

Multimedia

Instructional Framework

An instructional framework provides educators with a list of benchmark statements aligned to Common Core and national content area standards for a given course or program. The Missouri Multimedia Instructional Framework lists a sequence of content for multimedia, organized into distinct units of instruction with component evidence of mastery statements.

Codes for the National Standards for Business Education are:

CD = Career Development
COMM = Communication

IT = Information Technology
M = Management

Codes for Common Core English Language Arts and Literacy are:

RI = Reading for Informational Text
SL = Speaking and Listening

W = Writing
WHST = Writing for Literacy in History/Social Studies, Science, and Technical Subjects

Codes for Common Core Mathematics are:

G-CO = Geometry: Congruence

Multimedia Instructional Framework

A. Apply Foundational Concepts	Common Core	NBEA Standards
1. Develop vocabulary related to multimedia.	RI 11-12.4	IT.V.2.2, M.I.A.2.1, COMM.I.C.3.6
2. Investigate the key principles in internet safety, security, and privacy.	RI 11-12.1	IT.XVI.1-2.4, IT.XVI.1-2.2
3. Utilize hardware to manipulate various types of media (e.g., cameras, microphones, graphic tablets).		IT.II.1.1
4. Determine appropriate software application for task.		IT.V.1.1, IT.V.4.4, IT.VI.1-2.1
5. Use organizational skills to plan multimedia products (e.g., storyboarding, outlining, scripting, task delegation).	WHST 11-12.2a	COMM.I.B.2.8, COMM.I.B.4.5
6. Apply design principles used in multimedia productions.		COMM.IV.3.8
7. Create text using typography principles.		IT.V.3.5
8. Evaluate and determine hardware and software required for multimedia use.		IT.II.1.1, IT.II.1.4, IT.II.1.6, IT.V.3.6
B. Manage Media Files		
1. Identify types of files used in multimedia applications (e.g., .gif, .jpg, .ai, .psd, .png, .avi, .wmv).		IT.VI.3.1
2. Develop electronic file management systems (project folders, file naming, etc.).		IT.III.1.1, IT.III.1.2
3. Download files from various sources (e.g., audio, images, video, animation).		IT.VIII.1.1, IT.VIII.1.2
4. Convert files to various formats (e.g., .flv to .avi, .mov to .wmv, .psd to .jpg).		IT.V.3.5
5. Utilize storage devices (e.g., CD/DVD, portable storage devices).		IT.II.2.5
6. Manage electronic file storage/transfer (online, Bluetooth, etc.).		IT.III.1.2

C. Manage Images		
1. Acquire and import images from a variety of sources (e.g., scanners, cameras, phones).		IT.VIII.1.1, IT.IV.1.1
2. Apply appropriate resolution settings for intended use of image.		IT.V.3.5
3. Apply appropriate image mode for intended application (e.g., convert RGB, CMYK, grayscale).		IT.V.3.5
4. Compose images using layers and selections.		IT.V.3.5
5. Edit images (e.g., color, filter, tint, contrast, brightness).		IT.V.3.5
6. Manipulate images (e.g., mask, resize, crop, scale, group/ungroup, zoom, pan).	G-CO.4	IT.V.3.5
7. Create original artwork using illustrative software.		IT.VI.1-2.2
D. Create Audio Files		
1. Compare and contrast audio formats common size and quality (e.g., .mp3, .wav, .midi).		IT.VI.1-2.1
2. Rip and import audio from a variety of sources (e.g., CD/DVD, video, Internet).		IT.V.3.5
3. Create original audio (e.g., voice, instrument).		IT.VI.3.2, CO.IV.3.6
4. Mix audio (e.g., layering, trimming, level adjustments).		IT.V.3.5
5. Apply effects to audio (e.g., noise reduction, amplify, echo).		IT.V.3.5
6. Export audio files based on delivery method.		IT.V.3.5
7. Apply editing techniques.		IT.V.3.5, IT.VI.3.2
E. Create Animations		
1. Create frame-by-frame animations.		IT.V.3.5
2. Create reusable symbols (e.g., button, movie, graphic).		IT.V.3.5
3. Apply motion and shape tweens.		IT.V.3.5
4. Modify bitmaps (trace bitmap, convert to symbol).		IT.V.3.5
5. Use layers and object modification techniques (e.g., transform, alpha transparency, filters).		IT.V.3.5
6. Add interactivity to animations with buttons, menus, and scripting.		IT.V.3.5
7. Explore advanced animation techniques (e.g., 3D).		IT.V.3.5
F. Create Video Files		
1. Develop pre-production documents (e.g., storyboard, shot list).	WHST 11-12.2a	IT.IV.2-4.4, IT.IV.2-4.2, M.I.A.2.1
2. Apply basic filming techniques (e.g., camera angles, camera movement, lighting, sound).		IT.IV.2-4.2
3. Access, capture, and import a variety of file sources converting file types, if necessary (e.g. audio, video, graphics).		IT.V.3.5, IT.VI.3.2
4. Arrange video clips, audio clips, titles and still images on timeline.		IT.V.3.5
5. Manipulate clips (e.g., link/unlink, adjust transparency, set properties, trim, adjust speed/duration).		IT.V.3.5
6. Apply special effects, transitions, key frame/motion settings, animations, filters, and text.		IT.V.3.5

