Florida Department of Education
Curriculum Framework

Program Title: **Digital Media/Multimedia Design**
Program Type: **Career Preparatory**
Career Cluster: **Arts, A/V Technology and Communication**

Secondary – Career Preparatory	
Program Number	8201600
CIP Number	0609070220
Grade Level	9-12
Standard Length	5 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	SkillsUSA, FBLA
SOC Codes (all applicable)	27-1014 – Multimedia Artists and Animators
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml

Purpose

The purpose of this program is to prepare students for work as multimedia artists and animators.

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, practical experiences in webpage design and interactive presentation development, testing and production. Specialized skills in multimedia presentations such as video editing, audio features, and simple animation and authoring software are used to produce a variety of interactive multimedia presentations.

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 five (5) credits.
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 secondary program structure:

Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
8201210	Digital Media/Multimedia Foundations 1	PHOTOG @7 7G BUS ED 1 @2 COMM ART @7 7G COMPU SCI 6 DIGI MEDIA 7G PRINTING @7 7G SECRETAR 7 G TEC ED 1 @2 ENG&TEC ED1@2 TEC ELEC @7 TV PRO TEC @7 7G VOE @7	1 credit	27-1014	2	PA
8201220	Digital Media/Multimedia Foundations 2	BUS ED 1 @2 COMM ART @7 7G COMPU SCI 6 DIGI MEDIA 7G PRINTING @7 7G SECRETAR 7 G TEC ED 1 @2 ENG&TEC ED1@2 TEC ELEC @7 TV PRO TEC @7 7G VOE @7	1 credit	27-1014	2	PA
8201230	Digital Media/Multimedia Foundations 3		1 credit	27-1014	3	PA
8201610	Digital Media/Multimedia Web Production		1 credit	27-1014	3	PA
8201620	Digital Media/Multimedia Motion Graphics Production		1 credit	27-1014	3	PA

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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:

Digital Media/Multimedia Foundations 1
01.0   Demonstrate knowledge of presentation production issues.
02.0   Demonstrate basic computer knowledge.
03.0   Demonstrate knowledge of still images and time-based media production
04.0   Demonstrate knowledge of photo and time-based editing software.

Digital Media/Multimedia Foundations 2
05.0   Demonstrate proficiency in advanced design.
06.0   Demonstrate understanding of color modes.
07.0   Demonstrate proficiency in using fonts for advanced design.
08.0   Demonstrate proficiency in using illustration software.
09.0   Demonstrate knowledge of design layout software.

Digital Media/Multimedia Foundations 3
10.0   Demonstrate proficiency in using presentation software and equipment to produce a complex presentation.
11.0   Develop proficiency in using authoring software.
12.0   Demonstrate mastery of design layout software.

Digital Media/Multimedia Web Production
13.0   Demonstrate proficiency in preliminary webpage design.
14.0   Demonstrate understanding of HTML and CSS.
15.0   Demonstrate proficiency in authoring software for webpage design.
16.0   Demonstrate knowledge of interactive animation techniques
17.0   Demonstrate proficiency using all media to create an advertising campaign.
18.0   Participate in work-based learning experiences or simulation.

Digital Media/Multimedia Motion Graphics Production
19.0   Demonstrate proficiency using video editing software and equipment.
20.0   Demonstrate knowledge of keyframe based animation techniques.
21.0   Identify key animation principles (e.g., momentum, overshoot, bounce, etc.).
22.0   Prepare graphics for time-based media.
23.0   Identify broad range of roles for time-based media production.
24.0   Demonstrate proficiency using all media to create a promotional campaign.

Florida Department of Education
Student Performance Standards

Course Title: **Digital Media/Multimedia Foundations 1**
Course Number: **8201210**
Course Credit: **1**

Course Description:

This course provides competencies in presentation production issues, basic computer knowledge, digital still photography, and photo editing software.

CTE Standards and Benchmarks
1.0   Demonstrate knowledge of presentation production issues. The student will be able to:
1.01   Identify characteristics of design for digital media (e.g., web, animation, video, and audio).
1.02   Identify presentation materials (slides/handouts) and presentation marketing formats (e.g., social media, print media, newspaper, billboards, posters, magazines, television, movies, computer presentations, web banners, advertisements and webpages).
1.03   Identify design characteristics (e.g., fonts, size, color modes, backgrounds) that are suited for each type of design format and material.
1.04   Demonstrate knowledge of design theory such as hierarchy, design composition, color theory, typography, balance, repetition, etc.
1.05   Demonstrate knowledge of copyright laws (e.g., copyright statutes, disclaimers, filing procedures).
1.06   Research and identify job titles and skills needed for career positions in multimedia design using information from the U.S. Bureau of Labor Statistics (www.bls.gov).
1.07   Demonstrate understanding of multimedia file formats (e.g., EPS, PDF, TIFF, JPEG, PNG, ASCII, MPEG, MIDI, AVI, WAV) and knowledge of image size when scanning and saving files for use in different design types (print, web, computer, television, mobile devices).
1.08   Demonstrate knowledge of presentation vocabulary and terms.
2.0   Demonstrate basic computer knowledge. The student will be able to:
2.01   Identify basic computer components (e.g., CPU, monitor, keyboard, resolution).
2.02   Demonstrate understanding of computer specifications.
2.03   Demonstrate best practices of computer safety and ergonomics.
2.04   Demonstrate knowledge of computer operating systems and platforms.

CTE Standards and Benchmarks	
2.05	Demonstrate use of internal and external drives/storage and data backup.
2.06	Identify possible software and hardware malfunctions and perform basic troubleshooting operations.
2.07	Identify characteristics of software for print, photography, web, animation, video and audio.
3.0	Demonstrate knowledge of still images and time-based media production. The student will be able to:
3.01	Demonstrate knowledge of digital camera types for capturing stills and video.
3.02	Demonstrate knowledge of digital photography composition and time-based media.
3.03	Demonstrate knowledge of digital camera supports (e.g., tripod, grips, holds).
3.04	Identify parts of a digital camera (e.g., lens, sensor, battery).
3.05	Understand digital camera menus and navigation.
3.06	Demonstrate knowledge of auto modes and settings (e.g., F-stops, speed, ISO).
3.07	Demonstrate knowledge of manual modes and settings (e.g., F-stops, speed, ISO).
3.08	Demonstrate understanding of white balance and lighting.
3.09	Demonstrate proper care, use, and storage of digital cameras.
3.10	Create both a digital and printed portfolio.
4.0	Demonstrate knowledge of photo and time-based editing software. The student will be able to:
4.01	Demonstrate understanding of file formats and storage options.
4.02	Identify the parts of the software interface.
4.03	Demonstrate the ability to use each of the basic tool sets.
4.04	Demonstrate the ability to import, export and save images.
4.05	Demonstrate understanding of layers and channels.
4.06	Demonstrate understanding of filters, effects and plug-ins.
4.07	Demonstrate understanding of file presets.
4.08	Demonstrate the ability to select portions of an image for manipulation.

CTE Standards and Benchmarks	
4.09	Demonstrate the ability to transform selections and images (crop, scale).
4.10	Demonstrate the ability to color-correct images (brightness, hue, contrast).
4.11	Demonstrate the ability to use tools for image creation and correction.
4.12	Understand non-destructive and destructive operations.
4.13	Develop an awareness to import, paint and export 3D objects and/or Virtual Reality Objects.
4.14	Demonstrate the basic uses of video in photo editing software.
4.15	Plan and develop raster graphic to meet project needs through a formal RFP (request for proposal).

Florida Department of Education
Student Performance Standards

Course Title: **Digital Media/Multimedia Foundations 2**
Course Number: **8201220**
Course Credit: **1**

Course Description:

This course covers competencies in advanced design, illustration software, color modes, and fonts.

CTE Standards and Benchmarks
5.0   Demonstrate proficiency in advanced design. The student will be able to:
5.01   Demonstrate knowledge of advanced design.
5.02   Identify design strategies to reach the intended audience.
5.03   Use storyboarding or sketches to plan a design.
5.04   Create formal or informal design layouts using guidelines, colors, fonts, graphics and logos.
5.05   Demonstrate use of authoring software integration.
5.06   Identify compatibility formats (extensions) for authoring software integration.
6.0   Demonstrate understanding of color modes. The student will be able to:
6.01   Demonstrate knowledge of the color process for printing purposes.
6.02   Demonstrate knowledge of color conversion from display to print.
6.03   Demonstrate knowledge of spot colors.
6.04   Demonstrate knowledge of web-safe colors.
6.05   Explain color mode differences (e.g., RGB, CMYK, and HSB).
6.06   Understand accessing color modes from authoring software.
7.0   Demonstrate proficiency in using fonts for advanced design. The student will be able to:

