

Music & Sonic Arts

Program Review - Spring 2017



1. Program/Discipline Overview

A. Program Objectives

What are the educational goals or objectives of this program/discipline? How do these compare with national or professional program/discipline trends or guidelines? Have they changed since the last review, or are they expected to change in the next five years?

Located at PCC's Cascade Campus in Portland's "Music District," Music & Sonic Arts serves students who are exploring the limits of what is technologically and artistically possible through the creation of new sounds, new instruments, new methods of musical interaction with the computer, and new methods of music performance and composition.

In an environment that combines music, art, science, coding, and design, students develop tools that prepare them for leadership in artistic, technical, educational, entrepreneurial and research efforts.

In addition, students learn to value the contributions of people of diverse backgrounds and to imagine the important roles of music and technology in the advancement of equity and the creation of economically and culturally vibrant communities.

For economic and social reasons, many people with immense musical talent -- and often with deep, community-based exposure to music and musical performance -- lack formal musical training prior to college. For example, they may have attended schools without music programs and/or come from families without the financial resources to afford private music lessons or instruments and equipment. Also, many people with remarkable musical potential are not interested in or excited by Western classical music, which is the foundation of conventional academic music programs.

The Music & Sonic Arts program is designed for students with little or no academic musical experience and an interest in contemporary musical instruments and genres.

Music & Sonic Arts provides provides students instruction and practice in:

- music theory
- performance
- composition
- music history
- music technology
- music production
- recording
- creative coding

Music & Sonic Arts combines career-technical coursework, designed to prepare students for entry-level work in the music business, with lower division collegiate coursework, designed to prepare students for the pursuit of a four-year degree. Nationally, educational opportunities in electronic and computer music are sparse and tend to take two forms: 1) technical education in audio engineering and studio recording, in programs at for-profit colleges or in 2-8 week intensive workshops; or 2) research-oriented education in electronic composition, in programs at select four-year institutions. Music & Sonic Arts seeks to blend these two conventionally separated trajectories, offering both technical and academic education.

Our program is in a unique position to offer education in music and audio technology for a variety of students:

- students who wish to pursue collegiate education in music, but do not have the financial means to attend a four-year institution.
- students who wish to pursue education and a degree in music technology not currently offered at other community colleges or four-year institutions.
- students who are not initially prepared academically or financially to enter a four-year institution, but wish to transfer after 1-2 years at PCC.

We are committed to providing educational opportunities to community youth who do not have access to music technical education. We provide workshops and tutoring opportunities for high school students interested in starting a career in music and/or music technology, and we work with Portland high schools to set up their own music technology

programs. Through these efforts we provide clear pathways for high school students to begin college education and obtain a degree.

Music & Sonic Arts overhauled its program in the 2015-16 and 2016-17 academic years to align with its new educational goals. Changes include:

- Revision of existing less-than-one-year Certificate curriculum, focusing on more technical education in music recording, production and creation.
- Revision of 40% of existing courses to broaden and update the musical styles and technology studied, ensuring our courses serve our diverse student population.
- Development and launch of two-year AAS degree, which extends education and training provided by the revised Certificate and creates stackable degree options.
- Creation of 18 new courses within Certificate and AAS degree options to provide more technical and interdisciplinary educational opportunities for our students.
- Development and proposal of Creative Coding & Immersive Technologies Career Pathway Certificate to introduce students to coding for artistic purposes and provide training for opportunities in Portland's fast-growing DIY tech industry.
- Rebranding of the program and revision of marketing strategies to reflect changes in the artistic, academic and technical focus of the program, and to better reach potential students.

Over the next 5-10 years, Music & Sonic Arts will further develop the Creative Coding curriculum, expanding the proposed two-term certificate into one-year certificate and degree options. We will also continue to regularly revise and update curriculum to reflect industry standards, artistic and technical trends, and the needs of our student populations.

B. Program Changes

Briefly describe curricular, instructional, or other changes that were made as a result of SAC recommendations and/or administrative responses from the last program review?

As a result of administrative responses to the 2012 Program Review, Music & Sonic Arts has made the following changes:

- Coordinated with MUS SAC on inclusion of MUS offerings in both certificate and degree, continued conversations regarding MUC course offerings at Rock Creek Campus, and began work creating new MUS history courses to be offered by MUC and MUS programs;
- Coordinated advising efforts between MUC and MUS so students understand what each program offers in terms of curriculum, degree options, and potential transfer opportunities;
- Revised certificate outcomes and began annual assessment reports. We developed a SAC-wide process for completing annual assessment projects and we are using the results to determine how well students are meeting outcomes and how instruction can be changed to improve student outcomes;

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- Designed substantial revisions to the program’s course offerings, available degree options and overall focus, as listed above in section I.A.

2. Outcomes and Assessment

Outcomes and Assessment: Reflect on learning outcomes and assessment, teaching methodologies, and content in order to improve the quality of teaching, learning and student success.

A. Course-Level Outcomes

The college has an expectation that course outcomes, as listed in the CCOG, are both assessable and assessed, with the intent that SACs will collaborate to develop a shared vision for course-level learning outcomes

i. What is the SAC process for review of course outcomes in your CCOGs to ensure that they are assessable?

Since the program revisions described in section I.A, Music & Sonic Arts is creating a new process for annual assessment of course outcomes that involves SAC-wide participation. In the past, assessment was conducted in 2-3 courses taught by just 2-3 faculty members, was not consistently conducted each year, and was not consistently discussed with remaining SAC faculty members. As we have made substantial revisions to our CCOGs in the past two years and introduced several new courses to our program, we are concurrently developing a consistent approach to assessing course outcomes across our entire program.

We are a small SAC, but our program contains courses in a wide variety of specialized musical and music technology fields. Therefore individual instructors, who are experts in those specific subfields and who annually teach a course or course sequence, are the main resource for updating and revising course outcomes in response to changes in current technology and practice as well as feedback from ongoing student performance. While those revisions are proposed by the instructor(s) of a particular course, the revision process is discussed with the entire SAC in biannual meetings, and the SAC Chair ultimately maintains CCOG changes in Courseleaf, to ensure consistency within the SAC.

ii. Identify and give examples of changes made in instruction (on-campus and online as appropriate), to improve students’ attainment of course outcomes, or outcomes of requisite course sequences (such as are found in in MTH, WR, ESOL, BI, etc.) that were made as a result of assessment of student learning.

Our instructors frequently assess student's attainment of course outcomes through class participation, written and aural assignments, solo and group performance, creative projects and exams. Regular adjustments are made to the curriculum to ensure students’ success towards those outcomes, as illustrated by the following examples.

- **MUC 120 A/B/C - Sight Singing and Ear Training I/II/III**

At the beginning of the first term, the instructor hands out a survey asking students to describe their music experience, their education, as well as any career goals. Because we serve a diverse population and because most of our students have little

or no academic musical training, it's crucial to get an accurate assessment of each student's skill set. It's also important to create an open and supportive classroom community where students, regardless of ability, are valued. After many years of teaching this course, the instructor has found that providing this opportunity for students to share about themselves also helps reduce the anxiety they feel around singing, reading and writing music. The instructor can then adjust in-class activities and assignments to fit students' ability as they work toward attainment of course outcomes. Midway through each term, students are asked to write about the progress they're making and what is still unclear. Learning to read, sing, and notate music is a daunting task and students learn at different paces. Through each sequence, the instructor can change and adapt the curriculum so that all outcomes are attainable. One course outcome reads: "Students will be able to sing at sight major scale simple diatonic melodies using solfeggio." This year, towards the end the first term, students were struggling with this. The instructor added more in-class sight singing exercises with solfeggio so that students could accurately internalize the symbol (notation) with the sound (solfege). By the time of the final exam, students' sight singing had improved.

- **MUC 144/B Contemporary Singing I/II**

After reviewing classroom feedback and after review of course evaluations, the instructor made two adjustments to the curriculum: weekly writing assignments that documented specific work done as well as guidelines for time management. To successfully attain the outcomes for this class, lots of individual practice time is essential. Two outcomes are: "1. Students will be able to demonstrate basic vocal production and breath support." and "2. Students will be able to sing a variety of warm-up exercises." Self direction is key here and how students make use of their time determines their success towards these outcomes. Students had expressed concern about how to practice and how to use their time effectively. Each week, they were given a focus for that week's practice (e.g. breathing exercises, relaxation, describing what they liked about their singing, etc.). Students were instructed to record their practice time in journals which were due at the end of each week. In that end-of-the-week class, students would share their experiences about their practice: what worked and what didn't. The instructor would address each question or concern. This weekly discussion and in-class activity helped to clarify and solve problems, build technical understanding, and encourage the necessary individual work needed to achieve the course outcomes.

- **MUC 200B, Composing and Arranging II**

The instructor was brought in part-way through the term, after the original instructor was, unfortunately, unable to continue with the class. Due to this interruption and the loss of some class days due to inclement weather, the instructor deemed it best to do a quick assessment of the students in the class to see if we were still in line with the course outcomes. The plan for the remainder of

the term was reworked so as to fulfill all the requirements of the course. For example, the course states that students will “create portfolio pieces using Digital Audio Workstations, culminating in a final project.” The total number of pieces was reduced to free up more time to focus on specific techniques. In-class lab time was reduced to gain enough lecture time to cover all the requisite topics. The instructor has also offered more generous office hours to students.

