

Audio/Video Technology and Film
Advanced Audio/Video Tech & Film
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

Advanced Audio/Video Tech & Film

Grade Levels: 11, 12

Prerequisite: Intermediate AVT&F

Course Code: 493660

Course Description: The course is project-based instruction and is an extension of the AVT&F program of study core. It provides classroom training and instruction for the advanced student that is over and above the basic core course requirement. The content builds on the knowledge, skills, and abilities taught in Fundamental and Intermediate AVT&F.

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Unit 1: Audio-Video Technology & Communication

Hours: 10

Terminology: Header, Packet, Protocol, Receiver, Script formats, Treatment

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
1.1 Define terms in this unit related to audio-visual communication process	1.1.1 Use terminology correctly and appropriately	Foundation	Reading Speaking Writing	Applies/Understands technical words that pertain to subject [1.3.6] Applies/Uses technical terms as appropriate to audience [1.5.2] Applies/Uses technical words and concepts [1.6.4]
1.2 Identify the technical processes behind communication in the AVT&F pathway	1.2.1 Demonstrate the processes involved in sending information over the Internet, such as packet-switching 1.2.2 Illustrate how radio and television signals transfer information from the broadcast point to the receivers	Foundation Foundation	Science Seeing Things in the Mind's Eye Science Seeing Things in the Mind's Eye	Constructs a model to depict the basic concept of particle theory (Physics) [1.4.11] Organizes and processes images-symbols, pictures, graphs, objects, etc. [4.6.2] Constructs a model to depict the basic concept of particle theory (Physics) [1.4.11] Organizes and processes images-symbols, pictures, graphs, objects, etc. [4.6.2]

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
1.3 Define effective use of communication when dealing with third parties or clients concerning AVT&F productions	1.3.1 Use effective communication to facilitate the creation of an AVT&F production requested by a third party or client	Foundation	Reading	Identifies relevant details, facts, and specifications [1.3.16] Locates pertinent information in documents such as manuals, graphs, and schedules to perform tasks [1.3.18]
			Speaking	Asks questions to obtain information [1.5.4] Organizes ideas and communicates oral messages to listeners [1.5.7]
			Writing	Communicates thoughts, ideas, or facts in written form in a clear, concise manner [1.6.6]
	1.3.2 Demonstrate proficiency in communicating with the client via telephone, email, presentations, and meetings	Foundation	Reading	Comprehends written information and applies it to task [1.3.8]
			Speaking	Interprets nonverbal cues such as eye contact, posture, and gestures for meaning [1.5.6] Responds to listener feedback [1.5.10]
			Writing	Presents answers/conclusions in a clear and understandable form [1.6.13]
1.3.3 Create the additional documents and forms that would be necessary for a production for a third party (such as a treatment, proposal, or release form)	Interpersonal	Customer Service	Works with customers to satisfy their expectations [2.3.9]	
	Foundation	Writing	Composes and creates document-letters, manuals, reports, proposals, graphs, flow charts, etc. [1.6.8]	
		Personal Management	Organizational Effectiveness	Applies knowledge to implement work-related system or practice [3.3.4]

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
1.4 Identify factors that must be decided before the pre-production process is underway	1.4.1 Demonstrate defining the purpose, message, and audience for a production	Thinking	Decision Making	Evaluates information/data to make the best decision [4.2.5]	
	1.4.2 Analyze the above information to select the best style and genre to meet the goal of the production and write a proposal or treatment	Foundation Thinking	Writing Reasoning	Uses language, style, organization, and format appropriate to subject matter, purpose, and audience [1.6.19] Uses logic to draw conclusions from available information [4.5.6]	
	1.4.3 Critique several examples of proposals to see if the genre/style supports the purpose, message, and audience of the production	Interpersonal Thinking	Customer Service Reasoning	Handles criticism, disagreement, or disappointment in a conversation [2.3.5] Uses logic to draw conclusions from available information [4.5.6]	
1.5 Identify the differences in scripts for various AVT&F productions	1.5.1 Demonstrate writing various scripts formats, such as two column, three column, etc.	Foundation	Writing	Uses language, style, organization, and format appropriate to subject matter, purpose, and audience [1.6.19]	
		Thinking	Seeing Things in the Mind's eye	Visualizes a finished product [4.6.4]	

