

DIGITAL COMMUNICATIONS IV: AUDIO/VIDEO PRODUCTION

Curriculum Content Frameworks

Please note: All assessment questions will be taken from the knowledge portion of these frameworks.

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Curriculum Content Frameworks

DIGITAL COMMUNICATIONS IV: AUDIO/VIDEO PRODUCTION

Grade Levels:10,11,12
Course Code:492370
Units of Credit:.5

Prerequisite:Computerized business applications, OR Computer applications I and II, and
Digital Communications I, II and III

Course Description: Students are introduced to digital audio and video. They will capture, create, and edit audio and video files for media productions and various delivery formats. This course allows the student to build digital audio and video making skills by having them conceive, storyboard, record, edit, and finalize projects in various media formats. This is a hands-on course that teaches students how to use audio and video editing software to edit audio and video.

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Unit 1: Introduction to Video

Hours: 5

Terminology: ASF, AVI, Chroma key, DVD authoring, Firewire, FLV, MP4, MPEG, MOV, pre-production, production, post-production, Tripod dolly, USB, Video conversion software, Video editing software, VOB, WMV

| CAREER and TECHNICAL SKILLS | |
|--|---|
| What the Student Should Know | What the Student Should be Able to Demonstrate |
| Knowledge | Application |
| 1.1 Define terminology | 1.1.1 Prepare a list of terms with definitions |
| 1.2 Discuss common video formats | 1.2.1 Compare quality, size, compression, and platform compatibility of video formats: WMV, MPEG, MOV, VOB, MP4, ASF, FLV, AVI |
| 1.3 Discuss equipment and software needed for video production | 1.3.1 Identify the purpose of basic video production equipment: camera, tripod, storage media, lights, chroma key backdrop, firewire, USB, power source, and tripod dolly |
| | 1.3.2 Compare and contrast video editing, DVD authoring, and video conversion software |
| 1.4 Review the copyright laws that affect the use of video | 1.4.1 Analyze and critique acceptable sources of video for digital media productions, i.e. royalty free, original works, etc. |
| 1.5 Discuss the phases of production | 1.5.1 Identify the phases of production: preproduction, production, post production |

Unit 2: Video Pre-Production/Production

Hours: 10

Terminology: Backlight compensation, Birds eye view, Cut, Establishing shot, Eye level, Footage, High angle, Low angle, Over the shoulder, Panning, Script, Stock footage, Storyboard, Tilting, Videographer, White balance, Zooming

| CAREER and TECHNICAL SKILLS | |
|---|---|
| What the Student Should Know | What the Student Should be Able to Demonstrate |
| Knowledge | Application |
| 2.1 Define terminology | 2.1.1 Prepare a list of terms with definitions |
| 2.2 Explain the basic parts/features/settings of a video camera and related devices | 2.2.1 Label the basic parts of the video camera |
| | 2.2.2 Explore the camera settings |
| 2.3 Identify the basic camera shots and technique | 2.3.1 Demonstrate basic video camera techniques, such as panning, tilting, zooming, backlight, white balance |
| | 2.3.2 Demonstrate basic camera shots such as over the shoulder, low angle, high angle, eye level, birds eye, long shot, mid shot, close up shot, extreme close up shot, establishing shot, and closing shot |
| | 2.3.3 Record a video clip for stock footage (nature, sports, student life, etc.) |
| 2.4 Discuss the steps and techniques involved in preproduction | 2.4.1 Create a storyboard that includes the following: sketches, shots, camera angles, props, setting, characters, lighting, needed equipment |
| | 2.4.2 Create a script for a video |
| | 2.4.3 Select appropriate equipment and prepare equipment for recording |
| 2.5 Discuss the techniques involved in production | 2.5.1 Analyze and adjust the appropriate settings for shooting video, i.e. lighting, audio, environment, etc. |
| | 2.5.2 Record footage based on storyboard |

