Maryland
STATE DEPARTMENT OF EDUCATION

Program of Study Guide: Video and Audio Production - DRAFT

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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DOCUMENT HISTORY

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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-IV 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-IV 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

5. **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

Course Descriptions

Course Level	Course Information	Description
Required Core: Course 1	Video and Audio Production I SCED: <XX> 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.
Required Core: Course 2	Video and Audio Production II SCED: <XX> 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: <XX> 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.

Course Level	Course Information	Description
Optional Flex: Course 2	Career Connected Learning I SCED: <XX> Grades: 11-12 Prerequisite: Video and audio production I and II Credit: 1	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 practice. 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: <XX> Grades: 11-12 Prerequisite: Career Connected Learning I Credit: 1	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 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 Work-Based Learning

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.

Work-Based Learning Examples and Resources		
Video and audio production I: **Career Awareness**	**Video and audio production II:** **Career Preparation**	**Flex Courses:** **Career Preparation**
• 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 • Paid and Unpaid Internships	• Paid and Unpaid Internships • Apprenticeships

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 Wage[1]	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). *Note: A 25th percentile hourly wage of $24.74 or greater is required to meet this definition.*	**Standard Occupational Code:** 27-4032: Film and Video Editors **Hourly Wage/Annual Salary:** 25th Percentile: $28.60 / $59,488.00 50th Percentile: $37.83 / $78,686.00 75th Percentile: $60.24 / $125,299.00
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 405 openings between 2024-2029.	**Annual Openings**

[1] Living Wage Calculator: https://livingwage.mit.edu/states/24

Labor Market Information Data Source

Lightcast Q4 2024 Data Set. 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). 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.

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 rations, and resolution adjustments in digital media.

E. **The student demonstrates the necessary skills to understand the scope and context of media production and broadcasting, including ethical use of emerging technologies. The student is expected to:**
   1. Identify historical and contemporary trends in film, television, radio, streaming, and podcasting, recognizing how technological advancements (e.g., artificial intelligence tools) shape audience engagement.
   2. Examine the ethical responsibilities of media producers and broadcasters, including the importance of fact-checking, fair use, and respectful use of copyrighted materials.
   3. Compare various roles (director, producer, cinematographer, sound engineer) involved in video and audio production, noting how these roles collaborate during the content creation process.

F. **The student demonstrates the necessary skills to utilize Adobe Photoshop and Illustrator for creating and editing visual content that supports video and audio production. The student is expected to:**

1. Practice basic image editing techniques (e.g., cropping, color correction, layer management, and filters) in Photoshop, adhering to industry-standard file formats and resolution requirements.
2. Develop vector graphics in Illustrator, applying concepts of shape, line, color theory, and typography to create design elements for titles, lower thirds, and branding.
3. Apply composition and layout principles (e.g., rule of thirds, alignment, balance) when designing graphics for use in video overlays, end screens, or promotional materials.
4. Demonstrate proper file management, organization of assets, and understanding of color modes (RGB, CMYK) *and foundational digital file formats and compression concepts* (e.g., JPEG vs. PNG for images; WAV vs. MP3 for audio; MP4 vs. MOV for video) to prepare students for codec and export decisions introduced in Course II.

G. **The student demonstrates the necessary skills to plan and structure video and audio projects effectively. The student is expected to:**
   1. Develop concepts and story outlines, using brainstorming and scriptwriting techniques to establish clear narratives or key messaging.
   2. Create basic storyboards and shot lists that demonstrate scene sequencing, camera angles, and transitions, considering the final editing workflow (e.g., in Premiere Pro or DaVinci Resolve).
   3. Collaborate in project teams to assign roles and responsibilities, ensuring efficient communication of production goals and deadlines.
   4. Explore basic budgeting and resource planning, recognizing cost factors (equipment, software, talent) that influence production decisions.

H. **The student demonstrates the necessary skills to apply foundational lighting and sound techniques crucial to media production. The student is expected to:**
   1. Identify basic lighting setups (e.g., three-point lighting) and the purpose of key, fill, and back lights to enhance the aesthetic and storytelling of video content.
   2. Recognize the impact of color temperature, shadows, and contrast on both subject appearance and thematic tone.
   3. Examine audio basics, including microphone types, placement, and ambient sound considerations, in preparation for more advanced audio editing (Audition or Pro Tools) in future courses.
   4. Demonstrate safe equipment handling and proper organization of cables, lights, and audio devices, following industry-recommended procedures to prevent accidents or damage.

