**2019 – 2020**

# Florida Department of Education

# Curriculum Framework

**Program Title: Digital Media Technology**

**Program Type: Career Preparatory**

**Career Cluster: Information Technology**

| **Secondary – Career Preparatory** |
| --- |
| Program Number | 9005100 |
| CIP Number | 0509070200 |
| Grade Level | 9-12 |
| Standard Length | 5 credits |
| Teacher Certification | Refer to the **Program Structure** section. |
| CTSO | FBLABPA |
| SOC Codes (all applicable)  | 15-1151 – Computer User Support Specialists15-1142 – Network and Computer Systems Administrators |
| CTE Program Resources  | <http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml> |

**Purpose**

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 technical digital media positions in the Information Technology 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.

The content includes but is not limited to practical experiences in the implementation, management, and maintenance of advanced telecommunication environments associated with the creation, packaging, and delivery of digital media.

**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 two occupational completion points in the program.

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:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| OCP | Course Number | Course Title | Teacher Certification | Length | SOC Code | Level | Graduation Requirement |
| A | 8207310 | Digital Information Technology | [DIT Teacher Certifications](http://www.fldoe.org/core/fileparse.php/18703/urlt/DIT-2019-20.rtf) | 1 credit | 15-1151 | 2 | PA |
| B | 9005110 | Digital Media Fundamentals | BUS ED 1 @2DIGI MEDIA 7GINFO TECH 7G | 1 credit | 15-1142 | 3 | PA |
| 9005120 | Digital Media Production Systems | 1 credit | 3 | PA |
| 9005130 | Digital Media Delivery Systems | 1 credit | 3 | PA |
| 9005140 | Advanced Digital Media Systems | 1 credit | 3 | PA |

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

### Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

| Courses | Anatomy/ Physiology Honors | Astronomy Solar/Galactic Honors | Biology 1 | Chemistry 1 | Earth-Space Science | Environmental Science | GeneticsHonors  | Integrated Science 1 | Marine Science 1 Honors | Physical Science | Physics 1 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8207310 | 5/876% | 5/806% | 24/8329% | 5/697% | 24/6736% | 5/707% | 5/697% | 24/8229% | 5/668% | 24/7432% | 5/727% |
| 9005110 | 2/872% | 3/804% | 1/831% | 4/696% | 3/674% | 3/704% | 2/693% | 2/822% | 2/663% | 3/744% | 5/727% |
| 9005120 | 22/8725% | 25/8031% | 3/834% | 22/6932% | 4/676% | 21/7030% | 22/6932% | 4/825% | 18/6627% | 4/745% | 25/7235% |
| 9005130 | 20/8723% | 20/8025% | 1/831% | 20/6929% | 2/673% | 19/7027% | 20/6929% | 1/821% | 15/6623% | 1/741% | 20/7228% |
| 9005140 | # | # | # | # | # | # | # | # | # | # | # |

*\*\* Alignment pending review # Alignment attempted, but no correlation to academic course*

| Courses | Algebra 1 | Algebra 2 | Geometry | English 1 | English 2 | English 3 | English 4 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 8207310 | 20/6730% | 15/7520% | 18/5433% | 40/4687% | 40/4589% | 40/4589% | 40/4589% |
| 9005110 | 17/6725% | 10/7513% | 16/5430% | 3/467% | 3/457% | 3/457% | 3/457% |
| 9005120 | 10/6715% | 15/7520% | 8/5415% | 3/467% | 3/457% | 2/454% | 2/454% |
| 9005130 | 10/6715% | 15/7520% | 9/5417% | 3/467% | 3/457% | 2/454% | 2/454% |
| 9005140 | 1/671% | 1/751% | 1/542% | # | # | # | # |

*\*\* Alignment pending review # Alignment attempted, but no correlation to academic course*

### Florida Standards for Technical Subjects

*Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education.*

**Instructors must incorporate the** [**Florida Standards for Technical Subjects and Mathematical Practices**](file:///%5C%5CDoecfs1%5Cdcae2%24%5CCommon%5CCTE%20UNIT%5CCurriculum%20Frameworks%5CFramework%20Templates%5C2017-18%20Templates%5CWorking%5CFlorida_Standards_Technical_Subjects.rtf) **throughout instruction of this CTE program. To access these standards, please click on the following link:** <http://www.fldoe.org/core/fileparse.php/5652/urlt/FloridaStandardsTechSubjects.rtf>.

**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.

### 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

**Digital Information Technology (8207310) is the first course in this and other programs within the Information Technology Career Cluster. Standards 01.0 – 14.0 are associated with this course**.

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

1. Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance.
2. Develop an awareness of microprocessors and digital computers.
3. Demonstrate an understanding of operating systems.
4. Use technology to enhance the effectiveness of communication skills utilizing word processing applications.
5. Use technology to enhance communication skills utilizing presentation applications.
6. Use technology to enhance the effectiveness of communication utilizing spreadsheet and database applications.
7. Use technology to enhance communication skills utilizing electronic mail.
8. Investigate individual assessment and job/career exploration and individual career planning that reflect the transition from school to work, lifelong learning, and personal and professional goals.
9. Incorporate appropriate leadership and supervision techniques, customer service strategies, and standards of personal ethics to accomplish job objectives and enhance workplace performance.
10. Demonstrate competence using computer networks, internet and online databases to facilitate collaborative or individual learning and communication.
11. Demonstrate competence in page design applicable to the WWW.
12. Develop an awareness of emerging technologies.
13. Develop awareness of computer languages and software applications.
14. Demonstrate comprehension and communication skills.
15. Describe characteristics of digital media relative to format, standards, encoding schemes, and origin.
16. Compare and contrast various forms of digital media delivery systems.
17. Demonstrate an understanding of handling equipment, recording video and audio, exporting files and editing projects.
18. Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio.
19. Create animation in digital media that enhances production.
20. Perform safety skills while performing or recording on set.
21. Apply appropriate lighting for location and/or set productions.
22. Operate a video camera.
23. Record, mix and edit audio resources.
24. Shoot Studio and /or location footage.
25. Design and generate graphic elements.
26. Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
27. Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital audio.
28. Apply industry standard workflow management methods applicable to the integration and synchronization of audio and video into a single digital media product.
29. Apply industry standard asset management methods applicable to development of a digital media product.
30. Explain the importance of calibration in the production of digital media and the means by which it is accomplished.
31. Demonstrate proficiency in producing a digital media product for delivery for both televised and online streaming media.
32. Demonstrate proficiency in producing a digital media product for delivery using an Internet-based on-demand system (e.g., VOD, IPTV).
33. Demonstrate proficiency in producing a digital media product for delivery using an Internet-based streaming system.
34. Demonstrate proficiency in producing a digital media product for delivery using an Internet-based system featuring multi-point presence.
35. Demonstrate proficiency in producing a digital media product for delivery using satellite delivery systems.
36. Describe the evolution, role, and characteristics of a Content Distribution Network (CDN) for delivering digital media to Internet points.
37. Demonstrate an understanding of Internet Protocol Television (IPTV) systems, their types, applications, and implementation issues.
38. Successfully plan out and produce a professional portfolio showcasing mastery of multimedia production and self-marketing.
39. Utilize best practices involving advanced professional grade equipment.
40. Use innovative means and perceptual understanding to communicate through varied content, media and digital art techniques.
41. Develop competence and dexterity, through the use of processes, tools and techniques for various media.
42. Examine career opportunities in the Digital Media Field to determine requisite skills, qualifications, supply-and-demand, market location and potential earnings.
43. Demonstrate professional organizational skills to influence sequential process when producing multimedia.
44. Demonstrate professional interview skills.

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# Florida Department of Education

# Student Performance Standards

**Course Title: Digital Information Technology**

**Course Number: 8207310**

**Course Credit: 1**

**Course Description:**

## This course is designed to provide a basic overview of current business and information systems and trends, and to introduce students to fundamental skills required for today's business and academic environments. Emphasis is placed on developing fundamental computer skills. The intention of this course is to prepare students to be successful both personally and professionally in an information based society. Digital Information Technology includes the exploration and use of: databases, the internet, spreadsheets, presentation applications, management of personal information and email, word processing and document manipulation, HTML, webpage design, and the integration of these programs using software that meets industry standards. After successful completion of this core course, students will have met Occupational Completion Point A, Information Technology Assistant - SOC Code 15-1151.

**Digital Information Technology (8207310) is part of several programs across the various CTE career clusters. To ensure consistency, the standards and benchmarks for this course (01.0 – 14.0) have been placed in a separate document. To access this document, visit:** [Digital Information Technology (8207310)](http://www.fldoe.org/core/fileparse.php/18703/urlt/DIT-2019-20.rtf).

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# Student Performance Standards

**Course Title: Digital Media Fundamentals**

**Course Number: 9005110**

**Course Credit: 1**

**Course Description:**

This course introduces students to the essential concepts, components, terminology, and knowledge about digital media, software applications, and delivery systems.

**Abbreviations:**

FS-M/LA = Florida Standards for Math/Language Arts

NGSSS-Sci = Next Generation Sunshine State Standards for Science

| **CTE Standards and Benchmarks** | **FS-M/LA** | **NGSSS-Sci** |
| --- | --- | --- |
| 1. Describe characteristics of digital media relative to format, standards, encoding schemes, and origin. – The student will be able to:
 |  |  |
| * 1. Determine the meaning of symbols, key terms, and other domain-specific words and phrases.
 | MAFS.912.N-Q.1.1 LAFS.910.L.3.6; LAFS.1112.L.3.6 |  |
| * 1. Identify and differentiate the appropriate use of digital media formats based on standard industry practices.
 | MAFS.912.N-Q.1.1 |  |
| * 1. Identify and differentiate the appropriate use of encoding schemes based on project needs.
 | MAFS.912.N-Q.1.1 |  |
| * 1. Identify the difference between digital media source files and digital media delivery systems.
 | MAFS.912.N-Q.1.1 |  |
| 1. Compare and contrast various forms of digital media delivery systems. – The student will be able to:
 |  |  |
| * 1. Identify the differences between fixed digital media formats and digital media streaming.
 | MAFS.912.N-Q.1.1; MAFS.912.F-IF.2.4 |  |
| * 1. Identify the various forms of digital media content distribution.
 | MAFS.912.N-Q.1.1; MAFS.912.F-IF.2.4 |  |
| * 1. Describe the development of digital media technology as it pertains to digital signage.
 | MAFS.912.A-REI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Describe the impact of mobile and Wi-Fi technologies on the digital media development industry.
 | MAFS.912.A-REI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 | SC.912.L.17.15 |
| 1. Demonstrate an understanding of handling equipment, recording video and audio, exporting files and editing projects. – The student will be able to:
 |  |  |
| * 1. Identify digital image file types and their appropriate uses.
 | MAFS.912.N-Q.1.1; MAFS.912.F-IF.2.4 |  |
| * 1. Compare and contrast the similarities and differences between Standard Definition and High Definition recordings.
 | MAFS.912.G-SRT1.2 | SC.912.P.10.1; SC.912.P.10.13; SC.912.P.10.16;SC.912.P.10.17; SC.912.P.10.18 |
| * 1. Describe and apply the characteristics of digital video.
 | MAFS.912.A-REI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the various application platforms used in digital video development.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1; LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Create a video production that meets the industry standards of production.
 |  |  |
| 1. Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio. – The student will be able to:
 |  |  |
| * 1. Identify and describe the fundamental aspects of sound theory.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1; LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 | SC.912.P.10.1; SC.912.P.10.13; SC.912.P.10.16;SC.912.P.10.17; SC.912.P.10.18 |
| * 1. Compare and contrast the similarities and differences between various audio recordings.
 | MAFS.912.G-SRT.1.2 | SC.912.P.10.1; SC.912.P.10.13; SC.912.P.10.16;SC.912.P.10.17; SC.912.P.10.18 |
| * 1. Describe the characteristics of digital audio.
 | MAFS.912.AREI.1.1; LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the various application platforms used in digital audio recording and editing.
 | MAFS.912.NQ.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Enhance storytelling using sound effects.
 |  |  |
| * 1. Capture and edit original audio to be utilized with in class video production projects.
 |  |  |
| 1. Create animation in digital media that enhances production. – The student will be able to:
 |  |  |
| * 1. Describe the process of developing animations and identify the industry standard platforms used in their creation.
 | MAFS.912.AREI.1.1; LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Describe the similarities and differences as well as industry standard platforms used in the development of 2D and 3D graphics.
 | MAFS.912.REI.1.1; MAFS.912.G-SRT.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the challenges in developing and deploying digital media content.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1; LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify the components and characteristics of motion that make up an animation.
 | MAFS.912.NQ.1.1 |  |
| * 1. Create animations within production.
 |  |  |
| * 1. Produce storyboarding, production plans (GANTT CHARTS) and playable rough cuts.
 |  |  |
| 1. Perform safety skills while performing or recording on set. – The student will be able to:
 |  |  |
| * 1. Perform proper care of equipment.
 |  |  |
| * 1. Demonstrate appropriate use of equipment in an efficient manner.
 |  |  |
| * 1. Demonstrate awareness of appropriate ergonomics.
 |  |  |
| * 1. Demonstrate safe ways to create action on set.
 |  |  |
| * 1. Apply ethical practices.
 |  |  |
| 1. Apply appropriate lighting for location and/or set productions--The student will be able to:
 |  |  |
| * 1. Determine appropriate lighting needs for production settings.
 |  |  |
| * 1. Identify locations and studio lighting types, method of use and application.
 |  |  |
| * 1. Use lighting equipment according to industry safety standards.
 |  |  |
| 1. Operate a video camera. – The student will be able to:
 |  |  |
| * 1. Use current industry standard production video equipment.
 |  |  |
| * 1. Operate camera in studio and location (field) production environments.
 |  |  |
| * 1. Align camera for studio production.
 |  |  |
| * 1. Demonstrate appropriate framing for both SDTV and HDTV.
 |  |  |
| * 1. Operate (CCU) Camera Control Uni.
 |  |  |
| 1. Record, mix and edit audio resources. – The student will be able to:
 |  |  |
| * 1. Identify and select microphones for production needs.
 |  |  |
| * 1. Determine optimal microphone placement.
 |  |  |
| * 1. Establish appropriate recording conditions.
 |  |  |
| * 1. Set up audio recording equipment.
 |  |  |
| * 1. Perform appropriate pre-production check of production equipment.
 |  |  |
| * 1. Record location sound.
 |  |  |
| * 1. Record studio live sound.
 |  |  |
| * 1. Perform basic routine, preventative and repair maintenance on video equipment.
 |  |  |
| * 1. Define the various recording formats and media.
 |  |  |
| * 1. Define appropriate digital compression and signal (file) types.
 |  |  |
| * 1. Perform sound edits and enhancements.
 |  |  |

