



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>Learning Objectives</p> <p>Students will learn:</p> <ul style="list-style-type: none"> • The fundamentals of audio engineering, using industry-standard equipment and techniques • The complete technical process of audio engineering in live and studio applications • The fundamentals of digital videography, using industry-standard equipment and techniques • The complete process of event videography from pitch, to final product • The digital editing process, using industry-standard digital editing software
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	<ul style="list-style-type: none"> • How to assess digital content and provide appropriate feedback • Essential career readiness skills for the digital media industry <p>Upon successful completion of the course, the student will:</p> <ul style="list-style-type: none"> • Demonstrate competency using digital cameras for event videography • Demonstrate competency providing live sound reinforcement and engineering • Effectively use digital editing software to edit and manipulate digital content to suit the needs of clientele • Compile a professional portfolio suitable for employment in the digital media industry • Participate in community service opportunities
STANDARDS	<p>English Language Arts Standards » Science & Technical Subjects</p> <ul style="list-style-type: none"> • 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. • 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. • 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. • 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. • 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. • 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. • 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. <p>California's 2013 CTE Standards</p> <ul style="list-style-type: none"> • CTE.AME.A.1.1 View and respond to a variety of industry-related artistic products integrating industry appropriate vocabulary. • 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. • CTE.AME.A.2.1 Demonstrate skill in the manipulation of digital imagery (either still or video) in an industry-relevant application. • CTE.AME.A.2.2 Demonstrate personal style and advanced proficiency in communicating an idea, theme, or emotion in an industry-relevant artistic product.

	<ul style="list-style-type: none"> • CTE.AME.A.2.6 Create an artistic product that involves the effective use of the elements of art and the principles of design. • 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. • CTE.AME.A.2.9 Create a multimedia work of art that demonstrates knowledge of media and technology skills. • CTE.AME.A.3.1 Identify and describe the role and influence of new technologies on contemporary arts industry. • CTE.AME.A.4.6 Create an artistic product for a specific industry and modify that product to accommodate a different aesthetic perspective. • CTE.AME.A.5.7 Synthesize traditional art work and new technologies to design an artistic product to be used by a specific industry. • 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. • CTE.MPD.A.10.3 Apply the principles of composition and lighting used in photography. • CTE.AME.KPAS.4.5 Research past, present, and projected technological advances as they impact a particular pathway. • CTE.AME.KPAS.6.1 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions. • CTE.AME.KPAS.10.3 Construct projects and products specific to the Arts, Media, and Entertainment sector requirements and expectations. • 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.
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COURSE CONTENT

UNIT:	DESCRIPTION	ASSIGNMENT/STANDARDS
UNIT 1 AUDIO ENGINEERING	<p>Science of Sound</p> <ul style="list-style-type: none"> • Frequency; Amplitude; Timbre; Envelope (Attack, Decay, Sustain, Release); Velocity; Wavelength; Phase; Tone • Decibel Levels, Oscillation, Measurements of Frequency • Input: Frequency, Impedance, Polarity • Amplification: Amperage, Voltage, Current, Resistance <p>Live Sound - Parts of a Sound System</p> <ul style="list-style-type: none"> • Overview of Signal Chain • Input/Microphones, Pickup Polar Patterns • Signals, Cables, and Connectors • Understanding Loudspeakers • Crossovers; Frequency Distribution • Loudspeakers, Impedance • Amps, Wiring, Signal Chain 	<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"> • The Mixer <p>Live Sound – Setting Up the Sound System</p> <ul style="list-style-type: none"> • Setting Up the Mixing Console • Stage and Venue Setup • Wiring Mics and Other Inputs • Equipment Placement • Connecting Speakers and Amps <p>Live Sound – Channels & Console Settings</p> <ul style="list-style-type: none"> • Gain Structure; Parametric EQs • Compression and Dynamics; Panning • Direct Outs and Inserts' Effects; Aux Sends; Mix Bus/Groups • Processors <p>Live Sound – Mixing Basics</p> <ul style="list-style-type: none"> • Mixing Strategy; Mixing Vocals • Bass Guitar and Kick Drum • Mixing Drums; Scooped Drum Sounds • Mixing Electric Guitars/Instruments • Mixing Acoustic Guitars/Instruments <p>Live Sound – Mixing Monitors</p> <ul style="list-style-type: none"> • Basic Monitor Setups • Self-Mixed vs. Engineer Mixed • Less is More; Feedback Loop <p>Studio - Desktop Production Tools</p> <ul style="list-style-type: none"> • Audio/Music Production Process • Audio Interface/Computer Intro • Digital Audio Workstation (DAW) • Creating, Listening and Analysis • Recording; Editing; Mixing; Mastering • Audio/Music Production Tools • Synthesizers; MIDI Sequencers • Audio Recorders; Processors; Mixers <p>Studio - Signal Flow</p> <ul style="list-style-type: none"> • Analog Audio Signals and Connections • Digital Audio Signals and Connections • Signal Flow Between Devices • Setting Up a Virtual Studio • MIDI Signal Flow • Studio Configuration <p>Studio - Effects Processing, DSP, and Mixing</p> <ul style="list-style-type: none"> • Insert Effects • Aux Send and Return Effects in Logic--Set Up a Reverb • Overview of Effects Types: Spectrum Processing: Filters; Dynamics Processing; Compressing the Bass Track; Gating • Time-Based Effects: Delay; Doubling/Flanging/Chorus; Reverb • Pitch Correction; Autotune <p>Legal Issues</p> <ul style="list-style-type: none"> • Ethics; Fair use 	<p>Signal Chain, Power Resistance & 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>LIVE ENGINEERING (CTE.AME.A.2.9; CTE.AME.KPAS.4.5; CTE.AME.KPAS.10.3)</p> <p>PODCAST (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>LIVE MULTITRACK (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>STUDIO MULT-TRACK (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"> • Copyright and trademark • Digital Rights Management • Releases and contracts • Federal Communications Commission 	
UNIT 2 VIDEOGRAPHY	<p>Digital Camera/Camcorder Parts and Functions</p> <ul style="list-style-type: none"> • Film vs Video vs Digital • Film vs DSLR vs Mirrorless • Camera Parts/Function • Lens and Equipment • Battery and Memory Cards • How a camera works • Camera menu basics <p>Video Format</p> <ul style="list-style-type: none"> • Framerate; 180 degree rule • Resolution; Codecs • Write Speed; Cameras and Memory Cards <p>Exposure</p> <ul style="list-style-type: none"> • Lighting; Exposure Triangle • Shutter Speed and Motion Blur • Aperture and Depth of Field • Sensor Sensitivity and Visual Noise • Filters; Neutral Density Filters <p>Composition</p> <ul style="list-style-type: none"> • Rule of Thirds; Headroom • Establishing (Wide) Shots, Medium Shots, Close-up Shots • Eye Level Framing • Rack Focus; Deep Space Composition • Balance and Symmetry • Leading Lines • Depth of Field • Camera Movement: Zoom; Pan; Tilt; Dolly; Truck; Pedestal; Steady Cam • Handheld Gimbal; Drone Gimbal <p>Legal Issues</p> <ul style="list-style-type: none"> • Ethics; Fair use • Copyright and trademark • Digital Rights Management • Releases and contracts • Federal Communications Commission • Federal Aviation Administration <p>Live-Streaming</p> <ul style="list-style-type: none"> • Equipment Basics • Techniques • Applications 	<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>LIVE ENGINEERING (CTE.AME.A.2.9; CTE.AME.KPAS.4.5; CTE.AME.KPAS.10.3)</p> <p>EVENT VIDEOGRAPHY (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>INSTRUCTIONAL VIDEO (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>DRONE VIDEOGRAPHY (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>LIVE-STREAMING EVENTS (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>
UNIT 3 NONLINEAR EDITING: ADOBE PREMIERE PRO	<p>Getting Started in Premiere Pro CC</p> <ul style="list-style-type: none"> • Overview of Interface and Panels; Preferences; Keyboard Shortcuts • Importing Files; Merging Clips; 	

CC	<p>Storyboard feature; Metadata</p> <p>Editing Basics</p> <ul style="list-style-type: none"> • Creating sequences; Timeline basics; The Toolbar; Markers and subclips • Source monitor; In and out points; Inserting and overwriting edits • Linked selections; Ripple and rolling edit; J and L cuts; Slip and Slide Edits; Lift and extract <p>Effects and Transitions</p> <ul style="list-style-type: none"> • Adding transitions; Adding effects and keyframes; Applying keyframes to Timeline; Basic Time changes • Color grading; Compositing with ultra key; Rendering and previews <p>Audio Editing and Mixing</p> <ul style="list-style-type: none"> • Adjusting clip gain; Normalizing audio • Essential panel; Audio Track mixer 	<p>EVENT VIDEOGRAPHY (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>LIP SYNC VIDEO (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	https://www.amazon.com/Audio-Engineering-101-Beginners-Production-dp-1138658774/dp/1138658774/ref=mt_paperback?_encoding=UTF8&me=&qid=
Ableton Reference Manual	Dennis DeSantis, et al.	Ableton AG	Version 9, 2016	https://cdn-resources.ableton.com/80bA26cPQ1hEJDFjpUKntxfqdmG3ZykO/static/manual/pdf/L9Manual_EN.pdf
Logic Pro X User Guide	Apple Inc.	Apple Inc.	10.4	https://help.apple.com/logicpro/mac/10.4.7/
Adobe® Premiere® Pro CC Help	Adobe	Adobe	updated 4/13/2018	https://helpx.adobe.com/pdf/premiere_pro_reference.pdf
Adobe® Audition® Help	Adobe	Adobe	updated 6/3/2018	https://helpx.adobe.com/pdf/audition_reference.pdf
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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