- **MUC 102/103, Commercial Music Theory II/III**

Two important concepts presented in this course are the closely-related Secondary Dominant and Secondary Leading Tone chord functions, which were covered in the last days of the winter term. Even after 3 class days of instruction on the topic, scores on the quiz and final exam revealed that many students still did not have an adequate understanding of this important, but rather slippery, concept. In response, final exam scores were adjusted so as not to penalize students, and additional review was built into the first week of the spring term in order to ensure that more students would achieve the outcome of understanding Secondary Dominant and Secondary Leading Tone chords.

B. Addressing College Core Outcomes

Update the Core Outcomes Mapping Matrix:

<http://www.pcc.edu/resources/academic/core-outcomes/mapping-index.html>

For each course, choose the appropriate Mapping Level Indicator (0-4) to match faculty expectations for the Core Outcome for passing students. (You can copy from the website and paste into either a Word or Excel document to do this update, and provide as an Appendix).

Our updated Core Outcomes Mapping Matrix can be found in Appendix 1.

C. Degree and Certificate Outcomes

i. Briefly describe the evidence you have that students are meeting your Degree and/or Certificate outcomes.

Prior to 2015, Professional Music (as the program was then known) conducted nearly-annual assessment projects of certificate outcomes and submitted reports to the Learning Assessment Council. All outcomes were assessed in 2-3 courses taught by 2-3 faculty members (including the Department Chair). Assessment projects were created and conducted by individual instructors of those courses, discussed with the Department Chair and written in reports submitted to the Learning Assessment Council. Due to considerable changes in faculty beginning in Fall 2015 (including the hiring of a new department chair), these LAC reports are the only evidence we have that assessment of certificate outcomes took place. We are now committed to department-wide annual assessment of certificate and degree outcomes as well as keeping documentation of the process as evidence that students are meeting those outcomes.

Music & Sonic Arts revised its Certificate outcomes in 2015-16. As those outcomes just became effective at the end of the 2015-16 academic year, we are currently completing our first assessment project with the revised outcomes. The new two-year AAS degree was launched in the 2016-17 academic year, therefore we do not have enough students completing the degree in Spring 2017 to conduct assessment of those outcomes. AAS Degree outcomes will be assessed for 2017-18.

In general, assessment of certificate and degree outcomes is supported by annual SAC assessment projects and reports submitted to the Learning Assessment Council. Feedback from those reports is discussed annually in SAC meetings and taken into account for the next year's instruction as well as assessment projects.

ii. Reflecting on the last five years of assessment, provide a brief summary of one or two of your best assessment projects, highlighting efforts made to improve students' attainment of your Degree and Certificate outcomes.

During this academic year, Music & Sonic Arts is conducting its first SAC-wide assessment project using the revised certificate outcomes that were implemented last year. Because we are involving nearly all faculty in our program and our new certificate outcomes more accurately reflect our program's mission and purpose, we believe this year will be our best assessment project. Nearly all faculty who teach required courses for the certificate are participating and creating projects, assignments, and exams related to assessing the following certificate outcome: "Develop and effectively implement independent and group musical projects." We hope to determine how students in theory, performance, and technical classes are achieving musical and technological literacy in order to effectively communicate ideas and solve creative and technical problems. This assessment project relates directly to PCC's core outcome "Communication." The courses involved are all third-term sequence courses in a variety of subject areas:

- MUC 103 - Commercial Music Theory III
- MUC 120C - Sight Singing and Ear Training III
- MUC 140C - Group Piano III
- MUC 225 - Studio Recording III
- MUS 172 - Music Technology: Record, Remix and DJ

Each course will administer an exam, assignment, or project created to assess literacy in the given subject area. Instructors will create a rubric for assessing students' musical and/or technological literacy and discuss the scores as a group to evaluate how well students achieved the outcome. We look forward to discussing the outcomes of the assessment project, what we can learn from it, and how we can improve our instruction to ensure students are meeting outcomes in the future.

iii. Do you have evidence that the changes made were effective (by having reassessed the same outcome)? If so, please describe briefly.

We are completing this assessment project in the current academic year, and will have results at the end of June. Upon reviewing the results, we will determine success of the assessment project, and if we should reassess the same outcome during the next assessment cycle.

iv. Evaluate your SAC's assessment cycle processes. What have you learned to improve your assessment practices and strategies?

Music & Sonic Arts is committed to producing biennial assessment reports for the revised certificate and new AAS degree. Assessment will be conducted annually and alternate between focusing on certificate and degree outcomes.

v. Are any of PCC's Core Outcomes difficult to align and assess within your program? If yes, please identify which ones and the challenges that exist.

We are able to align several of our certificate and degree outcomes to each of PCC's Core Outcomes and do not find any of the Core Outcomes particularly difficult to assess.

3. Other Curricular Issues

A. Distance Learning

Which of your courses are offered in a distance modality (online, hybrid, interactive television, etc.), and what is the proportion of on-campus and online? For courses offered both via DL and on campus, are there differences in student success? If yes, describe the differences and how your SAC is addressing them. What significant revelations, concerns, or questions arise in the area of online delivery? (Contact the Office of Institutional Effectiveness for course-level data.)