Unit 3: Video Post-Production

Hours: 25

Terminology: Aspect ratio, B-roll (cut away), Burning, Duration, Fading, File compression, Frame rate, Frame size, Lower thirds, Nat sounds, NTSC, PAL, Render, Rolling credits, Scrubbing, Sound bites, Superimpose, Templates, Timeline, Title overlay, Transition, Video capture, Voice-over

| CAREER and TECHNICAL SKILLS | |
|--|---|
| What the Student Should Know | What the Student Should be Able to Demonstrate |
| Knowledge | Application |
| 3.1 Discuss appropriate file settings | 3.1.1 Specify the appropriate file settings for creating video: frame size, frames per second, aspect ratio, file compression, broadcast standards, and sound settings |
| 3.2 Discuss the concepts of video capture | 3.2.1 Import or capture footage into a video project 3.2.2 Discuss hardware/software compatibility issues 3.2.3 Use conversion software to change video format |
| 3.3 Identify the different elements used in creating a video | 3.3.1 Analyze text elements used in video production: titles, title overlay, lower thirds, rolling credits, templates 3.3.2 Analyze basic elements of video: still images, footage, audio, transition 3.3.3 Create a video applying the basic elements of video 3.3.4 Analyze advanced elements of video: chroma key, B-roll (cut away), nat sounds, voice-over, superimpose, video effects, sound bite, establishing shot 3.3.5 Create a video applying the advanced elements of video |
| 3.4 Discuss options for exporting video | 3.4.1 Export a video project to a movie file format 3.4.2 Export a video project appropriate for the web or mobile device |
| 3.5 Discuss DVD authoring software | 3.5.1 Discuss terms related to DVD authoring software such as menus, chapters, scenes, templates 3.5.2 Create a DVD using DVD authoring software |

Unit 4: Integration

Hours: 10

Terminology: None

| CAREER and TECHNICAL SKILLS | |
|---|--|
| What the Student Should Know | What the Student Should be Able to Demonstrate |
| Knowledge | Application |
| 4.1 Integrate the basic elements of media into a digital media production | 4.1.1 Create a project incorporating the basic elements of media |

Optional Unit 5: Current and Emerging Technologies

Hours: 10

Terminology: Game development software, Online interactive whiteboards, RSS, Video screen capture, Vodcast

| CAREER and TECHNICAL SKILLS | |
|--|--|
| What the Student Should Know | What the Student Should be Able to Demonstrate |
| Knowledge | Application |
| 5.1 Define terminology | 5.1.1 Prepare a list of terms with definitions |
| 5.2 Explain/discuss podcasting/vodcasting | 5.2.1 Identify the types of podcasting, i.e. video, audio |
| | 5.2.2 Explain the uses of podcasting, i.e. interviews, storytelling, tutorials, directions, commentaries, etc. |
| | 5.2.3 Describe the software used for creating podcasts, i.e. audio, video, video screen capture, RSS |
| | 5.2.4 Describe the steps for creating podcasts |
| | 5.2.5 Create and publish a podcast |
| 5.3 Discuss gaming development | 5.3.1 Examine the techniques for creating games, i.e. writing code or using game |
| | 5.3.2 Create a game |
| 5.4 Discuss current online communication/collaboration tools from a business | 5.4.1 Examine tools such as online interactive whiteboards, Wikis, blogs, RSS feeds, social networking sites, etc. |
| | 5.4.2 Incorporate an online communication/collaboration tool into a project |
| 5.5 Discuss the development of applications (apps) for various methods of delivery | 5.5.1 Create applications for mobile devices, interactive whiteboards, etc. |

Glossary

Unit 1: Introduction to Video

1. ASF – advanced streaming format – open file format for streaming multimedia files containing text, graphics, sound, video and animation for windows platform
2. AVI – audio video interleave; video file format originally designed for Windows; can be compressed or uncompressed, depending on the codec used
3. Chroma key – a technique for superimposing one video image onto another; most common chroma key colors are blue and green
4. DVD authoring – the process of creating a DVD that will play in a DVD player
5. Firewire – high speed interface that connects external devices; commonly known as IEEE1394; 1394A for PCs; 1394B for Macs
6. FLV – flash video; video format used to deliver video over the Internet using Adobe Flash Player
7. MP4 – mpeg 4; a compressed file format that can be used for audio or video; appropriate for streaming
8. MPEG – moving pictures expert group; standard for compressing digital video; universal standard for digital video
9. MOV – movie; common multimedia format used for video commonly played in Quicktime
10. Pre-production – the process of preparing all the elements of a video production, including planning, storyboarding, script writing, scheduling, props, camera angles and locations
11. Production – the process of recording video
12. Post-production – all phases of production following recording of video, i.e. capturing, editing, titling, exporting, etc
13. Tripod dolly – a mobile tripod or a moving platform for the camera; allows for smooth camera movement and tracking shots
14. USB – universal serial bus; standard hardware interface for attaching peripherals to a computer
15. Video conversion software – software that will convert a video file from one format to another
16. Video editing software – programs used to capture, edit, and manipulate video images, add effects, titles and music to create studio-quality video
17. VOB – video object; movie data file from a DVD disc
18. WMV – windows media video; compressed video format designed for Windows but also viewable on Macs

Unit 2: Video Pre-Production/Production

1. Backlight compensation – the ability of a camera to compensate in cases where a subject with a large amount of background light would otherwise be obscured.
2. Bird's eye view – a scene shot from directly above the action
3. Cut – a scene change in a movie; a quick move from one scene to another
4. Establishing shot – usually the first shot of a scene, designed to show the audience where the action is taking place
5. Eye level – a camera angle which shows the subject as we would expect to see them in real life
6. Footage – raw, unedited material as it had been originally recorded
7. High angle – a camera angle that shows the subject from above; camera is angled down towards the subject; not as extreme as bird's eye view
8. Low angle – a camera angle that shows the subject from below; camera is angled up towards the subject
9. Over the shoulder – a camera angle that looks at the talking subject from the listener's perspective, literally over the shoulder.
10. Panning – a camera movement that scans a scene horizontally
11. Script – a planning tool that includes the "spoken" text of a video production
12. Stock footage – video that is not custom shot for use in a specific film (archive footage)
13. Storyboard – a series of sketches that are used as a planning tool to visually show how the action of a story unfolds
14. Tilting – a camera movement that scans a scene vertically
15. Videographer – person recording with a video camera
16. White balance – camera setting that adjusts for lighting in order make white objects appear white in photos
17. Zooming – altering the lens making a subject appear closer or further away.

Unit 3: Video Post-Production

1. Aspect ratio – the relationship between the width and height of an image; conventional video and TV is 4:3; widescreen 16:9
2. B-roll (cut away) – supplemental or alternate footage intercut with the main shot in an interview or documentary
3. Burning – the process of transferring or recording data to an optical disk, i.e. DVD
4. Duration – the span between the in point and the out point of a video clip
5. Fading – one image slowly dissolves to display the next image or fades to black
6. File compression – reducing the file size of video while maintaining acceptable quality
7. Frame rate – The number of frames recorded per second
8. Frame size – also referred to as resolution, expressed by the horizontal and vertical dimensions of a frame
9. Lower thirds – in the television industry, an element placed in the lower area of the screen, though not necessarily the entire lower third; example, sports scores or news highlights across the bottom of the screen
10. Nat sounds – natural sounds; the sounds that would naturally occur where video is being shot
11. NTSC – broadcast standard used in North America; uses 4:3 aspect ratio with 29.97 fps;
12. PAL – broadcast standard used in most of Europe and the rest of the world; uses 4:3 ratio with 25fps
13. Render – to build a preview of a project from the source files such as video clips, audio clips, titles, graphics, transitions, etc.
14. Rolling credits – credits at the end of a video production that gradually roll up the screen in a continuous list.
15. Scrubbing – a manual preview of a video project
16. Sound bite – short piece of an speech or interview used in video production
17. Superimpose – layering images or video
18. Templates – a format used to provide a consistent look and feel to a production; can be predefined by the software or created by the developer
19. Timeline – an editing interface that lays out a video project in a linear fashion
20. Title overlay – superimposing text on an image or video
21. Transition – special effects set to occur between the frames in a video production

22. Video capture – the process of transferring video from a camera to the computer

23. Voice-over – the recorded voice narrating the story

NONE

Unit 4: Integration

Optional Unit 5: Current and Emerging Technologies

1. Game development software – software designed to create computer games; may be template driven and/or allow the developer to write the code
2. Online interactive whiteboards – whiteboards that have the basic functionality of a regular whiteboard, but include the ability to collaborate with others online
3. RSS (Really Simple Syndication) – a family of web-feed formats used to publish frequently updated works, i.e. blog entries, news headlines, audio and video in a standardized format
4. Video screen capture – software that captures a digital recording of computer screen output, often containing audio narration
5. Vodcast – a pre-recorded video program that is posted to a website and is made available for download so people can view them on personal computers or mobile devices