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# Student Performance Standards

**Course Title: Digital Media Production Systems**

**Course Number: 9005120**

**Course Credit: 1**

**Course Description:**

This course introduces students to the digital video and audio authoring environments, equipment, and software applications. Content includes management aspects of creating, saving, and distributing digital assets.

**Abbreviations:**

FS-M/LA = Florida Standards for Math/Language Arts

NGSSS-Sci = Next Generation Sunshine State Standards for Science

| **CTE Standards and Benchmarks** | **FS-M/LA** | **NGSSS-Sci** |
| --- | --- | --- |
| 1. Shoot studio and/or location footage. – The student will be able to:
 |  |  |
| * 1. Plan a shot to obtain required action/footage.
 |  |  |
| * 1. Demonstrate appropriate shot sequences, transitions and post production (edit) effects.
 |  |  |
| * 1. Control camera movement to obtain required effects.
 |  |  |
| * 1. Control lens, focal length, aperture and exposure to obtain required effects.
 |  |  |
| * 1. Set up camera and recording equipment sequence.
 |  |  |
| 1. Design and generate graphic elements. – The student will be able to:
 |  |  |
| * 1. Determine the graphic requirements for a production.
 |  |  |
| * 1. Operate graphic production software.
 | MAFS.912.SMD.1.4 LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| * 1. Produce broadcast graphic elements for titling, credits and graphic transitions.
 |  |  |
| * 1. Determine the special effects need for a production.
 |  |  |
| * 1. Set up and operate character generator equipment and software.
 |  |  |
| * 1. Generate appropriate special effects and animated elements for a production.
 | MAFS.912.NQ.1.1 | SC.912.P.10.20; SC.912.P.10.22 |
| * 1. Demonstrate an understanding of graphic image types, file formats, and technical requirements for a production.
 | MAFS.912.NQ.1.1 |  |
| * 1. Use image editing (bit mapped) software.
 |  |  |
| * 1. Edit graphics into the program or segment.
 |  |  |
| * 1. Demonstrate an ability to use type, color, composition and graphic elements for a specific production effect.
 | MAFS.912.A-REI.1.1 | SC.912.P.10.21 |
| * 1. Demonstrate an ability to use different aspect ratios as needed for SDTV and HDTV.
 |  |  |
| * 1. Identify and describe the standard practices for retrieving digital media assets both on local and remote work stations/networks.
 |  |  |
| * 1. Describe the standard practices for establishing digital asset security.
 |  |  |
| * 1. Describe the purpose and function of metadata as it pertains to the management of digital assets.
 |  |  |
| 1. Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video. – The student will be able to:
 |  |  |
| * 1. Produce video files according to industry standard specifications using digital media development hardware and software applications.
 | MAFS.912.SMD.1.4 LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| * 1. Identify and incorporate the appropriate use of digital video encoding based on industry standard practices.
 | MAFS.912.NQ.1.1 |  |
| * 1. Identify the various tools and procedures utilized in the conversion of digital media file types.
 | MAFS.912.NQ.1.1 |  |
| * 1. Demonstrate proficiency in the utilization of standard video production equipment.
 | MAFS.912.NQ.1.1 | SC.912.P.10.20; SC.912.P.10.22 |
| * 1. Demonstrate proficiency in the connectivity and configuration of digital video equipment.
 | MAFS.912.A-REI.1.1 |  |
| * 1. Identify and troubleshoot lighting issues as they pertain to the recording of digital video as well as describe common industry practices in the staging of light sources.
 | MAFS.912.NQ.1.1 |  |
| 1. Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital audio. – The student will be able to:
 |  |  |
| * 1. Produce audio files according to industry standard specifications using digital media development hardware and software applications.
 | MAFS.912.SMD.1.3; MAFS.912.SMD.1.4 LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| * 1. Demonstrate proficiency in the utilization of standard audio production equipment.
 | MAFS.912.A-REI.1.1 | SC.912.P.10.21 |
| * 1. Demonstrate proficiency in the connectivity and configuration of digital audio equipment.
 | MAFS.912.A-REI.1.1 |  |
| 1. Apply industry standard workflow management methods applicable to the integration and synchronization of audio and video into a single digital media product. – The student will be able to:
 |  |  |
| * 1. Describe the various media integration systems and their appropriate uses in the development of digital media.
 | MAFS.912.A-REI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the importance of version control in digital asset management.
 | MAFS.912.A-REI.1.1, MAFS.912.NQ.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the various forms of digital audio/video synchronization and the tools and techniques used to sync digital audio and video.
 | MAFS.912.A-REI.1.1; MAFS.912.NQ.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Successfully operate digital audio/video devices simultaneously in order to produce HD quality media to synchronize assets for post-production.
 |  |  |
| 1. Apply industry standard asset management methods applicable to development of a digital media product. – The student will be able to:
 |  |  |
| * 1. Identify and describe the standard practices for storing and archiving digital media assets.
 |  |  |
| * 1. Successfully apply and enhance upon industry standard practices for storing and archiving digital media assets.
 |  |  |
| * 1. Identify and describe the standard practices for retrieving digital media assets both on local and remote work stations/networks.
 |  |  |
| * 1. Describe the standard practices for establishing digital asset security.
 |  |  |
| * 1. Describe the purpose and function of metadata as it pertains to the management of digital assets.
 |  |  |
| 1. Explain the importance of calibration in the production of digital media and the means by which it is accomplished. – The student will be able to:
 |  |  |
| * 1. Identify the necessity and effects of calibration on various digital media systems.
 | MAFS.912.NQ.1.1 | SC.912.N.1.1 |
| * 1. Identify standard practices in calibrating digital media production equipment.
 | MAFS.912.NQ.1.1 | SC.912.N.1.1 |
| * 1. Use lighting for effect to control mood and impact in production settings.
 |  |  |
| * 1. Use studio lighting master control equipment.
 |  |  |

