parts of the software interface (menus and palettes).
11.5	Use each of the basic tool sets.
11.6	Import, export and save images.
11.7	Develop a software and file backup plan.

11.8	Demonstrate understanding of layers and channels.
11.9	Demonstrate understanding of filters, effects and plug-ins.
11.10	Demonstrate understanding of file presets.
11.11	Select portions of an image for manipulation.
11.12	Transform selections and images (crop, scale).
11.13	Color-correct images (brightness, hue and contrast).
11.14	Use brushes for image creation and correction.
11.15	Identify non-destructive and destructive operations.
11.16	Import, edit and export raw files.
11.17	Demonstrate the basic uses of video.
11.18	Implement the undo/redo history and cache system.
11.19	Use keyboard shortcuts to improve efficiency.
11.20	Locate and effectively use the help menu system.
12.0	Use photographic lights. The student will be able to:
12.1	Demonstrate understanding of light (direction, intensity, color, contrast, hardness).
12.2	Demonstrate understanding of natural, artificial, available and ambient light sources.
12.3	Demonstrate understanding and use of sunlight (time of day, color temperature, color correcting, blocking and shade).
12.4	Use continuous lighting setups and equipment.
12.5	Use flash and strobe light setups and systems.
12.6	Use onboard flash systems.
12.7	Demonstrate understanding of three-point lighting.
12.8	Use a light meter.
12.9	Use light modifiers such as scrim, reflectors and flags.
12.10	Use lights on location.

13.0	Use photography sets, backgrounds and stages. The student will be able to:
13.1	Coordinate with creative director on set plan.
13.2	Define the intended look and materials to be used.
13.3	Erect background stands and hang background material.
13.4	Build hard and soft cyclorama product stages.
13.5	Adjust available seating for studio portraits.
13.6	Safely secure all grip equipment including reflector stands, c-stand, light stands and sand bags.
14.0	Process and print photographs. The student will be able to:
14.1	Prepare photos for print using photo editing software.
14.2	Adjust the crop, bleed and trim of a photo.
14.3	Adjust the color mode and resolution of a photo.
14.4	Calibrate computer monitor and software for printing system.
14.5	Compare and contrast available papers, printers and inks.
14.6	Compare and contrast available printing services based on quality, speed, price, reliability, location.
14.7	Demonstrate understanding of International Color Consortium (ICC) profiles.
14.8	Demonstrate understanding of archival inks and papers.
14.9	Work with color and black and white images.
14.10	Analyze color prints for correct color and contrast.
14.11	Mount, mat and frame photographs.

Course Number: PGY0192
Occupational Completion Point: C
Studio Photographer – 300 Hours – SOC Code 27-4032

15.0	Demonstrate knowledge of photo/video journalism. The student will be able to:
15.1	Demonstrate understanding of the history of photo/video journalism.
15.2	Identify the jobs and roles related to photo/video journalism.

15.3	Analyze the legal and ethical issues related to photo/video journalism.
15.4	Describe the elements that make up a photo story.
15.5	Sequence a photo story and write captions.
15.6	Imbed metadata as needed.
15.7	Shoot correct length of video to tell story and provide coverage.
15.8	Prepare media for and identify distribution sources.
16.0	Demonstrate knowledge of digital single-lens reflex (DSLR) video production. The student will be able to:
16.1	Compare photography and video on DSLR.
16.2	Compose shots for movement.
16.3	Choose the appropriate video format (standard/codec and frame rate).
16.4	Compare and contrast DSLR video with traditional video cameras.
16.5	Choose appropriate recording media based on card speed and size.
16.6	Select appropriate video-friendly lenses and focusing aids.
16.7	Select appropriate lighting gear.
16.8	Set appropriate exposure, white balance and shutter speed.
16.9	Connect and setup audio interface.
16.10	Identify video compression picture quality loss.
16.11	Demonstrate the use of full and cropped sensors (e.g., rolling shutter).
16.12	Establish the use of action-safe and title-safe areas.
16.13	Set appropriate focus.
16.14	Use microphones and audio devices.
16.15	Understand the use of matte boxes.
16.16	Demonstrate use of stabilization rigs.
16.17	Transfer footage to content management software.

17.0	Demonstrate knowledge of video software. The student will be able to:
17.1	Demonstrate understanding of file formats and storage options.
17.2	Identify parts of the software interface.
17.3	Use each of the basic tool sets.
17.4	Import file and video to be composited.
17.5	Use layers and compositing.
17.6	Use filters, effects and plug-ins.
17.7	Use motion paths.
17.8	Use lighting effects.
17.9	Use rendering functions.
17.10	Mask video.
17.11	Color-correct video using brightness, hue and contrast adjustments.
17.12	Use vector and color keying tools.
17.13	Demonstrate understanding of time correction.
17.14	Export final video to be used with video editing software.
18.0	Practice the business of commercial digital photography. The student will be able to:
18.1	Identify business aspects of commercial digital photography.
18.2	Apply appropriate communication and human relations skills.
18.3	Understand the photography industry's various market sectors (events, family portrait, public relations, product/studio, fashion, catalog, magazine and food).
18.4	Develop a business plan for a commercial photography business.
18.5	Identify and understand the importance of industry associations related to commercial photography.
18.6	Describe the role of special interest groups.
18.7	Research market rates for photographic work.
18.8	Compare and contrast available stock photography sites.

18.9 Research online portfolio sites.

18.10 Develop effective advertising.

Course Number: PGY0193
Occupational Completion Point: D
Digital Photographer – 300 Hours – SOC Code 27-1021

19.0 Operate various format cameras. The student will be able to:

19.1 Use alternative format cameras.

19.2 Use a medium format camera.

19.3 Use a point and shoot camera (fixed lens).

19.4 Use a mobile phone camera.

19.5 Use a digital single-lens reflex (DSLR) camera.

19.6 Use a mirrorless camera.

20.0 Demonstrate knowledge of High Dynamic Range (HDR) photography. The student will be able to:

20.1 Explain HDR photography.

20.2 Demonstrate HDR workflow and operation.

20.3 Select appropriate HDR subject.

20.4 Select appropriate camera support equipment (tripod, monopod, and grips).

20.5 Configure camera for HDR photography.

20.6 Acquire an HDR image.

20.7 Process and create HDR images with photo editing software.

20.8 Reduce ghosting effect using photo editing software.

20.9 Reduce noise and correct chromatic aberrations.

20.10 Export finished image as flat image or HDR format image.

21.0 Develop a professional portfolio of work. The student will be able to:

21.1 Identify elements of a professional portfolio and résumé.

21.2	Examine and determine student work to include in a portfolio and résumé.
21.3	Gather cohesive photographs and information to include in a portfolio and résumé.
21.4	Explore the use of Internet websites for portfolio distribution.
21.5	Determine the format for portfolio and résumé.
21.6	Research local galleries for portfolio exhibition.
21.7	Produce résumé for final review.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student. Access MyCareerShines by visiting: www.mycareershines.org.

Career and Technical Student Organization (CTSO)

SkillsUSA is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills (if applicable)

In a Career Certificate Program offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 9, and Reading 9. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and

Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Additional Resources

For additional information regarding articulation agreements, Bright Futures Scholarships, Fine Arts/Practical Arts Credit and Equivalent Mathematics and Equally Rigorous Science Courses please refer to:

<http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml>