

Florida Department of Education
Curriculum Framework

Program Title: Music and Sound Production Technology
Career Cluster: Arts, A/V Technology and Communication

AS	
CIP Number	1650091300
Program Type	College Credit
Standard Length	64 credit hours
CTSO	SkillsUSA
SOC Codes (all applicable)	27-4011- Audio and Video Equipment Technicians 27-2041- Music Directors and Composers 13-1011- Agents and Business Managers of Artists, Performers, and Athletes 27-4014 - Sound Engineering Technicians 27-4012 - Broadcast Technicians
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml

Purpose

The purpose of this program is to prepare students for employment in music production occupations or to provide supplemental professional training for persons previously or currently employed in this field. The content includes, but is not limited to, instruction that prepares individuals for positions such as music directors, singers, composers, sound engineers, producers, programmers, salespeople (retail), manufacturer’s representatives, consultants, music editors, sound designers, sound systems designers, audio assistants, audio technicians, a/v technicians, studio managers/supervisors, archivists and related workers. This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the Music and Sound Production Technology industry: planning, management, finance, technical and product skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Arts, A/V Technology and Communication career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Arts, A/V Technology and Communication career cluster.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 64 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

- 01.0 Demonstrate knowledge of basic musical skills.
- 02.0 Demonstrate competence in basic musical instrument skills.
- 03.0 Demonstrate application of control protocols and their relationship to equipment used in the music industry.
- 04.0 Demonstrate set-up and configuration of a computer for audio applications.
- 05.0 Understand the operation of basic reproduction, reinforcement and recording audio equipment.
- 06.0 Demonstrate understanding of requirements for set up and operation of a sound reinforcement system.
- 07.0 Perform transactions with music industry suppliers.
- 08.0 Demonstrate management skills.
- 09.0 Demonstrate knowledge of the legal issues of copyright and contracts.
- 10.0 Demonstrate employability skills.
- 11.0 Demonstrate an understanding of entrepreneurship.

Florida Department of Education
Student Performance Standards

Program Title: Music and Sound Production Technology
CIP Number: 1650091300
Program Length: 64 credit hours
SOC Code(s): 27-4011, 27-2041, 13-1011, 27-4014, 27-4012

Refer to Rule 6A-14.030 (4), F.A.C., for the minimum amount of general education coursework required in the Associate of Science (AS) degree. At the completion of this program, the student will be able to:

01.0	Demonstrate knowledge of basic musical skills. The student will be able to:
01.01	Demonstrate knowledge of musical structure.
01.02	Analyze the style, structure, and technical content of selected written and performed music.
01.03	Apply listening skills for hearing live and recorded music.
01.04	Identify performance characteristics of musical instruments.
02.0	Demonstrate competence in basic musical instrument skills. The student will be able to:
02.01	Demonstrate basic knowledge of scales and chord structure.
02.02	Follow basic musical notation.
02.03	Demonstrate basic knowledge of a musical instrument.
03.0	Demonstrate application of control protocols and their relationship to equipment used in the music industry. The student will be able to:
03.01	Demonstrate an understanding of Musical Instrument Digital Interface (MIDI).
03.02	Demonstrate proficiency in using MIDI instruments to record sounds using a digital sampler.
03.03	Utilize a computer and multiple MIDI instruments.
03.04	Record a single sound track; add multiple sound tracks, and change MIDI voices using the software.
03.05	Demonstrate an understanding of MIDI and other control protocol in the recording studio.
03.06	Configure MIDI and other show control devices in the studio or live environment.
03.07	Troubleshoot MIDI and control communication problems.

04.0	Demonstrate set-up and configuration of a computer for audio applications. The student will be able to:
04.01	Install and configure software related to audio programs.
04.02	Demonstrate basic knowledge of computer system requirements.
04.03	Install basic peripheral devices related to audio programs.
04.04	Demonstrate working knowledge of digital multitrack transmission systems such as MADI, and of Audio over IP such as DANTE.
04.05	Configure a digital audio matrix.
04.06	Configure multichannel digital input and output (I/O) interfaces.
04.07	Setup and configure cloud-based recording and collaboration systems.
04.08	Configure digital project studio systems.
05.0	Understand the operation of basic reproduction, reinforcement and recording audio equipment. The student will be able to:
05.01	Assess the audio technology needs of a music production (Pre-Production).
05.02	Appraise musical and other types of sound needs of client (personnel, hardware, software, etc.).
05.03	Evaluate available audio resources.
05.04	Select and configure appropriate hardware and software.
05.05	Develop a production plan to meet client needs.
05.06	Manage personnel and technical resources for the execution of the project.
05.07	Evaluate the final project for quality and appropriateness.
05.08	Formulate strategies for producing multi-track recording.
05.09	Evaluate production needs for microphone applications.
05.10	Demonstrate proficiency with multi-track, multi-channeled mixing consoles.
05.11	Formulate strategies for electronic editing.
05.12	Formulate strategies for multi-track recording to industry standards.
05.13	Configure audio recording systems for optimal and appropriate use of signal processing equipment.