CTE Standards and Benchmarks	
7.01	Identify *serif* and *sans-serif* fonts.
7.02	Demonstrate knowledge of conversion of fonts to outlines.
7.03	Understand the proprietary copyrights of fonts.
7.04	Demonstrate knowledge of standard font formats (e.g., TrueType, PostScript, OpenType).
7.05	Design and develop a print and/or digital portfolio (e.g., business cards, posters, billboards, magazines, and brochures).
8.0	**Demonstrate proficiency in using illustration software. The student will be able to:**
8.01	Evaluate industry standard illustration software packages.
8.02	Identify characteristics of vector and bitmap images.
8.03	Demonstrate understanding of the software workspace and navigation (e.g., views, tabs, zoom).
8.04	Demonstrate use of drawing tools to create, combine and edit basic shapes.
8.05	Demonstrate the ability to transform content (e.g., scale, rotation, position).
8.06	Demonstrate understanding of bezier curve and the appropriate tools for manipulation (e.g., direct select, convert anchor point, pen tool, pencil tool, and etc.).
8.07	Demonstrate use of color and painting tools (e.g., patterns, gradients, color palettes).
8.08	Demonstrate the ability to work with type (e.g., formatting, font palette, character panels, and paths).
8.09	Demonstrate use of layers by creating, locking, viewing, pasting, and merging.
8.10	Demonstrate use of blending (gradients and objects).
8.11	Demonstrate use of brushes; download new brushes.
8.12	Explore file exporting options and round-trip workflows with page layout software.
8.13	Demonstrate knowledge of bleed for vector and bitmap design software.
8.14	Plan and develop vector graphic to meet project needs through a formal RFP (Request for Proposal).
9.0	**Demonstrate knowledge of design layout software. The student will be able to:**
9.01	Identify parts of the software interface.
9.02	Demonstrate the ability to customize and navigate the workspace.

CTE Standards and Benchmarks	
9.03	Demonstrate understanding of pre-flighting.
9.04	Work with styles, graphics and objects in a design.
9.05	Set up a document and manage pages within document.
9.06	Demonstrate use of layers, text frames and graphic frames.
9.07	Determine the appropriate use of grids, columns, margins, and bleed.
9.08	Demonstrate the ability to align, transform and group objects.
9.09	Understand typography and text editing.
9.10	Demonstrate understanding of color (e.g., applying, gradients, tint, spot, and management).
9.11	Import and modify graphics (e.g., links, vector/bitmap images, quality, alpha channels).
9.12	Understand output and exporting functions (e.g., proofs, separations, prepress).

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Course Title: **Digital Media/Multimedia Foundations 3**
Course Number: **8201230**
Course Credit: **1**

Course Description:

This course covers competencies in design layout software.

CTE Standards and Benchmarks
10.0   Demonstrate proficiency in using presentation software and equipment to produce a complex presentation. The student will be able to:
10.01   Using authoring/editing software, create a multimedia presentation that incorporates custom raster graphics, vector graphics, typography, color and shapes and good design principles.
10.02   Demonstrate knowledge of the roles and responsibilities of a multimedia production team (e.g., project manager, creative or design director, content experts, writers, graphic designers, animators, sound designers, videographers, interface designers/programmers).
11.0   Develop proficiency in using authoring software. The student will be able to:
11.01   Plan and develop video to meet project needs through a formal RFP (request for proposal).
11.02   Present project for evaluation and make modifications to improve the project.
11.03   Collaborate with team members to plan, edit, evaluate, and present a multimedia presentation or product.
12.0   Demonstrate mastery of design layout software. The student will be able to:
12.01   Plan and develop print package to meet project needs through a formal RFP (request for proposal).

Florida Department of Education
Student Performance Standards

Course Title: **Digital Media/Multimedia Web Production**
Course Number: **8201610**
Course Credit: **1**

This course covers competencies in webpage design, HTML and CSS, authoring software, animated webpage design, and use the interactive design software.

CTE Standards and Benchmarks
13.0   Demonstrate proficiency in preliminary webpage design. The student will be able to:
13.01   Determine the objectives and the audience for webpages.
13.02   Identify design strategies to reach and keep an audience.
13.03   Use storyboarding to plan a website.
13.04   Identify styles and other design elements (e.g., backgrounds, colors, fonts, and buttons).
14.0   Demonstrate understanding of HTML and CSS. The student will be able to:
14.01   Interpret HTML coding to identify the structure of an existing webpage
14.02   Develop HTML coding to write a webpage.
14.03   Demonstrate understanding of Cascading Style Sheets (CSS) on an existing webpage.
14.04   Demonstrate compliance with ADA recommendations for all websites created.
14.05   Utilize markup validity to ensure compliance with the W3C for all websites created.
15.0   Demonstrate proficiency in authoring software for webpage design. The student will be able to:
15.01   Demonstrate understanding of photograph compression factors such as transmission speed, color reduction, and browser support.
15.02   Save and export a photograph to the web in the best format for image quality and file size.
15.03   Demonstrate knowledge of image formats related to photos and graphics on the Internet.
15.04   Demonstrate understanding of pixels for web design.

