BOCES SOUTHERN WESTCHESTER

Grade Levels	Twelve
Subject Area	Sound Production Program – Year Two

5/19/16

	September	October
Topic	Orientation Review of Year 1 Audio Production Begin Business Plan Begin Year 2 Project # 1 Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.	Engineering Producing for an Artist Advanced Pro tools & Audio Production Techniques Finish Project 1 Self &/or Talent Acquisition Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.
Concept/Skills	Review of sound theory from year one Using Pro Tools, create a recording session, using microphone techniques & stereo pickup patterns, such as: X-Y, ORTF (French Broadcasting Organization) or A-B, NOS (Dutch Broadcasting Foundation), MS (Mid-Side) and Spaced. Using Pro Tools in created recording session Researching/ writing the mission statement Researching/description of target demographic	Understand differences between an engineer producing a "mix" & producer *managing* an artist Different styles of producing: ex. self; limited mgmt.; art of managing one or more artists Concepts & construction of contract vs. agreement Using advanced software/ hardware consoles techniques to increase session workflow. Techniques and differences of "mixing" sound through "in the box" (consolidation; time frames/ codes; strip silence; grouping; beat detective) & "Out of the box" mixing: Familiarization w/ adv. functions of control surface
ELA Skills Integration	Content vocabulary: - compression, gain, rarefaction, waveform, amplitude, pitch, harmonics & volume - CCLS ELA L 4, 6 Written report re: recording session using Pro Tools & microphone techniques - CCLS ELA W 1, 2, 4, 5, 6 Research mission statements & create own statement - CCLS ELA RI 2, 4; W 2, 4, 6, 7 Descriptive paragraph re: target population characteristics - CCLS ELA W 2, 4, 7, 8	Content vocabulary: - consolidation, automation, strip silence, beat detective & real-time vs. audio suites plug-ins - CCLS ELA L 4, 6 Compare/ contrast essay re: construction of a contract vs. an agreement between a producer & an artist – CCLS ELA RI 1A, 4, 5; W 1, 2, 4, 5, 7, 8 Group discussion & class presentation of differences between self/limited management of an artist and managing more than one artist – CCLS ELA RI 4; W 7, 8; L 1, 6; Sp/L 1, 2, 4
Science Skills Integration Acoustics	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.1; 4.3.2 Compare characteristics of a waveform when recorded through various stereo pickup patterns p. 12 Compare characteristics of gain vs. volume	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.5; 4.3.6 Determine speed of sound in air; predict superposition of 2 waves interfering constructively & destructively p. 12 Determine proximity effect of instrument recording to predict phasing issues
Assessment	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts

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	November	December
Topic	Advanced MIDI techniques & Applications Begin Year 2 Project # 2 Begin Cash Flow Techniques in Business Plan Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.	The Business & Law of Audio Production Complete Project # 2 Completing & Printing the Contract Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.
Concept/Skills	Basic MIDI: (ex. Composition & music printing) MIDI Concepts/ Techniques: (ex. Multi-track recordings; transferring MIDI to audio tracks; editing control values) MIDI Applications: (ex. Sequencing in software & in hardware sessions) Re: Cash flow – Understand the basics of income & expenses for balancing cash flow in ongoing financial statements Research differences in the cost (charges & expenses) of different types of sessions in a studio – ex. Pre-production, tracking, editing, mixing, mastering & post-production sessions	Using case law as an opening point of discussion, students explore Audio Production law in terms of ongoing interpretations of legal avenues employed to protect business investments (ex. studio production houses, client contractual obligations/ rights) In-depth case studies of intellectual properties, such as copyright infringes; effects of copyright on the industry (ex. royalty fees/ percentages, contractual fees, collection of royalties) Student pairs research, write & print a contract that delineates each participant's (producer's & talent's) obligations & rights. (N. B. If *"self"* is the talent, then contract is between the student & teacher)
ELA Skills Integration	Content vocabulary: MIDI echo, daisy chain, step time entry, score, notation, transposition, note duration, MIDI messages & velocity values - CCLS ELA L 4, 6 Research & written report on Musical Instrument Digital Interface that includes history of MIDI; sequencing of MIDI in software/ hardware sessions, as well as reasons for varying costs (charges & expenses) in different types of studio sessions when using MIDI - CCLS ELA RI 1, 2, 8; W 2, 4, 5, 7, 8 & presentation of evidence to group - ELA Sp/L 1, 2	Content vocabulary: Act, agreement vs. contract, amendment, rights, royalties, fees, publishers (ASCAP, BMI), designation, creative commons, intellectual properties, infringement & license. - CCLS ELA L 4, 6 Student pairs research, write & print a contract that delineates each participant's (producer & talent) obligations & rights. (N. B. If *"self"* is the talent, then contract is between the student & teacher) - CCLS ELA RI 1, 1A, 4, 8; W 1, 2, 4, 5, 6, 7, 8; Sp/L 1, 2
Science Skills Integration Acoustics	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.3; 4.3.4- Understand that the model of a wave incorporates the characteristics of amplitude, wave length, frequency, period, wave speed & phase- p. 12 Be able to explain that mechanical waves require a material medium through which to travel – p.12	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.3; 4.3.4 contd. Understand that the model of a wave incorporates the characteristics of amplitude, wave length, frequency, period, wave speed & phase contd. - p. 12 Be able to explain that mechanical waves require a material medium through which to travel contd. – p.12
Assessment	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts

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	January	February
Topic	Safety Techniques & Studio Gear Management Review/ Continuation of Business Plan Begin Year 2 Project # 3 Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.	Basic Soldering & Connection Techniques Complete Year 2 Project # 3 Promotion of Product/ Business Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.
Concept/Skills	Review & understand detailed concepts & safety principles such as: Proper studio shutdown; internal electrical management of sound gear; troubleshooting a short or a power surge/ failure in order to extend the working life of studio hardware. Understand & be able to explain internal gear parts & their uses (ex. capacitators, & pre-amplifiers, convertors) Understand & be able to explain proper upkeep & cleanup procedures Conduct advertising research re: ways to publicize the business & write up possible strategies	Understand & practice connection & repair of cables/ connection heads (ex. XLR, TRS, RCA) Knowledge & understanding of uses soldering tools; electrical safety, signal chain & soldering techniques Promotion of the product: 4 Ps of marketing (ex. price, place, product, promotion) Use of 4 Ps to design an ad that appeals to personal demographics Develop a procedure for distribution of completed ad
ELA Skills Integration	Content vocabulary: amplifiers, converters, IEC cable, capacitors, current, voltage, power conditioner & metering. - CCLS ELA L 4, 6 Students conduct advertising research re: ways to publicize the business & write up possible strategies & write a report on findings re: personal projects- CCLS ELA RI 2, 3, 4, 7, 8; W 1, 2, 4, 6, 7, 8	Content vocabulary: cable(s), connection heads, product, promotion, solder, [soldering]: CCLS ELA L 4, 6 Research/ outline/ report on demographics for business plan ad – CCLS ELA RI 1A, 4, 7; W 1, 2, 4, 5, 6, 7, 8 Procedural essay re: Steps in distribution of 4 Ps ad – CCLS ELA RI 1, 1A, 4, 8; W 1, 2, 4, 5, 6, 7, 8 Presentation of completed ad & reasons for inclusion of ad components based on personal business plan demographics – CCLS ELA Sp/L 2, 4, 5
Science Skills Integration Acoustics	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.1.1; 4.1.5 Describe/ explain differences between electrical energies (wattage/ voltage/ amperage) & its effects on studio hardware and the process of recording a waveform. p. 12	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.1.8; 4.1.9 Measure data / electrical input & output of audio cable; Use measurement to determine circuit completion between analog & digital input/output - p. 12
Assessment	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts

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	March	April
Topic	Monitoring & Surround Sound Techniques Advanced Microphone Placement Techniques Begin Year 2 Project # 4 Review of 4 Ps of Marketing Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.	Sound Reinforcement Pt. 2 Complete Year 2 Project # 4 Review Business Plan Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.
Concept/Skills	Develop deep knowledge/ understanding of speaker & room monitoring considerations Develop knowledge of theater & surround sound properties through a review of psychoacoustics - Ex: Far field/ near field event monitoring Perception of speaker polarity Differences between Surround Sound & theater (plus & minus Low Frequency Effects [LFE]) Re: Development of microphone placement techniques – (ex. transient response, phasing, surround microphone placement) Instruction in genre, theoretical & creative microphone placement for instruments, broadcast & Foley effects Understand customer motivation re: Sound studio selection Financial concerns: Where will capital be obtained? How will it be used? Research/ listing of items to be purchased (w/ explanation of reasons for purchase & intended use)	Review of all sound reinforcement & psychoacoustics to date Through construction of a diagram, each student will create a personal/ individual acoustical space using differing treatments (ex. diffusing panel, absorbing/ dispersion boards, troubleshooting options) Personal & professional spaces include: home studios, production houses, editing rooms Business Plan: Review financial statements, including: List of variable & fixed assets Long term (ex. lease) & short term liabilities Owner's equity Profit/ loss balance sheet (monthly income & expenses statement(s)
ELA Skills Integration	Content vocabulary: genre, motivation, psychoacoustics, speaker polarity, surround sound, transient response, - CCLS ELA L 4, 6 Research, group discussion & written report re: methods of obtaining start-up capital amount(s) needed – CCLS ELA RI 1, 1A, 8; Sp/L 1, 2, 3; W 1, 2, 4, 5, 6, 7, 8	Content vocabulary: absorbing board, assets, diffusing panel, dispersion board, equity, financial, lease, liability - CCLS ELA L 4, 6 Written report on description & construction of personal acoustical space, using chosen room types & treatment solutions – CCLS ELA W 1, 2, 4, 5, 6, 8
Science Skills Integration Acoustics	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.1.10; 4.1.11; 4.3.7. p. 12 Interpret voltage and current graph readings of two electrical ports & the electrical noise generated using a regular power outlet & studio power conditioner. Measure the resistance of both power outlet conductors and compare the behavior of a waveform when put through each electrical outlet stimulant.	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.6; 4.3.7 Predict position & refraction of standing wave in a room/ area; observe behavioral shifts of parallel wave vs. flutter echo, p. 12
Assessment	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Teacher rubric review of monthly demo of application of monthly topics	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Teacher rubric review of monthly demo of application of monthly topics

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	May	June
Topic	Production of Personal Work (Self Production) Completion of Business Plan Begin Music Post-Production Portfolio (Demo Reel) Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.	Mastering/ Completion of Part 2 Completion of Music / Post Production Portfolio (Demo Reel) Hosken, D. (2015). *An introduction to music technology, 2nd. Ed.* New York: Routledge Press Huber, D. & Runstein, R. (2014). *Modern Recording Techniques, 8th Ed.* Burlington, MA: Focal Press.
Concept/Skills	Understanding of elements necessary for self- production as an artist (includes career goal plan & needed assets) Internalizing components necessary for self-production, including focus on time management, total image package, self marketing and advertising, self publishing, business entity & negotiating brand contract Start Demo Reel Project: Students will start looking over all of their projects in the last two years and create a compilation of all their work(s) in a 60 to 90 second video or music reel.	Additional mastering techniques: Methods of "fattening" sound regions Obtaining "punch" in the mix Using stems & M-S (mid side) mastering Employ techniques re: masking to achieve additional depth & dimension in a narrow and or overly compressed mix Review of final demo reel with teacher prior to submission : Presentation of video/ music reel to class & teacher committee Points to consider: Duration of 60 to 90 seconds, Showcasing of proprietary work, Technical Ability, no copyrighted material, individuality & proper audio levels.
ELA Skills Integration	Content vocabulary: elements, goal, self- production, time management - CCLS ELA L 4, 6 Create written dialogue/ narration / lyrics, etc. for individual video or music reel in preparation for presentation – CCLS ELA RL4, 5, 12, 13; W 2, 4, 5, 6, 8, 9 A	Content vocabulary: depth, dimension, fattening, punch, stems, mastery techniques, masking, sound regions - CCLS ELA L 4, 6 Presentation of completed video/ music demo reel to class & teacher committee (rubric scoring) – CCLS ELA Sp/L 2, 4, 5, 6; L 3B, 5, 6, 7
Science Skills Integration Acoustics	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.8 Draw wave diagrams on audio spectrogram to represent phasing issues in the reflection of a waveform - p. 12	NYSLS: Physics: Key Idea 4 (pp.12, 15-16) Physics/Acoustics: 4.3.9 - Determine start & solution of wave refraction by observing and collecting data through virtual audio spectrogram p.12
Assessment	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts	Daily teacher classroom observations of theoretical & practical individual & group work Weekly/ monthly written exercises Rubric review by teacher of monthly practical demonstration of knowledge/ application of monthly topics/ concepts

SW BOCES Center for Career Services
Sound Production Program
Course Outline – Years One & Two

Introduction:

The design of the Sound Production Program will be a work based learning curriculum by units of instruction and assignments. Since the sound program is sharing the space with the TV program, the day-to-day operations will be based on real life recording studios, production/editing studios and fieldwork. While the students begin with various operational functions found in typical recording and production facilities, they will also be taught the structure of business and how these facilities are managed and operated. Instructions such as copyright law, professional etiquette and technical skills will be a part of the system followed in the every day operation of their lab time.

Most commercial sound production facilities operate during a sporadic time schedule. Working early mornings and late nights, it makes it difficult to manage mimicking this facet of the audio production world. In response to this, we have a full-fledged sound production facility in conjunction with the TV department to bring the real life experience to the students. We have the latest hardware and software such as Pro Tools which is the standard audio software used in the industry. Having both programs together, we take advantage of giving the experience of creating music in a recording studio and or recording/editing sound footage for a documentary or short film. In other words we have made it possible to bring multiple professions into our facilities without the need of internships or job shadowing to receive real work experience. The purpose of the course is to give the students a well-rounded view of all aspects of sound work.

From the beginning, first year students are assigned various projects that are found in the industry. These projects will be based on pre chosen genres, themes or subject to help the creative process. Also, these will be multiple projects that will be repeated through the year. Examples of these projects are as follows.

Projects:

- **Music Production** – In this project first year students will choose a genre in which to create an original track. The student will create a layout or idea of what they want and the instructor will assist in being the head engineer. The role of assistant engineer, producer and editor for the project will be given to the student. They will assist in arranging the record, tracking, editing and mixing. Teaches them the basic ins and outs of a recording studio in every single position held. Other projects would involve bringing a band or talent, recording them in the studio and having each student create their own version of the same record.

- **Creating a Music Video** – Students in the sound program will collaborate with the TV students in order to create a music video. This will be from a track brought by the instructor or a popular record that the student must get approval from first. For first year students, they will leave the song in tact and create a story in between the video where they can record for pauses, create Foley actions and voice-overs. Second year students will create an original track or choose a mixed record per instructor's approval. They have full creative input in the video but must include as storyline or message, Foley, voice over and a remix or pause in the video.

- **Production of Public Service Announcements** – Students will work with the TV program to write, record and edit sound for public service announcements. This may include creating or recording original background music as well as editing and mixing sound sources after video has been locked. Again, the subject for the PSA will be chosen from a list of recommended themes.

- **Production of Radio Commercials** – In these project students will work together in pairs of two. They will choose a subject for a 60 second radio commercial. This is another assignment that requires the TV and Sound program to work together. One student will be tasked with managing the video and the other sound. They will write, perform and record original background music and perform voiceover narration. The student managing audio will then mix and master the project.

- **Film Post-Production** – One of the more involved and culminating projects for first year students is to replace the original soundtrack from film trailers. In this project they replace all music, sound effects and voices. They then have to create a script, track, edit, mix and master the finished project. This project reinforces what they have been learning all year but also teaches them more specific techniques on sound synchronization, Foley, ADR, original composition, voice over techniques and pedagogy, post production mix down and mastering.

- **Music and/or Post Production Portfolio (Demo Reel)** - This is a compilation of all of the students work. It will start from their first project until their last in their second year. They must create a 2-minute music or music video compilation of all their works in the program. This means mixing their projects together creating a cohesive view or sound of what they have accomplished. This is a requirement for showing your work for prospective career opportunities.

From the beginning of the first quarter, second-year students will utilize lab time as if they were operating their own business. Lab time will include advanced techniques from subjects learned in the first year but with students taking more of a leadership role in his or her projects. The first thing is to construct a proposal for the utilization of studio time, budget that time and organize project management for the project. They have to maintain tracking sheets and submit daily and weekly quarterly studio reports. They are taking the head engineer or director role by bringing in their own talent or subject. The same projects from last year will be performed but this time the entire idea or subject comes from the student. From planning to talent selection, they are responsible for the entire service provided in the project. Students have the option to work with another student as a partner in the business project. On occasion, members of bands or other talents will be brought in who want to participate in the program. By simulating real-life work-based learning experiences in-house, the student gains a more valuable experience with more in-depth exposure to various careers in the industry.

Evaluation Measures:

The instructor will perform daily observations as well as weekly and monthly written exercises and practical demonstrations of mastery knowledge of above objectives as a part of the course evaluation. Weekly quizzes will be handed out as part of their evaluation on the current subject being instructed. An oral and written presentation that includes a portfolio demonstration of all work serves as an additional evaluation measure.

General Program Instruction – Year Two

1. Orientation	5 Hrs.
2. Review of 1st Year Audio Production	50 Hrs.
3. Safety Techniques & Studio Gear Management Pt. 2	15 Hrs.
4. Basic Soldering & Connection Techniques	20 Hrs.
5. Advanced MIDI Techniques and Applications	50 Hrs.
6. Advanced Pro Tools & Audio Production Techniques	70 Hrs.
7. Sound Reinforcement Pt. 2	50 Hrs.
8. Monitoring & Surround Sound Techniques	60 Hrs.
9. Self-Producing	30 Hrs.
10. Engineering & Producing for Artist	40 Hrs.
11. Mastering Pt. 2	50 Hrs.
12. Advanced Microphone Placement Techniques	50 Hrs.
13. The Business & Law of Audio Production Pt. 2	50 Hrs.
Total Program of Study	**540 Hrs.**

Note: Even though each topic will be divided in the course overview by month, they will be on-going topics throughout the year.

Text:

Copyright Law of the United Sates (92nd circular). (2007). Washington, DC: United States Copyright Office.

Frascogna, Xavier M. & Hetherington, H. Lee. (2004). *The Business of Artist Management,* 4th ed. New York, NY: Billboard Books.

Hosken, D. (2015). *An Introduction to Music Technology, 2nd ed.* New York, NY: Routledge.

Huber, D. & Runstein, R. (2014). *Modern Recording Techniques,* 8th ed. Burlington, MA: Focal Press.

Katz, B. (2007). *Mastering Audio: The art and the science,* 2nd ed. Burlington, MA: Focal Press.