05.14	Develop strategies for using MIDI and other control protocols.
05.15	Engineer a recording session and prepare appropriate documentation.
05.16	Mix multi-track recordings in a variety of multichannel audio formats, from 2-channel stereo to high channel counts like 5.1, 7.1 and 9.1.
05.17	Configure audio equipment for optimal musical and other types of sound mix.
05.18	Create a mixing plan.
05.19	Evaluate the quality of multi-track recording.
05.20	Interpret audio needs for end user.
05.21	Supervise equipment operator.
05.22	Evaluate quality of the final mix to industry standards.
05.23	Produce deliverables to fulfill client and project needs, in accordance to Industry standards.
06.0	Demonstrate understanding of requirements for set up and operation of a sound reinforcement system. The student will be able to:
06.01	Demonstrate basic understanding of audio electroacoustic concepts (e.g., headroom, biasing, distortion, equalization, frequency response, etc.).
06.02	Demonstrate basic understanding of electronics (Ohm's Law, Power equation, resistivity and conductivity, Impedance, etc.).
06.03	Demonstrate a good understanding of the decibel as a relative scale, and the differences and conversions of the different types of decibel used in the industry (dB SPL, dBu, dBV, dBFS, etc.), along with the different standard reference levels (-18 dBFS EBU, -20 dBFS SMPTE, +4 dBu VU, etc.).
06.04	Demonstrate basic understanding of acoustics.
06.05	Demonstrate knowledge of principles of operation of analog/digital devices (block diagram).
06.06	Demonstrate basic understanding of audio signal flow in an analog or digital chain.
06.07	Formulate strategies for audio reinforcement of music productions.
06.08	Evaluate performance needs.
06.09	Evaluate technical needs as appropriate to given spaces.
06.10	Configure a sound reinforcement system to meet performance needs.
06.11	Analyze various audio qualities to achieve proper sound mix.

06.12	Perform transactions with audio suppliers.
06.13	Design a plot for proper microphone and speaker selection and placement.
07.0	Perform transactions with music industry suppliers. The student will be able to:
07.01	Research sources for needed equipment, supplies and educational materials.
07.02	Differentiate the levels of quality in the hierarchy of manufacturers, distributors and suppliers.
07.03	Evaluate purchasing agreements including bids, warranties, and maintenance contracts.
07.04	Evaluate the technical specifications of audio related products.
07.05	Execute the purchase of audio equipment, supplies and educational materials.
08.0	Demonstrate management skills. The student will be able to:
08.01	Organize scheduling for live music performances.
08.02	Organize scheduling for recording sessions.
08.03	Develop and manage budgets for musical events (performance sessions and equipment).
08.04	Manage live musical performances.
08.05	Manage sound and music recording sessions.
08.06	Demonstrate understanding of music and sound production audio personnel hierarchy.
09.0	Demonstrate knowledge of legal issues of copyright and contracts. The student will be able to:
09.01	Define and implement contractual agreements with unions, agents, managers and other representatives of the commercial music production industry.
09.02	Evaluate and apply copyright and licensing laws.
09.03	Identify potential music marketing areas and manage product distribution.
09.04	Recognize the right of artists and employ successful negotiation of contractual agreements.
10.0	Demonstrate employability skills. The student will be able to:
10.01	Create and write a résumé and cover letter.
10.02	Prepare and compile a work portfolio, demo, and/or recording.

10.03	Identify acceptable work habits.
10.04	Demonstrate competence in job interview techniques.
10.05	Formulate strategy for post-graduation.
10.06	Generate a career plan.
10.07	Demonstrate knowledge of the Federal Hazard Communication regulation 29 CFR 1910.1200.
11.0	Demonstrate an understanding of entrepreneurship. The student will be able to:
11.01	Define entrepreneurship.
11.02	Describe the importance of entrepreneurship to the American economy.
11.03	List the advantages and disadvantages of business ownership.
11.04	Identify the risks involved in ownership of a business.
11.05	Identify the necessary personal characteristics of a successful entrepreneur.
11.06	Identify the business skills needed to operate a small business efficiently and effectively.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Career and Technical Student Organization (CTSO)

SkillsUSA is the intercultural career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Audio Electronics Specialist (0610020301) – 24 credit hours

Audio Technology (0610020303) – 15 credit hours

Digital Music Production (0610020304)– 12 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Additional Resources

For additional information regarding articulation agreements, Bright Futures Scholarships, Fine Arts/Practical Arts Credit and Equivalent Mathematics and Equally Rigorous Science Courses please refer to:

<http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml>