



## BENICIA UNIFIED SCHOOL DISTRICT - COURSE OUTLINE

### COURSE INFORMATION

SCHOOL SITE	Benicia High School
SUBJECT AREA	CTE; College-Preparatory Elective - g
COURSE TITLE	Advanced Digital Media CTE
TRANSCRIPT ABBREVIATION	Advanced Digital Media CTE
COURSE CODE	TBD (registrar)
LENGTH OF COURSE	1 Year
UC HONORS DESIGNATION?	Yes
PREREQUISITES	Digital Media CTE
CO-REQUISITES	N/A
INTEGRATED COURSE WITH CTE?	Yes; Articulated with ARTDM-149: Introduction to Digital Video At Diablo Valley College
GRADE LEVEL(S)	10-12
BUSD GRADUATION REQUIREMENT?	No; Fulfills elective requirement

### COURSE DESCRIPTION

COURSE OVERVIEW	<p><b>Learning Objectives</b> Students will learn:</p> <ul style="list-style-type: none"> <li>● The fundamentals of audio engineering, using industry-standard equipment and techniques</li> <li>● The complete technical process of audio engineering in live and studio applications</li> <li>● The fundamentals of digital videography, using industry-standard equipment and techniques</li> <li>● The complete process of event videography from pitch, to final product</li> <li>● The digital editing process, using industry-standard digital editing software</li> </ul>
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	<ul style="list-style-type: none"> <li>● How to assess digital content and provide appropriate feedback</li> <li>● Essential career readiness skills for the digital media industry</li> </ul> <p>Upon successful completion of the course, the student will:</p> <ul style="list-style-type: none"> <li>● Demonstrate competency using digital cameras for event videography</li> <li>● Demonstrate competency providing live sound reinforcement and engineering</li> <li>● Effectively use digital editing software to edit and manipulate digital content to suit the needs of clientele</li> <li>● Compile a professional portfolio suitable for employment in the digital media industry</li> <li>● Participate in community service opportunities</li> </ul>
STANDARDS	<p><b>English Language Arts Standards » Science &amp; Technical Subjects</b></p> <ul style="list-style-type: none"> <li>● CCSS.ELA-LITERACY.RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</li> <li>● CCSS.ELA-LITERACY.RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</li> <li>● CCSS.ELA-LITERACY.RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</li> <li>● CCSS.ELA-LITERACY.RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</li> <li>● CCSS.ELA-LITERACY.RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</li> <li>● CCSS.ELA-LITERACY.RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</li> <li>● CCSS.ELA-LITERACY.RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</li> </ul> <p><b>California's 2013 CTE Standards</b></p> <ul style="list-style-type: none"> <li>● CTE.AME.A.1.1 View and respond to a variety of industry-related artistic products integrating industry appropriate vocabulary.</li> <li>● CTE.AME.A.1.5 Research and analyze the work of an artist or designer and how the artist's distinctive style contributes to their industry production.</li> <li>● CTE.AME.A.2.1 Demonstrate skill in the manipulation of digital imagery (either still or video) in an industry-relevant application.</li> <li>● CTE.AME.A.2.2 Demonstrate personal style and advanced proficiency in communicating an idea, theme, or emotion in an industry-relevant artistic product.</li> </ul>

	<ul style="list-style-type: none"> <li>● CTE.AME.A.2.6 Create an artistic product that involves the effective use of the elements of art and the principles of design.</li> <li>● CTE.AME.A.2.7 Create original works of art of increasing complexity and skill in a variety of media that reflect their feelings and points of view.</li> <li>● CTE.AME.A.2.9 Create a multimedia work of art that demonstrates knowledge of media and technology skills.</li> <li>● CTE.AME.A.3.1 Identify and describe the role and influence of new technologies on contemporary arts industry.</li> <li>● CTE.AME.A.4.6 Create an artistic product for a specific industry and modify that product to accommodate a different aesthetic perspective.</li> <li>● CTE.AME.A.5.7 Synthesize traditional art work and new technologies to design an artistic product to be used by a specific industry.</li> <li>● CTE.AME.A.8.1 Understand the component steps and skills required to design, edit, and produce a production for audio, video, electronic, or printed presentation.</li> <li>● CTE.MPD.A.10.3 Apply the principles of composition and lighting used in photography.</li> <li>● CTE.AME.KPAS.4.5 Research past, present, and projected technological advances as they impact a particular pathway.</li> <li>● CTE.AME.KPAS.6.1 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions.</li> <li>● CTE.AME.KPAS.10.3 Construct projects and products specific to the Arts, Media, and Entertainment sector requirements and expectations.</li> <li>● CTE.AME.KPAS.11.5 Create a portfolio, or similar collection of work, that offers evidence through assessment and evaluation of skills and knowledge competency as contained in the anchor standards, pathway standards, and performance indicators.</li> </ul>
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## COURSE CONTENT

UNIT:	DESCRIPTION	ASSIGNMENT/STANDARDS
<b>UNIT 1</b> <b>AUDIO</b> <b>ENGINEERING</b>	<p>Science of Sound</p> <ul style="list-style-type: none"> <li>● Frequency; Amplitude; Timbre; Envelope (Attack, Decay, Sustain, Release); Velocity; Wavelength; Phase; Tone</li> <li>● Decibel Levels, Oscillation, Measurements of Frequency</li> <li>● Input: Frequency, Impedance, Polarity</li> <li>● Amplification: Amperage, Voltage, Current, Resistance</li> </ul> <p>Live Sound - Parts of a Sound System</p> <ul style="list-style-type: none"> <li>● Overview of Signal Chain</li> <li>● Input/Microphones, Pickup Polar Patterns</li> <li>● Signals, Cables, and Connectors</li> <li>● Understanding Loudspeakers</li> <li>● Crossovers; Frequency Distribution</li> <li>● Loudspeakers, Impedance</li> <li>● Amps, Wiring, Signal Chain</li> </ul>	<p>Frequency Ranges (CTE.AME.A.1.1; CTE.AME.A.3.1)</p> <p>Parts of a Sound System (CTE.AME.A.1.1; CTE.AME.A.3.1; CTE.AME.A.3.1)</p> <p>Types of Microphones (CTE.AME.A.1.1; CTE.AME.A.3.1)</p> <p>LIVE SOUND TEAMS</p>