CTE Standards and Benchmarks	
15.05	Create webpages for publication.
15.06	Apply style sheets for consistent website design.
15.07	Format text for webpages (e.g., font families, sizes).
15.08	Create and edit images and photographs for webpages using digital imaging software.
15.09	Create and insert buttons into a webpage and test for accuracy.
15.10	Create navigational links.
15.11	Insert audio files into a webpage.
15.12	Create, edit and integrate video files into a webpage.
15.13	Create, edit and integrate animation files into a webpage.
15.14	Create meta-commands and keywords for search engines.
15.15	Optimize page size for effective downloading to browsers.
15.16	Create and incorporate a form into a webpage.
15.17	Edit and test links for accuracy and validity.
15.18	Create several webpages for a portfolio.
16.0	Demonstrate knowledge of interactive animation techniques. The student will be able to:
16.01	Determine the graphic requirements.
16.02	Demonstrate an ability to use type, color, composition, and graphic elements.
16.03	Produce graphic using software with appropriate titling and graphic transitions.
16.04	Edit graphics in the software.
16.05	Demonstrate use of motion tweens for interactive purposes.
16.06	Demonstrate use of shape tweens for interactive purposes.
16.07	Demonstrate basic use of programming code to create interactivity in a website (JavaScript).
17.0	Demonstrate proficiency using all media to create an advertising campaign. The student will be able to:

CTE Standards and Benchmarks	
17.01	Use authoring software to plan and create an advertising campaign that includes collateral materials, digital photography, webpages, animation, video, and/or audio.
18.0 Participate in work-based learning experiences or simulation. The student will be able to:	
18.01	Participate in work-based learning experiences/simulation in a digital media/multimedia environment.

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Student Performance Standards

Course Title: **Digital Media/Multimedia Motion Graphics Production**
Course Number: **8201620**
Course Credit: **1**

Course Description:

This course covers competencies in preparing graphics for animation, video editing, and video post-production.

CTE Standards and Benchmarks
19.0   Demonstrate proficiency using video editing software and equipment. The student will be able to:
19.01   Demonstrate knowledge of non-linear editing software.
19.02   Identify components of non-linear video editing equipment.
19.03   Set up non-linear video editing equipment.
19.04   Compare offline editing to linear video editing.
19.05   Use storyboarding to plan a short non-linear video project that includes existing video footage with a title, transitions, background sound, voice-over, animation, and rolling credits.
19.06   Use video editing software to create and edit a movie that includes video footage with a title, transitions, background sound, voice-over, and rolling credits and output to video.
19.07   Collaborate with team members to plan, edit, and shoot video footage utilizing advanced video editing techniques and output to video.
19.08   Discuss the use of batch processing and project trimming.
19.09   Plan, create, edit and present a short non-linear movie with title, transitions, sub and virtual clips, sound, background music, voice-over, and credits.
20.0   Demonstrate knowledge of keyframe based animation techniques. The student will be able to:
20.01   Determine the graphic requirements.
20.02   Demonstrate an ability to use type, color, composition, and graphic elements.
20.03   Produce graphic using software with appropriate titling and graphic transitions.

CTE Standards and Benchmarks	
	20.04 Edit graphics in the software.
	20.05 Demonstrate knowledge of difference animation strategies (e.g., straight ahead, pose to pose, and etc.).
	20.06 Produce and render a composition with appropriate graphics, titling, audio, color correction, and credits.
	20.07 Demonstrate understanding of different layer types.
	20.08 Identify properties that can be animated with key frames.
	20.09 Demonstrate use of different key frames and how they affect property animation (e.g., easy ease, ease in, ease out, hold frame, etc.).
21.0	Identify key animation principles (e.g., momentum, overshoot, bounce, etc.). The student will be able to:
	21.01 Demonstrate an understanding of key terminology.
	21.02 Demonstrate use of graph editor to demonstrate animation principles.
	21.03 Demonstrate use of speed graph editor to demonstrate animation principles.
22.0	Prepare graphics for time-based media. The student will be able to:
	22.01 Incorporate multiple graphic elements into an effective production.
	22.02 Identify the advantages and disadvantages of using pixel or vector based graphics in motion graphics production.
	22.03 Identify appropriate uses of pixel based graphics in animation projects.
	22.04 Identify appropriate use of vector based graphics in animation projects
	22.05 Prepare pixel and vector based graphics for use in animation project.
23.0	Identify broad range of roles for time-based media production. The student will be able to:
	23.01 Demonstrate knowledge of the pre-production, production, and post-production process.
24.0	Demonstrate proficiency using all media to create a promotional campaign. The student will be able to:
	24.01 Use authoring software to plan and create a promotional campaign that includes collateral materials, digital photography, webpages, animation, video, and/or audio.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

Florida Standards for English Language Development (ELD)
English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting.   For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: http://www.cpalms.org/uploads/docs/standards/eld/SI.pdf.
For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

Special Notes

The occupational standards and benchmarks outlined in this secondary program correlate to the standards and benchmarks of the postsecondary program with the same Classification of Instructional Programs (CIP) number.

Career and Technical Student Organization (CTSO)

SkillsUSA and Future Business Leaders of America (FBLA) are 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. 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.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular course or a modified course. If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

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