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
1.6 Describe how increasingly available technology is changing the AVT&F industries	1.6.1 Analyze the effects of changing technology on the AVT&F industries	Thinking	Problem Solving Reasoning	Demonstrates logical reasoning in reaching a conclusion [4.4.2] Determines which conclusions are correct when given a set of facts and a set of conclusions[4.5.3]
1.7 Identify how the difference pathways in the AVT&F cluster influence and are influenced by society	1.7.1 Illustrate the influence of society on AVT&F or visa versa in a presentation by documenting events that support your position	Foundation Interpersonal Thinking	Reading Speaking Cultural Diversity Creative Thinking	Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23] Uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion [1.5.14] Comprehends ideas and concepts related to the cultural influences of various societies on AVT&F [2.2.1] Prepares presentation based on subject research, interviews, surveys [4.1.10]

Unit 2: Career and Employability Skills

Hours: 20

Terminology: Production timeline, Project management, Task analysis

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
2.1 Define terminology related to career and employability skills required in the AVT pathway	2.1.1 Use terminology correctly and appropriately	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
			Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
2.2 Identify the value of broad general knowledge of communication from the Arts, Audio-Video Technology, and Communication cluster	2.2.1 Explain how knowledge is useful with projects covering a broad spectrum of events or diverse cultures when research may not be possible	Interpersonal	Cultural Diversity	Respect others' personal values, cultures, and traditions [2.2.4]
		Thinking	Reasoning	See relationship between two or more ideas, objects, or situations [4.5.5]
2.3 Describe management skills necessary to oversee an AVT&F production	2.3.1 Demonstrate overseeing the use of resources by others during a production	Interpersonal	Leadership	Organizes group in planning and performing a specific task [2.4.9]
	2.3.2 Demonstrate mentoring and teaching others equipment, processes and, techniques needed	Interpersonal	Coaching	Help others learn new skills [2.1.3]
	2.3.3 Demonstrate editing and revising the written work of others for productions	Foundation	Reading	Evaluates written information for accuracy, appropriateness, and style [1.3.14]
			Writing	Checks, edits, revises document for correct information, appropriate emphasis, form, grammar, spelling, and punctuation [1.6.5]
2.3.4 Demonstrate evaluating the performance of others during a production	Interpersonal	Coaching	Encourages others to develop personal and professional skills [2.1.2]	
		Personal Management	Organizational Effectiveness	Analyzes effectiveness of performance evaluation system [3.3.2]

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
2.4 Identify the importance of dress and appearance in the Arts, Audio-Visual Technology, and Communications cluster	2.4.1 Illustrate the proper "on-camera" appearance and dress	Personal Management	Self-Esteem	Creates self-confidence and positive self-image through proper grooming [3.5.3]	
	2.4.2 Compare other situations that would require a specific type of dress or appearance (i.e. meetings with clients)	Personal Management	Self-Esteem	Creates self-confidence and positive self-image through proper grooming [3.5.3]	
		Thinking	Decision Making	Evaluates information/data to make the best decision [4.2.5]	
2.5 Identify an area of the AVT&F in which to specialize (Graphics, Animation, Video, etc.)	2.5.1 Evaluates skills needed for this area and how best to obtain those skills	Personal Management	Career Awareness, Development, and Mobility	Identifies education and training needed to achieve goals [3.1.8]	
		Personal Management	Organizational Effectiveness	Presents personal skills as benefits for company objectives [3.3.7]	
		Thinking	Knowing How to Learn	Locates appropriate learning resources to acquire or improve knowledge and skills [4.3.3]	
2.6 List organizational tools needed to help plan and develop an AVT&F production	2.6.1 Create a timeline and task analysis for a production such as a news broadcast	Thinking	Problem Solving	Devises and implements a plan of action to resolve problem [4.4.3]	
		Personal Management	Seeing things in the Mind's Eye	Imagines the flow of work activities from narrative description [4.6.1]	
	2.6.2 Develop a system for planning and organizing a production format that will occur several times (i.e. videos for assemblies, weekly announcements)	Personal Management	Organizational Effectiveness	Applies knowledge to implement work-related system or practice [3.3.4]	

Unit 3: Technical Skills

Hours: 50

Terminology: Audio rate, Barn doors, Boom, Boundary microphone (flat surface), Cardioid microphone, Gels, Lighting elements, Microphone pickup, Project rate, Resampling, XLR cable

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
3.1 Define terminology related to the equipment and skills required in the AVT pathway	3.1.1 Use terminology correctly and appropriately	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
			Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
			Writing	Applies/Uses technical words and concepts [1.6.4]
3.2 Identify the different types of audio created and used in an AVT&F production	3.2.1 Create music, voice-overs, and sound effects for use in an audio-visual presentation or production	Thinking	Creative Thinking	Use imagination to create something new [4.1.1]
	3.2.2 Evaluate the recording environment and recommend the best type microphone for the application	Thinking	Decision Making	Identifies pros and cons to assist in decision-making process [4.2.7]
			Problem Solving	Draws conclusions from observations, evaluates conditions, and gives possible solutions [4.4.5]
3.2.3 Demonstrate how audio mixers and consoles are used	Thinking	Knowing How to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]	

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
3.3 Explain the problems associated with using audio from different sources in a production	3.3.1 Recommend steps to be taking during pre-production to avoid possible audio problems (i.e. audio rates)	Thinking	Problem Solving	Identifies possible reasons for problem [4.4.6]
	3.3.2 Demonstrate converting analog sound to digital	Thinking	Knowing How to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]
	3.3.3 Demonstrate re-sampling audio rates to match project rates	Thinking	Problem Solving	Devises and implements a plan of action to resolve problem [4.4.3]
3.4 Identify types and placement of lighting fixtures for various lighting effects	3.4.1 Create moods in a video production by using lighting techniques	Thinking	Decision Making	Generates options/alternatives [4.2.6]
			Seeing Things in the Mind's Eye	Visualizes a finished product [4.6.4]
3.5 Explain the importance of images and graphics in an audio-visual production	3.5.1 Analyze how image capturing and graphic design support video presentations and productions	Thinking	Reasoning	See relationship between two or more ideas, objects, or situations [4.5.5]
	3.5.2 Create animated scenes specifically for use in a video production	Thinking	Creative Thinking	Develops visual aides to create audience interest [4.1.4]
	3.5.3 Evaluates and calculate processes needed to convert images and animations created in third party software for use in various productions (including resolutions, and compression types)	Foundation	Math	Calculates percentages, ratios, proportions, decimals, and common fractions [1.1.10]

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
3.6 Discuss operation of video systems including various components used for editing	3.6.1 Analyze needs and select equipment required for several different types of productions	Thinking	Reasoning	Applies rules and principles to a new situation [4.5.1]	
	3.6.2 Demonstrate setting up editing stations and various components and peripherals for use by others	Interpersonal	Coaching	Helps others learn new skills [2.1.3]	
	3.6.3 Demonstrate reading a diagram to determine a cabling route	Thinking	Reasoning	Uses logic to draw conclusions from available information [4.5.6]	
3.7 Identify advanced editing techniques	3.7.1 Analyze video clips that demonstrate these techniques	Thinking	Reasoning	See relationship between two or more ideas, objects, or situations [4.5.5]	
	3.7.2 Create and edit video using advanced editing techniques and effects such as picture-in-picture and 3-dimensional effects and paths	Thinking	Creative Thinking	Combines ideas or information in a new way [4.1.2]	
				Seeing Things in the Mind's Eye	Organizes and processes images-symbols, pictures, objects, etc. [4.6.2]
3.8 Discuss the importance of troubleshooting and problem solving in the AVT&F pathway	3.8.1 Demonstrate assisting others by troubleshooting audio and video problems	Interpersonal	Coaching	Helps others learn new skills [2.1.3]	
	3.8.2 Illustrate common problems that can occur when using a combination of video, graphic and animation files in video and explain how to prevent them	Thinking	Problem Solving	Draws conclusions from observations, evaluates conditions, and gives possible solutions [4.4.5]	
	3.8.3 Illustrate common equipment and software problems and explain how to prevent them (i.e.- video effects not showing on the tape because it has not been rendered)	Thinking	Problem Solving	Draws conclusions from observations, evaluates conditions, and gives possible solutions [4.4.5]	

Unit 4: Audio-Video Film Production

Hours: 40

Terminology: Streaming

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
4.1 Define terminology related to the production of products in the AVT&F pathway	4.1.1 Demonstrate these terms correctly and appropriately	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]	
			Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]	
			Writing	Applies/Uses technical words and concepts [1.6.4]	
4.2 Identify various media and methods used to create productions and presentations in the AVT&F pathway	4.2.1 Develop a video package as part of a presentation to be shown in front of an audience	Interpersonal	Cultural Diversity	Comprehends ideas and concepts related to the makeup of the target audience [2.2.1]	
	4.2.2 Create a multimedia presentation with the purpose of informing	Thinking	Creative Thinking	Uses imagination to create something new [4.2.1]	
		Thinking	Creative Thinking	Prepares presentation based on subject research, interviews, surveys [4.1.10]	

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
	4.2.3 Create video and/or presentations for the web	Thinking	Creative Thinking	Prepares presentation based on subject research, interviews, surveys [4.1.10]
			Knowing How to Learn	Uses available resources to apply new skills [4.3.6]
	4.2.4 Create productions that require interaction from different pathways of the Arts, A/V cluster	Foundation	Listening	Receives and interprets verbal messages [1.2.8]
			Speaking	Organizes ideas and communicates oral messages to listeners [1.5.7]
			Writing	Communicates thoughts, ideas, or facts in written form in a clear, concise manner [1.6.6]
		Interpersonal	Teamwork	Works effectively with others to reach a common goal [2.6.6]
		Personal Management	Responsibility	Exerts a high level of effort and perseverance towards goal attainment [3.4.4]

Glossary

Unit 1: Technology and Communication

1. Header – the portion of a packet that precedes the data containing source and destination addresses, error checking, and other fields.
2. Packet – a small unit of data bundled for transport over the Internet.
3. Protocol – a set of rules governing communication within and between computing endpoints.
4. Receiver – receives incoming signals and converts them to perceptible forms.
5. Script formats – rules specific to document creation including font, line spacing, organization, etc.
6. Treatment – anything from a paragraph to a scene by scene description of a video project.

Unit 2: Career and Employability Skills

1. Production timeline – plan developed to organize and supply the shoot. Includes, equipment, site, personnel, releases, etc.
2. Project management – the process of planning organizing, directing and controlling the production of a system or product.
3. Task analysis – the breakdown of exactly how a task is accomplished. The information can then be used for many purposes, such as improving the design of tools or procedures that aid in performing the task.

Unit 3: Technical Skills

1. Audio rate – the number of times per second at which an analog signal level is inspected and digitally recorded. Expressed in kilohertz (kHz) The sample rate of CD quality audio is 44.1 kHz meaning that the signal is sampled over 44,000 times per second.
2. Barn doors – adjustable black metal flaps that can be attached to some lights to mask off unwanted light and to keep it from spilling into areas where it is not needed. Provides a soft cut-off area of the light.
3. Boom – a studio microphone support consisting of a rolling pedestal and a horizontal arm.
4. Boundary microphone (flat surface) – changing audio sample rate to match the project rate. For example converting an MP3 to an aiff.
5. Cardioid microphone – the Cardioid is a sensitivity pattern that resembles a heart shape. These mics are sensitive to sounds over a wide range in front of the mic, but relatively insensitive to sound coming from behind the mic. Often used by singers and interviewers.
6. Gels – plastic filters used to color the light from lighting instruments.
7. Lighting elements – are intensity, hue, distribution direction and contrast.
8. Microphone pickup – the directions in which it is most sensitive to sound.
9. Project rate – audio rate set in the preferences for the project.
10. Resampling – changing audio sample rate to match the project rate. For example converting an MP3 to an aiff.
11. XLR cable – a standard three-prong, professional audio connector.

Unit 4: Audio Video Film Production

1. Streaming – video and audio data delivered more or less continuously over a network over the Internet.