	<ul style="list-style-type: none"> <li>● The Mixer</li> </ul> <p>Live Sound – Setting Up the Sound System</p> <ul style="list-style-type: none"> <li>● Setting Up the Mixing Console</li> <li>● Stage and Venue Setup</li> <li>● Wiring Mics and Other Inputs</li> <li>● Equipment Placement</li> <li>● Connecting Speakers and Amps</li> </ul> <p>Live Sound – Channels &amp; Console Settings</p> <ul style="list-style-type: none"> <li>● Gain Structure; Parametric EQs</li> <li>● Compression and Dynamics; Panning</li> <li>● Direct Outs and Inserts' Effects; Aux Sends; Mix Bus/Groups</li> <li>● Processors</li> </ul> <p>Live Sound – Mixing Basics</p> <ul style="list-style-type: none"> <li>● Mixing Strategy; Mixing Vocals</li> <li>● Bass Guitar and Kick Drum</li> <li>● Mixing Drums; Scooped Drum Sounds</li> <li>● Mixing Electric Guitars/Instruments</li> <li>● Mixing Acoustic Guitars/Instruments</li> </ul> <p>Live Sound – Mixing Monitors</p> <ul style="list-style-type: none"> <li>● Basic Monitor Setups</li> <li>● Self-Mixed vs. Engineer Mixed</li> <li>● Less is More; Feedback Loop</li> </ul> <p>Studio - Desktop Production Tools</p> <ul style="list-style-type: none"> <li>● Audio/Music Production Process</li> <li>● Audio Interface/Computer Intro</li> <li>● Digital Audio Workstation (DAW)</li> <li>● Creating, Listening and Analysis</li> <li>● Recording; Editing; Mixing; Mastering</li> <li>● Audio/Music Production Tools</li> <li>● Synthesizers; MIDI Sequencers</li> <li>● Audio Recorders; Processors; Mixers</li> </ul> <p>Studio - Signal Flow</p> <ul style="list-style-type: none"> <li>● Analog Audio Signals and Connections</li> <li>● Digital Audio Signals and Connections</li> <li>● Signal Flow Between Devices</li> <li>● Setting Up a Virtual Studio</li> <li>● MIDI Signal Flow</li> <li>● Studio Configuration</li> </ul> <p>Studio - Effects Processing, DSP, and Mixing</p> <ul style="list-style-type: none"> <li>● Insert Effects</li> <li>● Aux Send and Return Effects in Logic--Set Up a Reverb</li> <li>● Overview of Effects Types: Spectrum Processing: Filters; Dynamics Processing; Compressing the Bass Track; Gating</li> <li>● Time-Based Effects: Delay; Doubling/Flanging/Chorus; Reverb</li> <li>● Pitch Correction; Autotune</li> </ul> <p>Legal Issues</p> <ul style="list-style-type: none"> <li>● Ethics; Fair use</li> </ul>	<p>Signal Chain, Power Resistance &amp; Impedance (CTE.AME.A.1.1; CTE.AME.A.3.1)</p> <p>Live Setup (CTE.AME.A.1.1; CTE.AME.A.3.1)</p> <p><b>LIVE ENGINEERING</b> (CTE.AME.A.2.9; CTE.AME.KPAS.4.5; CTE.AME.KPAS.10.3)</p> <p><b>PODCAST</b> (CTE.AME.A.2.2; CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.8.1; CTE.AME.KPAS.10.3)</p> <p><b>LIVE MULTITRACK</b> (CTE.AME.A.2.2; CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.3.1; CTE.AME.A.8.1; CTE.AME.KPAS.10.3; CTE.AME.KPAS.11.5)</p> <p><b>STUDIO MULT-TRACK</b> (CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.3.1; CTE.AME.A.3.1; CTE.AME.A.4.6; CTE.AME.A.8.1; CTE.AME.KPAS.10.3; CTE.AME.KPAS.11.5)</p>
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	<ul style="list-style-type: none"> <li>● Copyright and trademark</li> <li>● Digital Rights Management</li> <li>● Releases and contracts</li> <li>● Federal Communications Commission</li> </ul>	
<b>UNIT 2</b> <b>VIDEOGRAPHY</b>	<p>Digital Camera/Camcorder Parts and Functions</p> <ul style="list-style-type: none"> <li>● Film vs Video vs Digital</li> <li>● Film vs DSLR vs Mirrorless</li> <li>● Camera Parts/Function</li> <li>● Lens and Equipment</li> <li>● Battery and Memory Cards</li> <li>● How a camera works</li> <li>● Camera menu basics</li> </ul> <p>Video Format</p> <ul style="list-style-type: none"> <li>● Framerate; 180 degree rule</li> <li>● Resolution; Codecs</li> <li>● Write Speed; Cameras and Memory Cards</li> </ul> <p>Exposure</p> <ul style="list-style-type: none"> <li>● Lighting; Exposure Triangle</li> <li>● Shutter Speed and Motion Blur</li> <li>● Aperture and Depth of Field</li> <li>● Sensor Sensitivity and Visual Noise</li> <li>● Filters; Neutral Density Filters</li> </ul> <p>Composition</p> <ul style="list-style-type: none"> <li>● Rule of Thirds; Headroom</li> <li>● Establishing (Wide) Shots, Medium Shots, Close-up Shots</li> <li>● Eye Level Framing</li> <li>● Rack Focus; Deep Space Composition</li> <li>● Balance and Symmetry</li> <li>● Leading Lines</li> <li>● Depth of Field</li> <li>● Camera Movement: Zoom; Pan; Tilt; Dolly; Truck; Pedestal; Steady Cam</li> <li>● Handheld Gimbal; Drone Gimbal</li> </ul> <p>Legal Issues</p> <ul style="list-style-type: none"> <li>● Ethics; Fair use</li> <li>● Copyright and trademark</li> <li>● Digital Rights Management</li> <li>● Releases and contracts</li> <li>● Federal Communications Commission</li> <li>● Federal Aviation Administration</li> </ul> <p>Live-Streaming</p> <ul style="list-style-type: none"> <li>● Equipment Basics</li> <li>● Techniques</li> <li>● Applications</li> </ul>	<p>Camera/Camcorder Parts Functions (CTE.AME.A.1.1; CTE.AME.A.3.1)</p> <p>File Formats/Memory Cards (CTE.AME.A.1.1; CTE.AME.A.3.1)</p> <p><b>LIVE ENGINEERING</b> (CTE.AME.A.2.9; CTE.AME.KPAS.4.5; CTE.AME.KPAS.10.3)</p> <p><b>EVENT VIDEOGRAPHY</b> (CTE.AME.A.2.2; CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.4.6; CTE.AME.A.8.1; CTE.AME.KPAS.10.3)</p> <p>Rack Focus (CTE.MPD.A.10.3)</p> <p><b>INSTRUCTIONAL VIDEO</b> (CTE.AME.A.2.2; CTE.AME.A.2.9; CTE.AME.A.4.6; CTE.AME.A.8.1; CTE.AME.KPAS.10.3; CTE.AME.KPAS.11.5)</p> <p><b>DRONE VIDEOGRAPHY</b> (CTE.AME.A.2.2; CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.4.6; CTE.AME.A.8.1; CTE.AME.KPAS.10.3)</p> <p><b>LIVE-STREAMING EVENTS</b> (CTE.AME.A.2.2; CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.4.6; CTE.AME.A.8.1; CTE.AME.KPAS.10.3)</p>
<b>UNIT 3</b> <b>NONLINEAR EDITING: ADOBE PREMIERE PRO</b>	<p>Getting Started in Premiere Pro CC</p> <ul style="list-style-type: none"> <li>● Overview of Interface and Panels; Preferences; Keyboard Shortcuts</li> <li>● Importing Files; Merging Clips;</li> </ul>	