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# Florida Department of Education

# Student Performance Standards

**Course Title: Digital Media Delivery Systems**

**Course Number: 9005130**

**Course Credit: 1**

**Course Description:**

This course introduces students to the digital video and audio delivery media and associated protocols. Content includes technical aspects of evolving and emerging technologies used in the delivery of digital content.

**Abbreviations:**

FS-M/LA = Florida Standards for Math/Language Arts

NGSSS-Sci = Next Generation Sunshine State Standards for Science

| **CTE Standards and Benchmarks** | **FS-M/LA** | **NGSSS-Sci** |
| --- | --- | --- |
| 1. Demonstrate proficiency in producing a digital media product for delivery for both televised and online streaming media. – The student will be able to:
 |  |  |
| * 1. Identify and describe the various physical and application formats for (DVD) media technology.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the various (DVD) physical outputs for media players.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify the features and specifications of (DVD) media and the (DVD) format.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1 | SC.912.P.10.16 |
| * 1. Identify and describe the (DVD) media industry specification (red book standard).
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe the various coding mechanisms utilized in the creation of (DVD) media.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe standard copy protection practices in (DVD) media creation.
 | MAFS.912.NQ.1.1; MAFS.912.AREI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Use standard (DVD) authoring / editing systems in the creation of (DVD) media.
 | MAFS.912.AREI.1.1 |  |
| * 1. Identify and describe the appropriate use of standard television formats (PAL & NTSC).
 | LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Demonstrate an awareness of the issues in quality when compressing digital media.
 | MAFS.912.AREI.1.1 |  |
| 1. Demonstrate proficiency in producing a digital media product for delivery using an Internet-based on-demand system (e.g., VOD, IPTV). – The student will be able to:
 |  |  |
| * 1. Develop digital media in the appropriate specified format for delivery on On-Demand Systems.
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| * 1. Develop digital media in the appropriate specified format for delivery on Video on demand (VOD) Systems.
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| * 1. Develop digital media in the appropriate specified format for delivery on IP Television (IPTV).
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| 1. Demonstrate proficiency in producing a digital media product for delivery using an Internet-based streaming system. – The student will be able to:
 |  |  |
| * 1. Develop digital media in the appropriate specified format for delivery on On-Demand Systems.
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| * 1. Develop digital media in the appropriate specified format for delivery on Video on demand (VOD) Systems.
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| * 1. Develop digital media in the appropriate specified format for delivery on IP Television (IPTV).
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| * 1. Develop digital media in the appropriate specified format for delivery on Grid Casting systems.
 | MAFS.912.MO.1.3; MAFS.912.MO.1.4 |  |
| 1. Demonstrate proficiency in producing a digital media product for delivery using an Internet-based system featuring multi-point presence. – The student will be able to:
 |  |  |
| * 1. Demonstrate an awareness of the tools and practices used in establishing multiple points of presence.
 |  |  |
| * 1. Demonstrate an awareness of design constraints and attributes as they pertain to producing digital media for delivery on internet-based systems.
 |  |  |
| * 1. Demonstrate an awareness of communication channels and considerations as they pertain to producing digital media for delivery on internet-based systems.
 |  |  |
| 1. Demonstrate proficiency in producing a digital media product for delivery using satellite delivery systems. – The student will be able to:
 |  |  |
| * 1. Identify industry applications utilized in producing a digital media product for delivery using satellite delivery systems.
 | LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| * 1. Identify current technologies and capabilities used in the production of a digital media product for delivery using satellite delivery systems.
 | LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| * 1. Describe the current limitations (e.g., latency) of delivering digital media via satellite delivery systems.
 | LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |
| * 1. Identify and describe common issues in delivering digital media via simulcast systems.
 | LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| * 1. Identify and describe the process of delivering digital media via multicast systems.
 | LAFS.910.W.2.6; LAFS.1112.W.2.6 |  |
| 1. Describe the evolution, role, and characteristics of a Content Distribution Network (CDN) for delivering digital media to Internet points. – The student will be able to:
 |  |  |
| * 1. Describe content networking techniques as they pertain to the delivering of digital media to internet points.
 | MAFS.AREI.1.1 LAFS.910.SL.1.1; LAFS.910.L.1.1LAFS.1112.SL.1.1 |  |

**2019 – 2020**

# Florida Department of Education

# Student Performance Standards

**Course Title: Advanced Digital Media Systems**

**Course Number: 9005140**

**Course Credit: 1**

**Course Description:**

This course covers advanced technologies and environments typical in robust digital media applications, including live and pre-recorded scenarios.

**Abbreviations:**

FS-M/LA = Florida Standards for Math/Language Arts

NGSSS-Sci = Next Generation Sunshine State Standards for Science

| **CTE Standards and Benchmarks** | **FS-M/LA** | **NGSSS-Sci** |
| --- | --- | --- |
| 1. Demonstrate an understanding of Internet Protocol Television (IPTV) systems, their types, applications, and implementation issues. – The student will be able to:
 |  |  |
| * 1. Demonstrate an understanding of converged services and their application to Internet Protocol Television (IPTV).
 | MAFS.912.AREI.1.1 |  |
| * 1. Compare and contrast live versus stored media systems.
 | MAFS.912.SRT.1.2 |  |
| * 1. Demonstrate an understanding of Internet Protocol Television (IPTV) applications and delivery systems.
 | MAFS.912.AREI.1.1 |  |
| * 1. Demonstrate an understanding of common issues that pertain to the development of digital media for distribution over Internet Protocol Television (IPTV) systems.
 | MAFS.912.AREI.1.1 |  |
| 1. Successfully plan out  and produce a professional portfolio showcasing mastery of multimedia production and self-marketing.– The student will be able to:
 |  |  |
| * 1. Showcase a high level of creative independence in producing multimedia content that focuses on the individual student's strengths and build upon any skills that may require additional practice throughout the Portfolio development.
 |  |  |
| * 1. Student will both document and demonstrate both successful and unsuccessful progress a throughout their portfolio development by use of a Production Schedule or GANTT CHART.
 |  |  |
| * 1. Write, direct and produce an amateur short film. This work will be continuously progressive until a Portfolio deadline is designated.
 |  |  |
| * 1. Write, direct and produce an amateur commercial advertisement.  This work will be continuously progressive until Portfolio deadline is designated.
 |  |  |
| * 1. Write, direct and produce an amateur Visual Postcard. This work will be continuously progressive until Portfolio deadline is designated
 |  |  |
| * 1. Write, direct and produce an amateur Motion Graphics based tutorial. This work will be continuously progressive until Portfolio deadline is designated.
 |  |  |
| 1. Utilize best practices involving advanced professional grade equipment. – The student will be able to:
 |  |  |
| * 1. Pack and transport equipment.
 |  |  |
| * 1. Identify and dismantle/assemble equipment.
 |  |  |
| * 1. Locate, scout and obtain appropriate on site permission.
 |  |  |
| * 1. Use model release form documents.
 |  |  |
| * 1. Scout locations for proper electrical outlets.
 |  |  |
| * 1. Plan, coordinate and manage a production GANTT Chart
 |  |  |
| * 1. Define specific dates for multiple video production projects.
 |  |  |
| * 1. Determine post-production requirements.
 |  |  |
| * 1. Coordinate post-production values.
 |  |  |
| * 1. Identify and attempt to resolve production issues during post-production.
 |  |  |
| * 1. Practice leadership skills.
 |  |  |
| * 1. Manage crew and staff during pre-planning and production.
 |  |  |
| * 1. Present project proposals including script, storyboards and shot lists.
 |  |  |
| * 1. Delegate and assign tasks to members during all phases of production.
 |  |  |
| * 1. Apply advanced color correction techniques to film.
 |  |  |
| * 1. Demonstrate and apply primary practice of marketing sales techniques.
 |  |  |
| 1. Use innovative means and perceptual understanding to communicate through varied content, media and digital art techniques. – The student will be able to:
 |  |  |
| * 1. Showcase a high level of creative independence in producing multimedia content that focuses on the individual student’s strengths and build upon any skills that may require additional practice throughout Portfolio development.
 |  |  |
| * 1. Students will both document and demonstrate both successful and unsuccessful progress throughout their portfolio development by use of a Production Schedule or GANNT CHART.
 |  |  |
| * 1. Write, direct and produce an amateur short film. This work will be continuously progressive until a Portfolio deadline is designated.
 |  |  |
| * 1. Write, direct and produce an amateur commercial advertisement.  This work will be continuously progressive until Portfolio deadline is designated.
 |  |  |
| * 1. Write, direct and produce an amateur Visual Postcard. This work will be continuously progressive until Portfolio deadline is designated
 |  |  |
| * 1. Write, direct and produce an amateur Motion Graphics based tutorial. This work will be continuously progressive until Portfolio deadline is designated
 |  |  |
| * 1. Demonstrate strong use of graphical design programs (Photoshop, Illustrator) to edit, enhance and properly choose formats for placement and use in Premiere, Final Cut, Motion or After Effects.
 |  |  |
| 1. Develop competence and dexterity, through practice, in the use of processes, tools and techniques for various media. – The student will be able to:
 |  |  |
| * 1. Utilize best practices involving advanced professional grade equipment.
 |  |  |
| * 1. Pack and transport equipment.
 |  |  |
| * 1. Identify and dismantle/assemble equipment.
 |  |  |
| * 1. Use model release form documents.
 |  |  |
| * 1. Locate, scout and obtain appropriate on site permission as needed.
 |  |  |
| * 1. Define specific dates for multiple video production projects.
 |  |  |
| * 1. Coordinate post-production values.
 |  |  |
| * 1. Identify and attempt to resolve production issues during post-production.
 |  |  |
| * 1. Present project proposals including script, storyboards and shot lists.
 |  |  |
| * 1. Delegate and assign tasks to members during all phases of production.
 |  |  |
| * 1. Manage crew and staff during pre-planning and production.
 |  |  |
| 1. Examine career opportunities in the Digital Media field to determine requisite skills, qualifications, supply-and-demand, market location, and potential earning. – The student will be able to:
 |  |  |
| * 1. Demonstrate and apply primary practice of marketing sales techniques.
 |  |  |
| * 1. Identify, demonstrate and practice modern day online and televised marketing techniques.
 |  |  |
| * 1. Research average salary range for various Digital Media careers.
 |  |  |
| * 1. Research existing Digital Media careers and determine specified skills and qualifications.
 |  |  |
| 1. Demonstrate professional organizational skills to influence sequential process when producing multimedia. – The student will be able to:
 |  |  |
| * 1. Properly save and export multiple formats of video, audio and images from specified editing programs for use in cross platform devices and software.
 |  |  |
| * 1. Use PC/MAC operating system to create multiple directories specified to the types of media being imported or used for their projects.
 |  |  |
| * 1. Identify known software issues and determine solutions.
 |  |  |
| * 1. Understand updated software and its system requirements.
 |  |  |
| 1. Demonstrate professional interview skills. – The student will be able to:
 |  |  |
| * 1. Showcase the value of their own skills during mock interviews.
 |  |  |
| * 1. Be able to present works to others and openly discuss the purpose of its value.
 |  |  |
| * 1. Initiate and participate in group discussions related to others progress and offer intuitive solutions as well as accepting constructive criticism and conforming to new processes.
 |  |  |

# 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

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.

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](http://www.mycareershines.org/).

### Career and Technical Student Organization (CTSO)

Future Business Leaders of America (FBLA) and Business Professionals of America (BPA) are the intercurricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills for secondary students. 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 Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). 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 an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. 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>