7. Synchronize audio with video.		IT.V.3.5
8. Apply advanced editing techniques (e.g., split screen format, chromakey, audiopan).		IT.V.3.5
9. Evaluate sources for playing completed video (e.g., hardware, software, web applications).		IT.V.3.6
10. Apply codec (compression) appropriate for the media delivery.		IT.VI.3.2
11. Export video for a variety of media outlets (e.g., broadcast, web).		IT.VI.3.3
12. Author DVD.		IT.VI.4.2
G. Create and Deliver Electronic Presentations		
1. Identify a variety of presentation software (e.g., Prezi, Empressr, PowerPoint, Open Office Impress, Apple Keynote, NXPowerlite).		IT.VI.1-2.1, IT.V.4.5, IT.V.3.6
2. Identify components of effective electronic presentations.	SL 11-12.5	COMM.I.B.2.1, COMM.I.B.3.5
3. Design linear and non-linear presentations (e.g., interactive game).		IT.V.3.5
4. Import files into a presentation (e.g., text, images, audio, video).		IT.V.3.5, IT.V.1.3, IT.IV.2-4.4
5. Apply advanced editing techniques (e.g., build, effects, timing, animation, transitions).		IT.V.3.5
6. Export presentation to various formats (e.g., .ppt, .jpg, .html).		IT.V.3.5, IT.VI.3.1, IT.VI.3.2, COMM.IV.2.12
7. Deliver a presentation using professional standards and techniques.	SL 11-12.4	IT.V.1.3
H. Create and Utilize Emerging Technologies		
1. Utilize and create collaborative electronic tools (e.g., wikis, blogs, forums).	WHST 11-12.6	IT.VI.A.3.3
2. Utilize web-based technologies to publish media (e.g., screencasts, podcasts, vodcasts, iTunes).		IT.VI.A.3.3, IT.VI.A.4.2
I. Develop Workplace Readiness Skills		
1. Compare copyright and patent laws for multiple media between educational and workplace settings (e.g., video, text, sound, pictures).	W 11-12.8	IT.XV.1.1, IT.XV.1.2, IT.XV.1.3, IT.XV.1.4, IT.XV.3.3
2. Demonstrate ethical behavior when designing multimedia applications.		IT.XV.2.1, IT.XV.2.2, M.V.A.3.5, M.V.A.4.4
3. Identify career/self-employment opportunities in multimedia production.		IT.XVIII.1-2.3, CD.I.A.3.6
4. Exhibit leadership skills through a student organization (e.g., FBLA, PBL).		COMM.I.B.3.2, COMM.I.B.3.3, COMM.II.A.3.13, COMM.III.C.2.2, COMM.III.C.3.3, COMM.III.C.3.7
5. Interact with industry professionals (e.g., guest speakers, field trips, job shadowing).	SL 11-12.1	IT.XVIII.3-4.4
6. Use help tools (e.g., technical manual, on-line help, technical support).	SL 11-12.2	IT.V.2.2
7. Demonstrate mastery through work samples.		CD.V.B.3.3

J. Develop Basic Foundations of Communication		
1. Demonstrate ability to listen/read and follow directions.	RST 11-12.3	COMM.I.A.1.1, COMM.I.A.2.3, COMM.I.A.2.5, COMM.I.C.1.8
2. Demonstrate proofreading and spell check of written media.	W 11-12.5	COMM.IV.2.6
3. Demonstrate appropriate use of grammar while delivering presentations.	SL 11-12.6	COMM.I.A.3.7, COMM.I.B.3.5
4. Demonstrate ability to format written communications to include numbers, and punctuation.		COMM.I.D.1.1
5. Demonstrate ability to function as a team member.	SL 11-12.1b	COMM.I.A.4.2, COMM.I.D.3.2, COMM.I.C.4.5, COMM.III.C.4.10
6. Demonstrate ability to research and analyze information from various sources (i.e. written, digital) for use in written or oral presentation.	WHST 11-12.8	COMM.I.C.2.1, COMM.I.C.1.7, COMM.I.C.2.6

Note: For additional information related to Multimedia, see Desktop Publishing and Web Design Instructional Framework.

Examples Aligned to Common Core Standards

The following instructional examples follow the expectations of the Desktop Publishing Instructional Framework and align to the Common Core standards.

Common Core English Language Arts and Literacy

RI 11-12.1

Research Internet security protocol and prepare a public service announcement utilizing the research.

RI 11-12.4

Keep a journal of terms.

Prepare video tutorials depicting terms and their meanings.

Prepare interactive power-point presentations to quiz on vocabulary.

WHST 11-12.2a

Write a script for a video production.

Prepare a storyboard for electronic presentation.

Develop a task chart for a group project.

WHST 11-12.6

Journal on an assigned topic.

Discover solution to problem utilizing a forum.

WHST 11-12.8

Develop myth buster style video using various pieces of conflicting electronic research.

W 11-12.5

Prepare electronic presentations that are free from error.

W 11-12.8

Cite data used in electronic presentations.

Investigate authenticity of data.

RST 11-12.3

Utilize tutorials independently to learn skills not presented by the instructor.

SL 11-12.1

Attend field trips, invite in guest speakers, and allow students to job shadow; have students share their learning with others.

SL 11-12.1b

Assign collaborative assignment allowing students to set their parameters to accomplish the stated objectives of the project.

SL 11-12.2

Present a problem that needs solving. Require students to research in various ways and then present their solution.

SL 11-12.4

Analyze audience and present topic in a manner that will be understood and appealing to that audience.

SL 11-12.5

Prepare electronic presentation utilizing guidelines set forth for effective communication.

SL 11-12.6

Develop an electronic presentation presenting proper grammar rules.

Common Core Mathematics**G-CO.4**

Maintain proportion of digital images when preparing electronic presentations.