I. **The student demonstrates the necessary skills to follow safety protocols, maintain ethical standards, and stay informed on emerging technologies in video and audio production. The student is expected to:**
   1. Comply with local and federal regulations regarding on-set and studio safety, including electrical safety, tripping hazards, and personal protective equipment (PPE) when necessary.
   2. Maintain responsible digital citizenship when sourcing, editing, and distributing multimedia content, respecting intellectual property and privacy laws.
   3. Investigate emerging technologies (e.g., AI-driven editing tools, virtual production, live streaming platforms) for potential integration into media projects.
   4. Discuss cybersecurity considerations such as secure file sharing, data privacy, and secure digital collaboration for production teams.

J. **The student demonstrates the necessary skills to blend core academic knowledge and professional competencies for success in media production environments. The student is expected to:**
   1. Employ clear written and verbal communication skills to pitch ideas, provide feedback, and document production processes (e.g., proposals, treatment outlines, reflective critiques).
   2. Apply mathematical concepts (proportions, aspect ratios, timecode calculations) to edit images, videos, and sound within various frame sizes and timelines.
   3. Collaborate effectively in diverse teams, demonstrating punctuality, professionalism, and accountability to meet project deadlines.
   4. Develop a personal digital portfolio of early production work (e.g., practice footage, edited images, graphic designs) to track skill growth and prepare for future certifications.

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.

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 rations, 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. Employ nonlinear editing techniques using industry-standard software (e.g., Adobe Premiere Pro, DaVinci Resolve), applying timeline manipulation, trimming, transitions, and effects.
2. 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.
3. Incorporate motion graphics and titling to enhance visual communication, ensuring text clarity and design cohesion aligned with project goals.
4. Analyze and select export settings—including video codec, bit-rate, frame cadence (interlaced vs. progressive), and file wrapper/container (e.g., .mov, .mp4)—to meet technical specifications for broadcast, streaming, or social-media delivery.
5. Explain how codec choice, bit-rate, cadence, and wrapper affect compression efficiency, playback quality, and audience experience across broadcast and online platforms, balancing file size with visual fidelity.

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. Edit and enhance audio tracks in Adobe Audition, applying noise reduction, equalization (EQ), compression, and normalization to maintain consistent levels.
3. 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.
4. 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 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.

H. 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.

I. 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.

J. 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. Refine a personal digital portfolio with intermediate-level video and audio projects, reflecting readiness for upcoming certification exams (Premiere Pro, Audition, DaVinci Resolve).

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. 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. 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 rations, 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. The student is expected to:**
1. Configure and optimize a Pro Tools 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.

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 manage and execute larger-scale video and audio projects, reflecting professional broadcast and streaming standards. The student is expected to:**
   1. Coordinate multi-camera shoots (e.g., live events, studio broadcasts), employing switching and synchronization strategies for seamless on-screen transitions.
   2. Develop advanced lighting setups, integrating color gels, DMX-controlled fixtures, and scene-specific lighting designs to set mood and focus.
   3. Implement advanced recording, streaming, and mastering workflows—selecting appropriate mezzanine and master codecs (e.g., ProRes, DNxHR, H.264/AVC, HEVC), variable- vs. constant-bit-rate schemes, cadence options (23.976 p, 29.97 i, 59.94 p), and wrappers (e.g., MXF, MOV)—to satisfy broadcast networks, OTT services, and archival requirements.
   4. Manage collaborative post-production workflows, including shared project files, remote editing setups, and version control, ensuring efficiency and team coordination.
   5. Evaluate how export variables (codec, bit-rate, cadence, wrapper) influence downstream transcodes, QC processes, and viewer playback on diverse devices, applying this knowledge to deliverables for both broadcast and online audiences.

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.

Course Standards: Career Connected Learning I and II

Career connected learning is an educational approach that integrates classroom instruction with real-world experiences, enabling high school students to explore potential careers and develop relevant skills before graduation. By participating in work-based learning opportunities—such as apprenticeships, internships, capstone projects, and school-based enterprises—students apply academic concepts in authentic settings, gain practical industry knowledge, and build professional networks. This hands-on engagement helps students connect their studies to future career paths, strengthens their problem-solving and communication skills, and supports a smoother transition into college, vocational programs, or the workforce.

All Career and Technical Education Programs of Study include aspects of work-based learning, and almost all of the programs include two Career Connected Learning (CCL) courses. Below are the course descriptions for CCL I and CCL II. The CCL standards can be found via this link: