



Program of Study Guide: **Video and Audio Production**

Comprehensive guidelines and course standards
for the Media Production and Broadcasting
pathway

Office of College and Career Pathways

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MARYLAND STATE DEPARTMENT OF EDUCATION

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Purpose

The purpose of this document is to communicate the required Career and Technical Education (CTE) academic standards for the Video and Audio Production Program of Study. The academic standards in this document are theoretical and performance based. The standards contain content from multiple state departments of education, the College Board, and the Adobe Certified Professional and have been reviewed and vetted by members of the Maryland business and industry community.

In addition to academic standards, the Maryland State Department of Education (MSDE) has incorporated into this document Labor Market Information (LMI) definitions and explanations for the Program of Study; program aligned Industry Recognized Credentials; and Work-Based Learning resources and requirements by course level.

This document is intended for use by educational administrators and practitioners. A similar document is available for each state-approved CTE Program of Study.

Sources of Standards

The development of the Video and Audio Production I-III course standards is informed by several authoritative sources that provide comprehensive guidelines and frameworks for media arts education. These sources collectively provide a robust foundation for developing comprehensive and industry-aligned standards for the Video and Audio Production I-III courses, ensuring that students acquire the necessary skills and knowledge to succeed in the field of video and audio production.

Below is a list of these sources, along with descriptions, their applications in course development, and corresponding web links:

1. National Core Arts Standards (NCAS) – Media Arts

- A. **Description:** The NCAS offers a cohesive set of standards for arts education, including media arts, which encompasses disciplines like video and audio production. These standards outline essential artistic processes such as creating, performing, responding, and connecting, tailored to various educational levels.
- B. **Usage:** The NCAS serves as a foundational framework to ensure that the course standards align with nationally recognized educational goals in media arts. It guides the integration of artistic processes and competencies appropriate for each course level.
- C. **Web Link:** [National Core Arts Standards – Media Arts](#)

2. Adobe Certified Professional (ACP) Objectives

- A. **Description:** Adobe publishes exam objectives for each of its Certified Professional programs (e.g., Photoshop, Illustrator, Premiere Pro, Audition, After Effects). These objectives detail the specific technical skills, software knowledge, and creative workflows that students must demonstrate to achieve certification.
- B. **Usage:** The ACP exam objectives guided the inclusion of relevant technical proficiencies in the course standards, ensuring that students master the necessary functionalities (tools, panels, editing techniques) and creative principles (design, color, composition) to pass Adobe's industry exams at each course level.
- C. **Web Link:** [Adobe Certified Professional](#)

3. Avid Certification Resources

- A. **Description:** Avid provides certification roadmaps and official learning objectives for Pro Tools (audio production) and Media Composer (video editing). These resources detail the processes, tools, and techniques that professionals use to edit, mix, and produce content within the Avid ecosystem.
- B. **Usage:** In the course standards, references to Avid Pro Tools and Media Composer reflect these official objectives, ensuring that students progress toward recognized industry benchmarks in audio engineering (Avid Pro Tools Certified User) and video editing (Avid Media Composer Certified User).
- C. **Web Link:** [Avid Certifications](#)

4. Apple Certified Pro – Logic Pro Objectives

- A. **Description:** Apple publishes guidelines and competency statements for its Logic Pro certification, which validates a user's ability to produce, arrange, mix, and master audio in a professional music production environment.
- B. **Usage:** These objectives helped shape advanced audio production requirements, especially in the capstone-level course standards, ensuring students gain hands-on experience in digital

audio workstations and professional mixing techniques aligning with the Logic Pro certification.

- C. **Web Link:** [Apple Training](#)

5. **Blackmagic Design – DaVinci Resolve Certification Program**

- A. **Description:** Blackmagic Design offers official Resolve training materials, exam blueprints, and a multi-tier certification pathway (e.g., DaVinci Resolve Certified User). Objectives cover editing, color correction, Fairlight audio, and delivery workflows—including codec, bit-depth, and wrapper choices.
- B. **Usage:** These objectives informed the intermediate editing, color-grading, and delivery skills embedded in Video and Audio Production II (and reinforced in III), ensuring students master Resolve's export presets and technical deliverables required for the certification exam.
- C. **Web Link:** [Blackmagic Design Training & Certification](#)

6. **Society of Motion Picture and Television Engineers (SMPTE) Standards**

- A. **Description:** SMPTE publishes industry-adopted standards and recommended practices governing video codecs (e.g., ProRes, DNxHR mappings), frame-rate and cadence notation (23.976 p, 29.97 i, etc.), mezzanine/master file wrappers (MXF, MOV), and broadcast delivery specifications.
- B. **Usage:** These standards underpin the course outcomes that require students to analyze codec, bit-rate, cadence, and container choices for broadcast vs. online distribution. Referencing SMPTE ensures export workflows in Courses II and III meet real-world QC and network requirements.
- C. **Web Link:** [SMPTE Standards & Publications](#)

7. **Audacity Documentation & Community Best Practices**

- A. **Description:** The open-source Audacity project provides extensive manuals and community tutorials covering multitrack recording, editing, and effects processing.
- B. **Usage:** These resources supplement Course II and III audio objectives where Audacity is the primary or introductory DAW, ensuring students gain transferable skills that map to certified platforms such as Avid Pro Tools.
- C. **Web Link:** <https://www.audacityteam.org/>

8. **Apple Certified Pro – Final Cut Pro X**

- A. **Description:** Apple's certification program for Final Cut Pro X evaluates proficiency in this professional video editing software, covering a range of editing techniques and workflows.
- B. **Usage:** The certification standards guide the curriculum development for Video and Audio Production III, focusing on advanced editing skills and techniques using Final Cut Pro.
- C. **Web Link:** [Apple Certified Pro – Final Cut Pro X](#)

9. Audio Engineering Society (AES) – Audio Education

- A. **Description:** AES is the professional society for audio and maintains education-focused resources, events, and materials that support curriculum design and student learning across recording, live sound, broadcast, and acoustics.
- B. **Usage:** Inform foundational concepts in your standards (signal flow, acoustics/room treatment, live-sound practices, critical listening) and provide alignment to current professional discourse in audio education.
- C. **Weblink:** https://aes2.org/audio-topics/audio-education-2/?utm_source=chatgpt.com.

10. AVIXA (InfoComm) – AV Fundamentals / CTS 1: AV Technology (formerly “Essentials of AV Technology”)

- A. **Description:** AVIXA’s foundational AV curriculum (CTS 1: AV Technology) covers core audio, video, IT, infrastructure, safety, and signal-flow concepts; it is the first course in a two-course series that prepares learners with baseline knowledge toward the CTS pathway and replaces the prior “Essentials of AV Technology
- B. **Usage:** Aligns live-event and systems strands—PA gain structure, routing, interconnects, documentation, and basic AV safety/operations—with industry-recognized fundamentals and terminology used in school venues.
- C. **Weblink:** https://www.avixa.org/training-section/on-demand-training/CTS-1--AV-Technology?utm_source=chatgpt.com.

Course Descriptions

Course Level	Course Information	Description
Required Core: Course 1	Video and Audio Production I SCED: Pending Adoption Grades: 9-12 Prerequisite: None Credit: 1	Video and Audio Production I introduces students to the fundamental principles of media production and broadcasting, emphasizing the basics of visual composition, audio recording, and storytelling. Students explore career pathways in film, television, radio, and online media, discovering the ethical and responsible use of emerging technologies. Students build balanced skills in video and audio across studio, field, and live-event contexts.
Required Core: Course 2	Video and Audio Production II SCED: Pending Grades: 10-12 Prerequisite: Video and Audio Production I Credit: 1	Building on the foundational skills from Video and Audio Production I, this course guides students deeper into the production process, focusing on intermediate video editing, audio post-production, and collaborative workflow management. Students gain hands-on experience with Adobe Premiere Pro, Audition, and DaVinci Resolve to edit, color grade, and master audiovisual projects.
Optional Flex: Course 1	Video and Audio Production III SCED: Pending Grades: 11-12 Prerequisite: Video and Audio Production I and II Credit: 1	Video and Audio Production III challenges students to refine and expand their technical and creative proficiencies in both audio engineering and motion graphics. Students delve into Avid Pro Tools to produce professional-level audio, including multi-track recording, editing, and mixing. Students specialize in Broadcast Audio, Live Events (FOH/Monitors), Studio Recording, or Post-Production Sound and complete a pathway capstone with cross-discipline collaboration.

Course Level	Course Information	Description
Optional Flex: Course 2	Career Connected Learning I SCED: Pending Grades: 11-12 Prerequisite: See Course Description Credits: 1-3	<u>Prerequisites:</u> - Alignment to the student's 6-Year Plan - Completion of: - Minimum two sequential courses in a CTE pathway, OR - Minimum two years of the same world language; OR - Minimum two sequential courses in a comprehensive arts program; OR - Inclusion in the IEP/504 transition plan with supporting documentation (as required) - Endorsement from an educator, mentor, employer, or career coach - No more than one course recovery credit in core subjects is needed by the student. This flexible, work-based learning course introduces students to real-world applications of classroom knowledge and technical skills through on-the-job experiences and reflective practices. Students engage in career exploration, skill development, and professional networking by participating in youth apprenticeships, registered apprenticeships, pre-apprenticeships, internships, capstone projects, or other approved career-connected opportunities. Variable credit (1–3) accommodates the required on-the-job training hours and related instruction. By integrating industry standards, employability skills, and personalized learning goals, Career Connected Learning I equips students to make informed career decisions, develop a professional portfolio, and build a strong foundation for success in postsecondary education, training, or the workforce.
Optional Flex: Course 3	Career Connected Learning II SCED: Pending Grades: 11-12 Prerequisite: Career Connected Learning I Credits: 1-3	Building on the foundational experiences of Career Connected Learning I, this advanced work-based learning course provides students with deeper on-the-job practice, leadership opportunities, and refined career exploration. Students continue to enhance their technical and professional skills, expanding their industry networks and aligning personal goals with evolving career interests. Variable credit (1–3) remains aligned with the required training hours and related instruction. Through elevated responsibilities and skill application, Career Connected Learning II prepares students to confidently transition into

Course Level	Course Information	Description
		higher-level postsecondary programs, apprenticeships, or the workforce.

Dual Enrollment and Career Connected Learning Experiences Must be Aligned to the CTE Core.

Industry-Recognized Credentials and Career-Connected Learning

The *Blueprint for Maryland's Future* and the High School Level of a Registered Apprenticeship

The Maryland State Department of Education recognizes the high-school level of a Registered Apprenticeship (RA), defined as a State-approved Registered Apprenticeship begun during high school in which students complete at least 144 hours of related technical instruction and 250 hours of paid on-the-job training before graduation, with the remaining required apprenticeship hours completed post-graduation, as the gold standard of Career Connected Learning.

The CTE Committee of the Governor's Workforce Development Board, in alignment with federal apprenticeship standards, requires 144 hours of RTI for all high school RA participants, and the Apprenticeship Maryland Program (AMP) defines the minimum RTI as **one course credit equivalent**. This high-school-level Registered Apprenticeship is the preferred career-connected learning option for students to meet the Blueprint's goal that 45% of public high school graduates complete either the high-school level of a Registered Apprenticeship or another industry-recognized credential.

To the extent practicable, the greatest number of students should achieve this goal through participation in a high-school level Registered Apprenticeship, with schools ensuring these requirements are scheduled, completed, and documented for transcript and reporting purposes.

To the extent practicable, the greatest number of students should achieve this goal through the high-school level of a Registered Apprenticeship.

Career-Connected Learning Resources		
Course 1: Career Awareness	Course 2: Career Preparation	Flex Courses: Career-Connected Learning
• Industry Visits • Guest Speakers • Participation in Career and Technical Student Organizations • Postsecondary Visits – Program Specific Site Tours • Mock Interviews	• All of Career Awareness plus the following: • Job Shadow • Employer Mentoring	• Registered Apprenticeship • Internship • School-Based Enterprise • Employer-Directed Capstone

Industry-Recognized Credentials – The standards in this document are aligned to the following certifications:

By the end of Video and Audio Production I: Adobe Certified Professional in Photoshop or Illustrator

By the end of Video and Audio Production II: Adobe Certified Professional in Premiere Pro

Optional Credentials (via the Flex Course options): DaVinci Resolve Certified User, Apple Certified Pro in Final Cut Pro, and Avid Media Composer Certified User.

Labor Market Information: Definitions and Data

Labor market information (LMI) plays a crucial role in shaping Career and Technical Education (CTE) programs by providing insights into industry demands, employment trends, and skills gaps. This data helps education leaders assess the viability of existing programs and identify opportunities for new offerings. By aligning CTE programs with real-time labor market needs, schools can better prepare students for in-demand careers and ensure that resources are effectively used to support pathways that lead to high-quality, sustainable employment.

Standard Occupational Code (SOC) and Aligned Industry:

Indicator	Definition	Pathway Labor Market Data
High Wage¹	Those occupations that have a 25th percentile wage equal to or greater than the most recent MIT Living Wage Index for one adult in the state of Maryland, and/or leads to a position that pays at least the median hourly or annual wage for the DC-VA-MD-WV Metropolitan Statistical Area (MSA). <i>Note: A 25th percentile hourly wage of \$24.74 or greater is required to meet this definition.</i>	Standard Occupational Code: 27-4032: Film and Video Editors Hourly Wage/Annual Salary: 25 th Percentile: \$29.32 / \$60,986.00 50 th Percentile: \$38.94 / \$80,995.00 75 th Percentile: \$46.70 / \$97,136.00
High Skill	Those occupations located within the DC-VA-MD-WV Metropolitan Statistical Area (MSA) with the following education or training requirements: completion of an apprenticeship program; completion of an industry-recognized certification or credential; associate's degree, bachelor's degree, or higher.	Typical Entry-Level Education: Film and video editors and camera operators typically need a bachelor's degree to enter the occupation. The degree is often in film, broadcasting, or a related fine and performing arts or communications field.
In-Demand	Annual growth plus replacement, across all Maryland occupations, is <u>405</u> openings between 2024-2029.	Annual Openings 31

Lightcast Data Updated August 2025

¹ Living Wage Calculator: <https://livingwage.mit.edu/states/24>

Labor Market Information Data Source

Lightcast occupation employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates are also affected by county-level Lightcast earnings by industry. Foundational data for the state of Maryland is collected and reported by the Maryland Department of Labor.

Methodology for High Wage Calculations

To combine labor market data across multiple Standard Occupational Classifications (SOCs), a weighted average approach was used to ensure accurate representation of the marketplace. Median wages for each SOC were weighted based on their respective employment levels, reflecting the relative demand for each occupation. This method ensures that occupations with higher employment contribute proportionately to the overall wage calculation. Additionally, job openings from all relevant SOCs were summed to determine the total projected demand. For example, if Mechanical Engineers account for 67% of total employment and Electrical Engineers for 33%, their respective wages are weighted accordingly, and job openings are aggregated to provide a comprehensive view of labor market opportunities. This approach delivers a balanced and accurate representation of both wages and employment demand for the program.

Methodology for In-Demand Calculations

The baseline for annual job openings, taking into account new positions and replacement positions, was determined by taking the average of all annual job openings between 2024 and 2029 across all 797 career sectors at the 5-digit SOC code level. For the 2024-2029 period, average job openings (growth + replacement) is 405.

Course Standards: Video and Audio Production I

1. GENERAL REQUIREMENTS. This course is recommended for students in Grades 9-12.

2. INTRODUCTION

- A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
- B. The Arts, Entertainment and design Career Cluster combines creative roles in visual and performing arts, film, journalism, fashion, interior design, and creative technologies. This Cluster focuses on creating, producing, and sharing artistic and design work across multiple platforms, aiming to entertain, inform, beautify, and inspire.
- C. The Video and Audio Production program guides students from foundational to advanced media creation skills. Throughout these courses, students explore graphic design fundamentals, video editing, and audio capture, culminating in comprehensive proficiency with advanced editing suites, sound engineering, and broadcast technology. Participants build a robust portfolio while preparing for industry-recognized certifications (e.g., Adobe, Avid, Apple, CBT). Graduates emerge equipped to thrive in film, television, radio, and streaming, having mastered both creative storytelling and technical workflows.
- D. In Video and Audio Production I students learn essential graphic design skills with Adobe Photoshop and Illustrator, preparing for entry-level industry certifications. Through project-based assignments, students build foundational knowledge in lighting, sound, and the production process, culminating in initial design assets suitable for video and audio editing workflows.
- E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
- F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTOSs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTOS activities is an expectation for CTE programs in the state of Maryland.

3. KNOWLEDGE AND SKILLS

- A. The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
 - 1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
 - 2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
 - 3. Employ effective reading, writing, and technical documentation skills.
 - 4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
 - 5. Demonstrate leadership skills and collaborate effectively as a team member.
 - 6. Implement safety procedures, including proper use of software and following privacy guidelines.

7. Exhibit an understanding of legal and ethical responsibilities in the video and audio production field, following data privacy laws and best practices for security.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. The student identifies various career pathways in the video and audio production field. The student is expected to:

1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in video and audio production.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in media and video and audio production.

C. The student develops technology and digital literacy skills. The student is expected to:

1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies, including video editing skills and applying basic effects to create media content.
4. Demonstrate basic file management (folders, versioning, backups) and responsible digital citizenship.
5. Use industry-standard software at an introductory level for video (e.g., Adobe Premiere Pro or DaVinci Resolve) and audio (e.g., Adobe Audition or Audacity).
6. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. The student integrates core academic skills into video and audio production practices. The student is expected to:

1. Apply communication skills (briefs, story outlines, shot lists) appropriate to production tasks.
2. Use mathematical concepts (frame rate, resolution, aspect ratio, timecode basics) in planning and exporting.
3. Apply basic physics concepts (sound frequency, amplitude, signal flow) to audio and live-sound activities.

E. The student demonstrates foundational camera and visual-storytelling skills. The student is expected to:

1. Set exposure, white balance, frame rate, and shutter speed for typical school and daylight interiors.
2. Apply composition techniques (rule of thirds, headroom, lead room) and steady camera practices.
3. Record clean, well-framed interviews and b-roll for short stories (30–60 seconds).

F. The student demonstrates foundational nonlinear video editing skills. The student is expected to:

1. Ingest and organize media; build simple sequences; trim using ripple/roll tools.
2. Add titles/lower thirds and simple transitions consistent with project goals.

3. Export to common presets (e.g., 1080p H.264 .mp4) and explain basic quality vs. file-size trade-offs.

G. The student demonstrates foundational audio capture for video and podcasts. The student is expected to:

1. Select and place common microphones (handheld, lavalier, shotgun) for clear speech; set input levels to avoid clipping.
2. Record location sound and voice-overs; manage cables, wind protection, and handling noise.
3. Perform basic audio cleanup in a DAW (noise reduction, EQ, normalize) for intelligible dialogue.

H. The student demonstrates introductory knowledge of acoustics and live sound reinforcement. The student is expected to:

1. Explain how room size, surfaces, and reflections affect speech clarity and music.
2. Identify simple room-treatment approaches (absorption, diffusion) appropriate for school spaces.
3. Set up a basic classroom PA (mic → preamp → EQ → amplifier → speaker), establish safe gain, and prevent feedback with mic placement and gentle EQ.

I. The student demonstrates introductory operation of analog and digital mixing consoles. The student is expected to:

1. Identify and use core channel-strip controls (gain/trim, HPF, EQ, pan, fader, mute/solo) and aux sends for monitors/effects.
2. Build a simple mono or stereo mix for speech reinforcement; document input list and gain settings.
3. Compare analog vs. digital basics (scene recall, onboard FX, I/O) and load a starter scene/template when available.

J. The student demonstrates foundational lighting for video. The student is expected to:

1. Set up a basic three-point lighting arrangement and adjust color temperature for natural skin tones.
2. Use reflectors and diffusion to control contrast and soften shadows in interviews or announcements.
3. Apply safe practices for stands, power, and cable management.

K. The student demonstrates introductory production planning and teamwork. The student is expected to:

1. Create simple scripts, shot lists, and call sheets for school projects.
2. Define entry-level crew roles (camera, audio, talent, director, editor) and rotate responsibilities.
3. Analyze a basic workflow (pre-production → production → post) and reflect on improvements for the next project.

L. The student demonstrates ethical, legal, and safe practices in media production. The student is expected to:

1. Describe copyright, fair use, and licensing for music, images, and footage; credit sources appropriately.
2. Follow privacy, consent, and release-form guidelines for on-camera participants.

3. Implement hearing-safe practices and safe lifting/cabling during setups and strikes.

M. The student curates a beginning portfolio demonstrating both video-led and audio-led competencies. The student is expected to:

1. Produce one video-led piece (30–60 seconds) demonstrating camera, lighting, and basic editing/titles.
2. Produce one audio-led piece (e.g., recorded announcement or short podcast) demonstrating mic technique, DAW cleanup, and a balanced mix.
3. Reflect on strengths and next steps aligned to potential pathways (broadcast, live events, studio recording, post-production).

Course Standards: Video and Audio Production II

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 10-12.
2. **INTRODUCTION**
 - A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
 - B. The Arts, Entertainment and Design Career Cluster combines creative roles in visual and performing arts, film, journalism, fashion, interior design, and creative technologies. This Cluster focuses on creating, producing, and sharing artistic and design work across multiple platforms, aiming to entertain, inform, beautify, and inspire.
 - C. The Video and Audio Production program guides students from foundational to advanced media creation skills. Throughout these courses, students explore graphic design fundamentals, video editing, and audio capture, culminating in comprehensive proficiency with advanced editing suites, sound engineering, and broadcast technology. Participants build a robust portfolio while preparing for industry-recognized certifications (e.g., Adobe, Avid, Apple, CBT). Graduates emerge equipped to thrive in film, television, radio, and streaming, having mastered both creative storytelling and technical workflows.
 - D. Video and Audio Production II builds on the foundational skills acquired in Video and Audio Production I. Students learn to implement advanced lighting techniques, develop broadcast-quality content, and integrate industry-standard file management and export protocols. Ethical considerations and emerging technologies—such as streaming and AI-driven editing—are introduced to prepare students for evolving industry standards.
 - E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
 - F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.
3. **KNOWLEDGE AND SKILLS**
 - A. **The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
 1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
 2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
 3. Employ effective reading, writing, and technical documentation skills.
 4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
 5. Demonstrate leadership skills and collaborate effectively as a team member.
 6. Implement safety procedures, including proper use of software and following privacy guidelines.

7. Exhibit an understanding of legal and ethical responsibilities in the video and audio production field, following data privacy laws and best practices for security.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. The student identifies various career pathways in the video and audio production field. The student is expected to:

1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in video and audio production.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in media and video and audio production.
4. Identify a preferred specialization pathway (broadcast audio, live events, studio recording, or post-production) and outline two skills to develop in Course III.

C. The student develops technology and digital literacy skills. The student is expected to:

1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies, including video editing skills and applying basic effects to create media content.
4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. The student integrates core academic skills into video and audio production practices. The student is expected to:

1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
2. Apply English concepts such as writing informative texts and articulate goals through the development of design briefs.
3. Use mathematical concepts, such as applying proportional reasoning and scaling to understand image scaling, aspect ratios, and resolution adjustments in digital media.

E. The student demonstrates the necessary skills to use professional editing tools and workflows to enhance the quality and storytelling of video content. The student is expected to:

1. Capture high-quality video footage for varied production contexts, selecting suitable cameras, lenses, frame rates, shutter speeds, exposure, and white-balance settings; employ stabilization and focus techniques to ensure consistent image quality that is ready for post-production.
2. Employ nonlinear editing techniques using industry-standard software (e.g., Adobe Premiere Pro, DaVinci Resolve), applying timeline manipulation, trimming, transitions, and effects.
3. Perform intermediate color correction and grading in DaVinci Resolve (or within Premiere Pro), adjusting contrast, highlights, mid-tones, and color balance to achieve a consistent visual style.
4. Incorporate motion graphics and titling to enhance visual communication, ensuring text clarity and design cohesion aligned with project goals.

5. Import layered graphic assets into Adobe After Effects to create introductory motion graphics: build simple compositions, animate basic transform properties (position, scale, opacity, rotation), and use Dynamic Link or rendered exports to integrate results back into Premiere Pro.
6. Export finished videos in common delivery presets (e.g., 1080p H.264 .mp4 for web, 1080i ProRes .mov for school broadcast), explaining *basic* trade-offs between file size and quality.

F. The student demonstrates the necessary skills to record, edit, and mix audio tracks that complement and elevate video projects, maintaining industry-standard loudness ranges—dialogue between -12 dB and -6 dB, and music or sound effects between -24 dB and -18 dB.

The student is expected to:

1. Distinguish between natural sound (“NAT sound”) and ambient sound—recognizing NAT sound as nonfiction, on-site audio captured during documentaries, interviews, or other location shoots, while ambient sound is typically created or sweetened in-studio for fictional productions—and record/import high-quality audio (e.g., dialogue, voice-overs, NAT sound, ambient sound, Foley) using appropriate microphone selection, placement, and settings.
2. Create original music scores in a digital audio workstation (e.g., BandLab) *or* locate and license royalty-free music, ensuring correct attribution and copyright compliance prior to integration with video content.
3. Edit and enhance audio tracks in Adobe Audition (or Audacity for schools using open-source software), applying noise reduction, equalization (EQ), compression, and normalization to maintain consistent levels.
4. Blend and mix audio elements (music, sound effects, dialogue) for clarity, balance, and aesthetic impact, preparing for more advanced audio engineering (Avid Pro Tools) in subsequent courses.
5. Synchronize audio and video accurately, employing timecode or manual alignment techniques to ensure professional and seamless integration.

G. The student demonstrates the necessary skills to operate live sound systems for events on campus. The student is expected to:

1. Produce a small-venue show (assembly, concert, or talk) by creating a stage plot and input list, coordinating A1/A2 roles, and completing soundcheck.
2. Configure FOH and monitor mixes (pre/post-fader auxes) and apply EQ, compression, and gating for speech and basic music reinforcement.
3. Manage RF/cordless systems at a school level (frequency coordination basics, antenna placement, battery protocols) when available.
4. Troubleshoot hums, buzzes, feedback, and routing errors using a methodical signal-flow checklist.

H. The student demonstrates intermediate operation of analog and digital mixing consoles. The student is expected to:

1. Patch inputs/outputs, set proper gain structure, and use channel dynamics; save/recall scenes and presets on a digital console.
2. Implement subgroups/VCA/DCAs to control ensemble balance and use onboard effects (reverb/delay) tastefully for live events.
3. Capture a 2-track board mix and, where available, a multitrack via USB/SD or Dante/USB interface for later post-mix.

I. The student demonstrates the necessary skills to manipulate lighting for both aesthetic and functional purposes, reflecting industry practices in film, broadcasting, and live production. The student is expected to:

1. Apply intermediate lighting setups (e.g., three-point, high-key, low-key) to create mood, direct audience focus, and enhance narrative or thematic elements.
2. Select and position lighting instruments (e.g., LED panels, spotlights, softboxes), considering color temperature and light quality for desired effects.
3. Use reflectors, diffusers, and gels to modify light intensity and color, adjusting contrast and tone for cohesive visual storytelling.
4. Evaluate lighting needs for different shooting environments, including studio, location, and green-screen setups, aligning with the overall production plan.

J. The student demonstrates the necessary skills to effectively organize, plan, and collaborate on video and audio projects, reflecting the interdependent roles of a production team. The student is expected to:

1. Develop production schedules, shot lists, and scripts to guide filming or recording sessions, incorporating feedback from peers and instructors.
2. Coordinate with team members (e.g., lighting technicians, camera operators, audio engineers) to ensure cohesive collaboration and timely completion of project milestones.
3. Create and maintain production documents (e.g., call sheets, release forms, project logs), practicing professional standards for organization and legal compliance.
4. Analyze workflows to identify best practices for transitioning from pre-production through post-production, streamlining processes for future advanced courses.
5. Integrate live audio into multi-camera productions by routing board mixes to the switcher/encoder, setting intercom/IFB, and coordinating A1/A2 with camera and TD roles.
6. Align timecode (or slate sync) across cameras, audio recorder/console, and switcher to ensure coherent live and post workflows.
7. Apply school-approved loudness targets for streams/broadcasts; verify intelligibility on PA, stream return, and record feeds.
8. Prepare deliverables for both live (PA + stream) and post (board mix + ISO or program record), documenting routing, scene/patch files, and handoffs.

K. The student demonstrates the necessary skills to integrate new media tools, observe ethical standards, and understand the impact of evolving technology in media production and broadcasting. The student is expected to:

1. Investigate emerging software features (e.g., AI-assisted editing, automated color matching) to improve efficiency and creativity.
2. Examine legal and ethical considerations related to copyright, fair use, and intellectual property when selecting and incorporating third-party materials (audio, visual, or text).
3. Adhere to broadcast standards for decency, content rating, and responsible storytelling, reflecting awareness of cultural sensitivities and audience demographics.
4. Demonstrate data security and backup procedures when handling large media files, ensuring the integrity and confidentiality of project assets.

L. The student demonstrates the necessary skills to blend core academic knowledge with professional competencies for success in advanced production roles. The student is expected to:

1. Apply advanced communication strategies (written, oral, and digital) to present creative briefs, client proposals, or production updates clearly and persuasively.
2. Use mathematical concepts (frame rates, sampling rates, timecode calculations) for precise editing, exporting, and scheduling.
3. Collaborate effectively in teams, practicing leadership, problem-solving, and critical thinking to address production challenges.
4. Include one live-event deliverable (board/2-track mix + program/ISO record) and one edited piece with color + titles.

Course Standards: Video and Audio Production III

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 10-12.
2. **INTRODUCTION**
 - A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
 - B. The Arts, Entertainment and Design Career Cluster combines creative roles in visual and performing arts, film, journalism, fashion, interior design, and creative technologies. This Cluster focuses on creating, producing, and sharing artistic and design work across multiple platforms, aiming to entertain, inform, beautify, and inspire.
 - C. The Video and Audio Production program guides students from foundational to advanced media creation skills. Throughout these courses, students explore graphic design fundamentals, video editing, and audio capture, culminating in comprehensive proficiency with advanced editing suites, sound engineering, and broadcast technology. Participants build a robust portfolio while preparing for industry-recognized certifications (e.g., Adobe, Avid, Apple, CBT). Graduates emerge equipped to thrive in film, television, radio, and streaming, having mastered both creative storytelling and technical workflows.
 - D. In Video and Audio Production III, students acquire advanced compositing and animation skills using Adobe After Effects, focusing on motion graphics and visual effects. The course emphasizes larger-scale projects with multi-camera shoots, complex lighting designs, and streaming/broadcast standards, preparing students to tackle real-world production environments. This level also explores emerging AI, virtual production, and immersive media, underscoring the ethical implications of modern content creation.
 - E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
 - F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.
3. **KNOWLEDGE AND SKILLS**
 - A. **The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
 1. Choose one specialization pathway (broadcast audio, live events, studio recording, or post-production) and produce capstone-quality work that demonstrates advanced competencies and industry-standard deliverables.
 2. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
 3. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
 4. Employ effective reading, writing, and technical documentation skills.
 5. Solve problems using critical thinking techniques and structured troubleshooting methodologies.

6. Demonstrate leadership skills and collaborate effectively as a team member.
7. Implement safety procedures, including proper use of software and following privacy guidelines.
8. Exhibit an understanding of legal and ethical responsibilities in the video and audio production field, following data privacy laws and best practices for security.
9. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. The student identifies various career pathways in the video and audio production field. The student is expected to:

1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in video and audio production.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in media and video and audio production.

C. The student develops technology and digital literacy skills. The student is expected to:

1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies, including video editing skills and applying basic effects to create media content.
4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. The student integrates core academic skills into video and audio production practices. The student is expected to:

1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
2. Apply English concepts such as writing informative texts when documenting the design process and articulating goals.
3. Use mathematical concepts, such as applying proportional reasoning and scaling to understand image scaling, aspect ratios, and resolution adjustments in digital media.

E. The student demonstrates the necessary skills to record, edit, and mix audio at a professional level using Avid Pro Tools, or when Pro Tools is unavailable, Audacity for comparable multitrack tasks. The student is expected to:

1. Configure and optimize a Pro Tools or Audacity session, including selecting appropriate sample rates, bit depths, and I/O settings to support high-fidelity audio recordings.
2. Demonstrate multi-track recording techniques, such as layering vocals, instruments, and sound effects, ensuring clean signal flow and minimizing noise.
3. Apply advanced audio editing tools (e.g., elastic audio, pitch correction, crossfades) to refine performances and transitions for clarity and impact.
4. Integrate mixing fundamentals (e.g., EQ, compression, automation, reverb) to create a polished, balanced mix, preparing students for Avid Pro Tools Certified User requirements while reinforcing transferable workflows mastered in Audacity.

F. The student demonstrates the necessary skills to design and animate compelling motion graphics while integrating advanced visual effects. The student is expected to:

1. Apply compositing and layering techniques (e.g., keying, masking, track mattes) to seamlessly merge multiple visual elements into a cohesive scene.
2. Animate text, shapes, and images for titles, lower thirds, and brand graphics, experimenting with easing, keyframes, and motion paths to create professional animations.
3. Utilize 3D workspace features (cameras, lights, 3D layers) to enhance depth and realism, reflecting an advanced skill set aligned with Adobe Certified Professional: After Effects standards.
4. Incorporate effects and presets (e.g., color correction tools, particle systems, transitions) to achieve cinematic visuals and dynamic storytelling.

G. The student demonstrates the necessary skills to plan and carry out multi-camera and streamed video productions using school-level resources, while collaborating efficiently in post-production workflows. The student is expected to:

1. Plan and operate basic multi-camera shoots (e.g., live morning announcements, concerts, or sports), practicing camera placement, tally/communication signals, and simple live-switching or editing-in-post techniques for smooth scene transitions.
2. Design lighting setups that enhance storytelling, selecting gels or LED color settings to establish mood and focus; explore introductory DMX or simple console controls where equipment is available.
3. Apply entry-level streaming or recording settings, comparing common codecs (H.264, H.265), bit-rate presets, and frame-rate choices to balance visual quality with upload bandwidth for school broadcasts or online platforms.
4. Organize shared post-production projects by establishing file-naming conventions, folder structures, and basic revision-tracking (e.g., cloud-sync comments or timeline versions) to keep team edits aligned and efficient.
5. Select and justify master-file deliverables—choosing professional mezzanine codecs (e.g., ProRes 422, DNxHR HQ), constant/variable bit-rates, broadcast cadences (23.976 p, 29.97 i, 59.94 p), and wrappers (MOV, MXF)—and evaluate how these settings affect downstream transcodes, QC, and viewer playback across broadcast, OTT, and archival platforms.

H. The student demonstrates the necessary skills to evaluate new technologies, address ethical considerations, and incorporate them effectively into video and audio production. The student is expected to:

1. Explore emerging AI-driven tools (e.g., auto-captioning, generative visuals, intelligent color matching) and assess potential benefits and ethical concerns in production.
2. Evaluate intellectual property and licensing issues, ensuring all music, images, and footage used in advanced productions comply with legal and ethical standards.
3. Recognize evolving broadcast regulations (e.g., closed captioning mandates, streaming content guidelines) and integrate them into media distribution plans.
4. Examine trends in immersive experiences (VR, AR, 360° video), investigating how lighting, sound design, and storytelling adapt to these formats.

I. The student demonstrates the necessary skills to synthesize technical expertise with strong communication, leadership, and problem-solving, preparing for high-level certifications and industry expectations. The student is expected to:

1. Present complex project proposals and final deliverables through clear written, visual, and oral communication, catering to diverse audiences (clients, peers, instructors).
2. Employ advanced analytical and mathematical concepts (frame rates, timecode calculations, synchronization offsets) to refine editing and mixing precision.
3. Lead production teams in setting goals, assigning roles, and resolving conflicts, demonstrating professional ethics and accountability.
4. Curate a specialized digital portfolio, showcasing advanced audio mixes (Pro Tools) and dynamic motion graphics (After Effects), reflecting readiness for Avid Pro Tools Certified User and Adobe Certified Professional: After Effects exams.

J. The student demonstrates advanced live/broadcast audio integration. The student is expected to:

1. Configure networked audio where available (e.g., school-safe Dante/USB audio interfaces) for stage-to-control-room routing.
2. Implement redundant recording (board mix + camera scratch + handheld backup) and reconcile in post using timecode/markers.
3. Evaluate room acoustics and propose practical treatment for school venues to improve speech intelligibility and musical clarity.

K. The student pursues an advanced specialization pathway and produces a capstone-quality project. The student is expected to:

1. Select one specialization pathway—Broadcast Audio, Live Events (FOH/Monitors), Studio Recording, or Post-Production Sound—and submit a written proposal with scope, timeline, crew/roles, equipment list, and success criteria.
2. Plan and execute the capstone production using industry-standard practices for the chosen pathway (e.g., tech rider/stage plot and input list for Live Events; session plan and cue mixes for Studio; dialogue edit/SFX/Foley/stems for Post; intercom/IFB and mix-minus for Broadcast).
3. Apply advanced techniques appropriate to the pathway (e.g., loudness targets and mix-minus for Broadcast; PA coverage choices and monitor mixes for Live Events; multitrack recording and comping for Studio; noise reduction, EQ, dynamics, and deliverable stems for Post).
4. Deliver professional artifacts for assessment, such as: finalized mix/master, stems, program/ISO records, session files, presets/scenes, and a 1–2 page process document explaining key technical and creative decisions.
5. Demonstrate quality control using checklists (routing, timecode/sync, redundancy, file integrity) and resolve issues using structured troubleshooting.
6. Reflect on outcomes with a brief retrospective connecting learning to industry roles, certifications, and next steps (internship, portfolio, credential).

L. The student collaborates across disciplines to integrate video and audio workflows in a live, live-to-tape, or multi-deliverable production. The student is expected to:

1. Form a cross-discipline team (e.g., Broadcast/Live-sound student with Multi-camera Director/TD; Post-sound student with Picture Editor/Mograph lead) and define responsibilities, communication protocols, and handoffs.
2. Integrate systems and roles by coordinating audio-to-switcher/encoder routing, intercom/IFB, timecode or slate sync, and camera/record feeds to meet both live and post needs.

3. Meet platform standards (e.g., school broadcast/stream loudness and captioning guidelines; aspect-ratio/adaptation for web/social) and verify on PA, stream return, and recorded outputs.
4. Produce dual deliverables—one live (e.g., PA/stream with board mix) and one post (e.g., polished edit with final mix/stems)—and submit accompanying documentation (stage plot/input list, call sheet, scene/patch files, presets).
5. Manage risks and redundancy (backup power/media, secondary audio record, failover plan) and log changes during rehearsal and show.
6. Conduct a post-mortem evaluating team communication, technical choices, and workflow efficiency; propose at least two improvements aligned to industry best practices.