<b>CC</b>	<p>Storyboard feature; Metadata</p> <p>Editing Basics</p> <ul style="list-style-type: none"> <li>• Creating sequences; Timeline basics; The Toolbar; Markers and subclips</li> <li>• Source monitor; In and out points; Inserting and overwriting edits</li> <li>• Linked selections; Ripple and rolling edit; J and L cuts; Slip and Slide Edits; Lift and extract</li> </ul> <p>Effects and Transitions</p> <ul style="list-style-type: none"> <li>• Adding transitions; Adding effects and keyframes; Applying keyframes to Timeline; Basic Time changes</li> <li>• Color grading; Compositing with ultra key; Rendering and previews</li> </ul> <p>Audio Editing and Mixing</p> <ul style="list-style-type: none"> <li>• Adjusting clip gain; Normalizing audio</li> <li>• Essential panel; Audio Track mixer</li> </ul>	<p><b>EVENT VIDEOGRAPHY</b> (CTE.AME.A.2.2; CTE.AME.A.2.6; CTE.AME.A.2.9; CTE.AME.A.4.6; CTE.AME.KPAS.10.3)</p> <p><b>LIP SYNC VIDEO</b> (CTE.AME.A.2.2; CTE.AME.A.2.7; CTE.AME.A.2.9; CTE.AME.A.4.6; CTE.AME.KPAS.10.3)</p>
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## COURSE MATERIALS

Textbook/E-book:				
Title	Author	Publisher	Edition	Website
Audio Engineering 101: A Beginner's Guide to Music Production	Tim Dittmar	Focal Press	2 edition	<a href="https://www.amazon.com/Audio-Engineering-101-Beginners-Production-dp-1138658774/dp/1138658774/ref=mt_paperback?_encoding=UTF8&amp;me=&amp;qid=">https://www.amazon.com/Audio-Engineering-101-Beginners-Production-dp-1138658774/dp/1138658774/ref=mt_paperback?_encoding=UTF8&amp;me=&amp;qid=</a>
Ableton Reference Manual	Dennis DeSantis, et al.	Ableton AG	Version 9, 2016	<a href="https://cdn-resources.ableton.com/80bA26cPQ1hEJDFjpUKntxfqdmG3ZykO/static/manual/pdf/L9Manual_EN.pdf">https://cdn-resources.ableton.com/80bA26cPQ1hEJDFjpUKntxfqdmG3ZykO/static/manual/pdf/L9Manual_EN.pdf</a>
Logic Pro X User Guide	Apple Inc.	Apple Inc.	10.4	<a href="https://help.apple.com/logicpro/mac/10.4.7/">https://help.apple.com/logicpro/mac/10.4.7/</a>
Adobe® Premiere® Pro CC Help	Adobe	Adobe	updated 4/13/2018	<a href="https://helpx.adobe.com/pdf/premiere_pro_reference.pdf">https://helpx.adobe.com/pdf/premiere_pro_reference.pdf</a>
Adobe® Audition® Help	Adobe	Adobe	updated 6/3/2018	<a href="https://helpx.adobe.com/pdf/audition_reference.pdf">https://helpx.adobe.com/pdf/audition_reference.pdf</a>
Other Materials:				
Digital Media 32 Computers Audio Recording/Editing Computer Digital Audio Workstation (DAW) Digital Audio Interface, Mixing Console Microphones, Cables, Stands			Adobe Creative Cloud (CC) 18 DSLR cameras/camcorders 18 lens for event videography Memory Cards, Batteries Tripods, steady-cams, Diffusers	

Live Sound Reinforcement Speakers	Microphones, cables
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