We do not currently offer any courses in a distance modality. The majority of our courses require students to work hands-on with specific hardware that is provided in our classroom and lab spaces, or to work together in music performance groups.

B. Curricular Changes Related to Educational Initiatives

Has the SAC made any curricular changes as a result of exploring/adopting educational initiatives (e.g., Community-Based Learning, Internationalization of the Curriculum, Inquiry-Based Learning, Honors, etc.)? If so, please describe.

While the recent curricular changes in Music & Sonic Arts were made in response to administrative recommendations, we took the opportunity to implement the Internationalization of the Curriculum Initiative. A wider array of musical repertoire has been employed in our performance-based and composition courses. This includes the

inclusion of non-traditional and non-Western music in existing ensemble courses (MUC 144: Contemporary Singing, and MUS 200A-E: Chorus), the creation of new ensemble courses (MUC 202A: Intro to Ensemble, MUC 202B: Jazz Ensemble, and MUC 202C: Multimedia Ensemble), and the creation of new composition courses (MUC 200A: Intro to Composition, MUC 200B: Electronic Composition, and MUC 200C: Electronic Media Composition). We also host a diversity of music performance events that represent the music traditions of the world are open to both the college and community.

C. High School Partnerships

Are there any courses in the program that are offered as Dual Credit at area High Schools? If so, describe how the SAC develops and maintains relationships with the HS faculty in support of quality instruction.

Music & Sonic Arts partnered with Grant High School in the development and implementation of their music production program. We maintain a relationship with the program director and instructor of production courses, and have begun offering the first of our music technology course sequence (MUS 170) as Dual Credit in the Spring 2017 term.

D. Course Evaluations

Please describe the use of Course Evaluations by the SAC. Have you developed SAC-specific questions? Has the information you have received been of use at the course/program/discipline level?

Music & Sonic Arts currently uses online student course evaluations but the response rate is typically low across all courses. We do not have SAC-specific questions but we are interested in developing some to include on future evaluations. We also hope to implement a systematic process to obtain a higher response rate to course evaluations. One idea being discussed is to designate 10-15 minutes of class time in each course near the end of the term so students can confidentially complete course evaluations in a computer lab.

E. Other Changes to Curriculum

Identify and explain any other significant curricular changes that have been made since the last review.

In addition to the curricular changes discussed in IA, Music & Sonic Arts has partnered with PSU in the creation of a transfer opportunity for our AAS degree-completing students. PSU is currently proposing a new four-year degree in Sonic Arts and Music Production and is working with us on a 2+2 curricular agreement, wherein students complete their first two years of study in our AAS degree program and complete their last two years of study at PSU. This opportunity opens the door to many students in our program who have not been able to obtain a bachelor's degree in music technology for two reasons: 1) such four-year degrees have previously not existed in the Portland area, and 2) completing all four years at a collegiate institution would be cost prohibitive. Students completing the AAS degree will have the opportunity to pursue this new bachelor's degree at PSU.

4. Needs of Students and the Community

A. Changes to Student Population

Have there been any notable changes in instruction due to changes in the student populations served?

No. Our student population has not significantly changed.

B. Disability Services

What strategies are used within the program/discipline to facilitate success for students with disabilities? What does the SAC see as particularly challenging in serving these students?

In any given year, we will have a few students with documented disabilities. We have a good working relationship with the Office for Students with Disabilities (OSD). Our instructors, when notified by OSD, will make appropriate accommodations as needed by each individual student and provide the necessary attention to the needs of these students. This might include giving the student extra time for assignments, lab work, and projects, or providing other forms of special assistance.

For example, over the past two years, we had a student enrolled in our program who was blind. In one class, (MUC 120), the instructor would meet privately with the student for all aural exams. Also, the lectures were modified to accommodate the need for non-visual explanation and instruction. In two other classes, this student was able to utilize the help of one of our lab techs, who was hired by OSD as a note-taker and in-class assistant. The student successfully completed these courses and went on to earn the Professional Music Certificate.

C. Online Students

What strategies are used within the program/discipline to facilitate success for online students? What does the SAC see as particularly challenging in serving online students?

Music & Sonic Arts does not currently offer any online courses (See Section III).

D. Response to Feedback

Has feedback from students, community groups, transfer institutions, business, industry or government been used to make curriculum or instructional changes (if this has not been addressed elsewhere in this document)? If so, describe.

Music & Sonic Arts (MSA) was designed to serve students interested in contemporary electronic music-making and emerging digital arts technologies. Following are examples of how the program has evolved in response to input and feedback from outside sources.

- We are always listening to our students to learn of their interests and objectives.

- The AAS in Music & Sonic Arts is a career technical degree with transferability to PSU. It was designed in collaboration with PSU to align with and transfer into PSU's Sonic Arts & Music Production degree.
- MSA was designed in consultation with a number of universities and is especially indebted to the input and guidance of the University of California, Santa Barbara's Media Arts and Technology program and Center for Research in Electronic Art Technology (CREATE).
- From community groups, MSA has been supported and guided by Grey Area Foundation, Open Signal, Ethos, Young Audiences, S1, Lady Brain, and iUrban Teen.
- From industry, MSA has been supported and guided by Cycling '74, Native Instruments, 4ms, MakeNoise, Malekko, Darkplace Manufacturing, Qu-Bit Electronix, Circuit Abbey, Control Voltage, Glow Box, Metal Toad, satis&fy, Second Story, and others.

5. Faculty

Reflect on the composition, qualifications and development of the faculty

A. Diversity, Equity, and Inclusion

*Provide information on how the faculty composition, professional development, and teaching reflect the [Diversity, Equity and Inclusion goals](#) of the institution (from PCC's Strategic Plan, Theme *What have you done to further your faculty's knowledge and creation of a shared understanding about diversity, equity and inclusion?*)*

We are fortunate to have a faculty comprised of academics and industry professionals, with diverse backgrounds and varied professional experiences. Together, they bring a rich combination of academic knowledge and real world experience into the classroom to serve a non-traditional and diverse student body. Our students come from diverse cultural backgrounds and most have little or no academic musical experience, and working with this student population has been the focus of our program for many years. As a result, our instructors have a great deal of experience in fostering equity and inclusion in the classroom. Our faculty also take advantage of related workshops and training sessions offered by the college.

B. Instructor Qualifications

Report any changes the SAC has made to instructor qualifications since the last review and the reason for the changes.

(Current Instructor Qualifications at: <http://www.pcc.edu/resources/academic/instructor-qualifications/index.html>)

Current Instructor Qualifications (Revised, August 2014):

Master's degree in Music Education, Performance, Composition, Audio Engineering, Music Production, Sound Design or related field and 3 years experience in industry as a performer, composer, engineer, producer or sound designer.

OR

Bachelor's degree in Music Education, Performance, Composition, Audio Engineering, Music

Production, Sound Design or related field and 4 years experience in industry as a performer, composer, engineer, producer or sound designer.

OR

Associates degree in Music Education, Performance, Composition, Audio Engineering, Music Production, Sound Design or related field and 5 years of professional experience in industry as a performer, composer, engineer, producer or sound designer.

OR

Demonstrated competency: For other kinds of experience not listed here, the Division Dean, in consultation with the Faculty Department Chair, will make a recommendation to the Dean of Instruction which is subject to approval by the Vice President for Academic and Student Affairs

MUC Instructor Qualifications prior to August 2014:

Bachelor's degree in recording technology or related field plus three years in music to include: studio and music production, acoustic design, and technical maintenance of analog and digital recording equipment.

OR

Assoc degree in recording technology or related field plus five years of professional experience in music to include: studio and music production, acoustic design, technical maintenance of analog and digital recording equipment.

OR

Seven years of professional experience in music to include: studio and music production, acoustic design, and technical maintenance of analog and digital recording equipment. (Approved: 12/2/2001)

Reason for Change in Instructor Qualifications:

The instructor qualifications for Professional Music were the qualifications for one particular instructional position within the program--the position of recording engineer--rather than the minimum qualifications for teaching in the program. This presented a recruitment challenge, because potential candidates with an interest in and appropriate qualifications for the program could mistakenly believe they were not qualified, if they were not recording engineers.

The instructor qualifications were updated to reflect the minimum qualifications for teaching in the program rather than for teaching recording classes within the program.

C. Professional Development

How have professional development activities of the faculty contributed to the strength of the program/discipline? If such activities have resulted in instructional or curricular changes, please describe.

Our mission is to provide our students a relevant education in music and technology that keeps pace with the ever-changing music industry. Our faculty regularly attend

conferences, workshops, and related events, and pursue their own research and training to continue skill development and advancement of knowledge in their related fields. Results could range from enhanced vocal warm-ups for choral singers to new techniques for programming microcontrollers in interactive music and lighting systems. All of this is brought back into the classroom to keep curriculum up-to-date and relevant to our students. Following are highlights of the professional development activities of each of our instructors.

Sarah Gaskins, Department Chair (Commercial Music Theory, Music Theory, Fundamentals of Music, Composition & Arranging)



- Society of Music Theory
- College Music Society
- National Association of Composers/USA
- Cascadia Composers
- Music theory pedagogy workshops
- Pop music theory workshops
- Adjudicator for regional composition competitions
- Composition commissions from local and national musicians

Jeffrey Brice, PT Faculty (Studio Recording Technology, Composition & Arranging, Multimedia Performance, Beats & Basics)



- American Society of Composers and Publishers
- Independent Game Developers Association
- Game Audio Network Guild
- Frequent attendee of the Game Developers Conference
- Freelance Audio Engineer at Digital One
- Film Composition Workshops
- Composed music for *Holy Potatoes?! We're in Space!* video game

Newel Briggs, PT Faculty (Group Guitar/Bass, African-American Music, Introduction to Jazz History, Introduction to Rock History)



- Music Education workshops with Regional Arts & Culture Council (RACC)
- Music Therapy workshops and performances at Doernbecher Children's Hospital
- Music Therapy performances at Shriner's Children's Hospital
- Workshops and performances with NorthWest Down Syndrome Association (NWDSA)
- Portland Waterfront International Blues Festival
- NorthWest World Reggae Festival
- Lutherie workshops for folk Instruments (banjo, rain stick, drums, and mbira)

Dan Green, PT Faculty (Analog Modular Synthesis)



- 20 years in electronic musical instrument design (analog/digital circuits and embedded programming)
- Workshop instructor for soldering small musical toys
- Lectures on modular synthesis techniques
- Co-founded Handmade Music Austin
- Collaborated with large-scale art installations using musical instruments to control lighting
- National Association of Music Merchants
- Owner of a small business that manufactures synthesizer modules and DIY kits in Portland
- Winner of *Electronic Musician Magazine* Editor's Choice Award for 2015 and 2016

Mary Kadderly, PT Faculty (Sight Singing & Ear Training, Cascade Community Choir, Contemporary Singing, Group Vocal)



- Choral Conducting workshop with Rodney Eisenberg
- Contemporary Choral workshops with Darcy Schmitt
- Vocal Health and Pedagogy workshop at San Francisco Conservatory of Music
- American Society of Composers and Publishers
- Society of Children's Book Writers and Illustrators
- Screen Actors Guild/American Federation of Television and Radio Artists
- 30 years teaching in private lessons and workshops
- Adjudicator for regional vocal jazz festivals
- Extensive performing with the Mary Kadderly Trio
- Featured guest in festivals, concerts, and nightclubs with many artists including Nancy King, Jerry Hahn, Tom Grant, Linda Hornbuckle, Curtis Salgado, Darrell Grant, and Bernard Purdie
- Record producer/owner, Likelife Records
- Continuing piano and singing lessons

Jesse Mejía, PT Faculty (Audio Programming, Creative Coding)



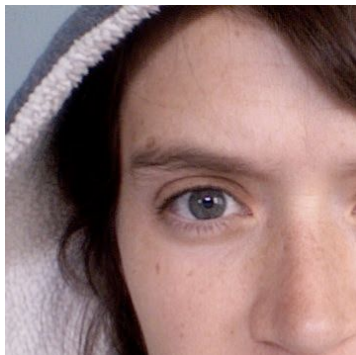
- Large scale project work with agencies and brands using current interactive technologies
- Artist residency and performance tour in Tokyo with Paradise Air, music and programming for a dance piece, also presented by PICA
- Jitter course at Open Signal
- Ongoing engagement in art events, artist talks, and collaborative projects
- Director of RACC funded community choir: CHOIR
- Continually monitoring current art/technology trends to bring new material into the classroom

Dan Pettis, PT Faculty (Group Piano, Band Performance Workshop, Ensemble, Analog Modular Synthesis) and Instructional Support Tech II



- Produces 100 - 200 music arrangements per year for professional, community, and school ensembles
 - Praise Band leader with a 15 piece ensemble, includes choral directing, arranging, and serving as primary keyboardist and vocalist
 - Professional and volunteer work as an independent keyboard player and producer for local bands, recording sessions, and church ensembles
 - Continually exploring various musical instruments in order to grow as an ensemble instructor
 - Constantly researching new technology and applications in the music industry
- Volunteer music instructor at charter schools with small to non-existent music programs
 - Mentor/collaborator for Blackfire/Mindframe, a local rock band performing benefit concerts for the Susan G. Komen Foundation
 - Served as a judge for various songwriting events

Sue Slagle, PT Faculty (Interactive Video)



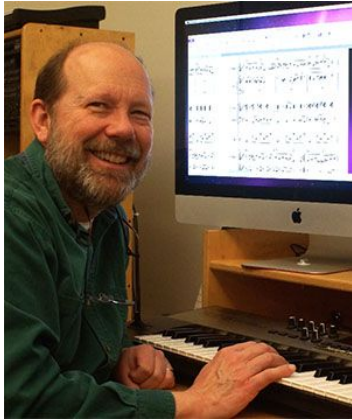
- Collaboration with musicians including Morton Subotnick, Wobbly, and Vladislav Delay
- Premiered works at San Francisco International Film Festival, REDCAT (Los Angeles), EMPAC (Rensselaer, NY), Ars Electronica (Linz), MUTEK (Montreal), and SONAR (Barcelona)
- Instructor at Center for Digital Media
- Instructor for Jitter Intensive Workshops

Don Thompson, PT Faculty (Studio Recording Technology) and Instructional Support
Tech IV



- FOH & lighting, engineer, producer, and songwriter for artist showcases in Nashville, promoting artists in development to record company execs
- Worked studio sessions at Direct Image, DownStage, SoundStage, and Masterfonics
- Represented Sunn Musical Equipment Co. at NAMM shows, working with artists including Eric Clapton, John Entwistle, Rudy Sarzo, Eddie Van Halen, Ted Nugent, and Bugs Henderson
- FOH & lighting at the NAMM Jam in Anaheim
- FOH & lighting, multiple stage areas at World Exposition New Orleans
- Recording engineer, FOH & lighting for Blackfire/Mindframe, in benefit shows at the Clark County Fair and the Arlene Schnitzer Concert Hall for the Susan G Komen Foundation
- Guitarist, songwriter, arranger, engineer, FOH & lighting for local artists and bands including Lisa Zahler, Maggie Sayles, True West, Nitro Bastard, the Bulldozers, Swing Inc. (big band), the Corvettes, Lights Out, Audio Café, and Out Of The Blue
- Post production, ADR & mix for *The Lower Rooms* (feature film), 2016 Oregon Independent Film Festival award winner
- More than 20 years working sessions with student engineers recording local talent as part of their final project assessment in the Recording Technologies sequence -- his most rewarding experiences

Carl Thor, PT Faculty (Commercial Music Theory, Computer Notation & Scoring, Community Ed. Group Piano), Webmaster, and Music Lab Tech



- 16 years teaching in private lessons and workshops at the Artichoke School of Music, Portland (hammered dulcimer, piano) and 20+ years teaching in workshops at regional dulcimer festivals
- Two years full-time study in music and music technology (Clark College and Portland Community College)
- Performing on a regular basis with Cascade Crossing, Celtinalia, Hands4, the Portland Megaband, Stepwise, Talisman, in other informal ensembles, as a soloist, and as an accompanist
- Folk Alliance Western Region conference
- Performed music by Malcolm Dalglish for choir and hammered dulcimer with the Aurora Chorus, Oregon Repertory Singers Youth Chamber Choir, Portland Lesbian Chorus, Unitarian Universalist Community Church of Washington County, and Vancouver School of Arts & Academics
- Published a book of his own compositions, *Come to the Dance Hall: A collection of 107 melodies for Diverse Musical Instruments, Suitable for use in Country Dancing and Related Pastimes.*
- Performed on and produced CDs by Talisman (*Phoenix* and *Just Up the Hill*)
- Performing annually at Northwest Folklife Festival, Seattle

Shawn Trail, FT Faculty (Music Technology, Studio Recording Technology)



- MOOGFEST, Durham, NC
- Game Developers Conference, San Francisco
- Music Hackday, San Francisco
- Music Makerfair, Vancouver, BC
- Record Project (MUC 236): Developed vinyl record with students, involvement with pioneering producers and leading community industry partners
- International Conference on New Interfaces for Musical Expression
- International Conference for Sound and Music Computing,
- International Conference for Computer Music
- Interface and Robotics Technician for Pat Metheny's "Orchestrion" World Tour
- Pretty Good Not Bad festival, Victoria BC
- Sled Island Festival, Calgary, Alberta
- Worked in the studio with D. James Goodwin, Little Shalimar, Peter Denenberg, Bernard Purdie, Andrew Scheps, Jaga Jazzist, and Under Byen
- Fulbright Fellow
- Shared the stage with Built to Spill, Meshell Ndegeocello, Budos Band, Red Baraat and Pete Seeger

Ben Tyler, PT Faculty (Rhythm Training)



- Continuing drum & percussion lessons
- Extensive touring throughout the U.S.
- Panelist for "Best New Band" competition in *Willamette Week*
- Performed drum set for a performance of "Encounters," a piece for symphony orchestra and jazz big band written and conducted by Gunther Schuller, composer and champion of 'third stream' music
- Active and supportive member of the Portland music community for 8+ years in numerous bands and projects
- Performed with the Portland band Explode Into Colors for their reunion show, in which all proceeds were donated to all-ages music venues

6. Facilities and Academic Support

A. Departmental Facilities

Describe how classroom space, classroom technology, laboratory space, and equipment impact student success.

MSA is a career technical program in a dynamic industry. Student preparedness requires hands-on experience with both contemporary, industry-relevant hardware and with legacy hardware.

MSA works to create a welcoming and supportive lab environment, with equipment that is readily available to students. This encourages students to spend many hours on campus, learning and developing their skills. With regard to equipment, we err on the side of access, placing as few barriers as possible between students and equipment. Our students recognize the value of the environment in which they are able to work, and have been respectful and responsible with the equipment.

Music & Sonic Arts facilities include:

- A computer lab with 20 digital audio workstations
- A complete recording studio with analog and digital control rooms
- A band room for vocal groups, instrumental ensembles, and lecture
- An interactivity lab for creative coding, show control, physical computing, and electronics
- A keyboard lab with 16 electronic pianos

Equipment includes:

- A mobile high density loudspeaker array for multi-channel productions and 3D audio
- A virtual reality machine for the creation of virtual environments and virtual instruments
- A variety of boutique legacy and cutting edge electronic instruments, including synthesizers, modular synthesizers, and drum machines
- A variety of controllers, including industry-standard MIDI controllers, innovative gestural controllers, and repurposed legacy game controllers
- Short- and long-throw projectors for projection mapping and interactive graphics
- A large assortment of sensors (contact microphones, pressure sensors, motion sensors) for teaching students to create interactive installations and environments
- A variety of open source software and DIY hardware, preparing students to work effectively with little to no capital investment
- A wide variety of industry standard microphones and audio processing units for use in the recording studios and for live performances
- Drum kits, keyboard instruments, guitars, amps, PA equipment, and related gear for use by students in practice and in performing ensembles

B. Library and Information Resources

Describe how students are using the library or other outside-the-classroom information resources. If courses are offered online, do students have online access to the same resources?

Courses within the Music & Sonic Arts program have been designed to take advantage of as many open-source resources as possible. Some of our students are accessing required textbooks online or through the PCC Library, so they don't have to purchase these books. For instance, the entire MUS 170 series uses materials that are available online through the PCC Library. We encourage our students to access YouTube, OER, and other online resources to help with coursework and/or software they are using in class and in labs.

C. Student Support Services

Does the SAC have any insights on students' use of Advising, Counseling, Disability Services, Veterans Services, and other important supports for students? Please describe as appropriate.

PCC provides a wide variety of helpful support services for students, which our instructors list in their syllabi. Use of these services is often a very personal matter, so students access these services with little interaction on our part unless special accommodations need to be made or they have difficulty navigating the process. For more information, see section IV.B.

7. Industry Relevance of Program

A. Advisory Committee

Evaluate the impact of the Advisory Committee on curriculum and instructional content methods, and/or outcomes. Please include the minutes from the last three Advisory Committee meetings in the appendix.

The enduring absence of an Advisory Committee was among the reasons that Professional Music lost its Perkins eligibility in 2013, severely impacting student support services, enrollment, and funding. In 2015, to remedy the situation, Music & Sonic Arts gathered an international Advisory Committee tasked with the creation of a contemporary, industry relevant program. The Advisory Committee was critical in the program's design at every level -- industry directions/futures, degree learning outcomes, course learning outcomes, pedagogical approaches, and facilities construction.

The Advisory Committee held its inaugural meeting in Winter of 2016. The minutes of this meeting can be found in Appendix 2. The Advisory Committee is scheduled for its second meeting in Spring 2017, post program review.

B. Enrollment Patterns

Describe current and projected demand and enrollment patterns. Include discussion of any impact this will have on the program/discipline.

Professional Music experienced peak enrollment in 2011-2012 and 2012-2013, generating 105.9 and 99 annual FTE respectively.

In 2013, Professional Music lost its Perkins eligibility for the following reasons:

- The longstanding absence of an advisory board and the absence of evidence of industry relevance
- The absence of high school articulation agreements
- The absence of similar CTE programs at other community colleges
- The absence of related programs at four-year institutions of higher education

Professional Music entered the period of college-wide enrollment decline without a Perkins advisor. In 2014-15, enrollment declined to 85.5 FTE.

Late in 2014, Cascade Campus made the decision to teach out and discontinue the Professional Music program. In 2015-2016, Cascade discontinued the less-than-one-year certificate in Professional Music and replaced it with a new Career Pathway Certificate in Music & Sonic Arts that stacks to a two-year degree in Music & Sonic Arts. During this transitional year, enrollment declined to 66.1 annual FTE.

Fall 2016 enrollment partially rebounded, with 29 end-of-term quarterly FTE, a 25.4% increase over Fall 2015 (23 quarterly FTE). In Winter 2017, Music & Sonic Arts generated 19 quarterly FTE, a 10% increase over the previous Winter. For Spring 2017, enrollment appears flat in comparison with the previous Spring (around 16 quarterly FTE). The Division of Arts & Professions projects about 74 annual FTE for 2016-2017 (about a 21% increase over the prior year).

For 2017-2018, the Division projects a continued but slow rebound, with Fall 2017 quarterly FTE around 34, Winter FTE around 26, and Spring FTE around 22.

This growth projection is based on:

- Program stability/maturity
- Campus investments in infrastructure attractive to students
- The development, in the second year of the AAS degree, of a 24-credit certificate in Creative Coding & Immersive Technologies
- Improved advising and retention

Additional growth is possible through:

- Offering of Music History courses that satisfy General Education requirements

Presently, because these courses are already offered at Rock Creek and Sylvania, Cascade largely discontinued them, investing more in unique CTE offerings in music technology. For the future, Cascade plans to offer two of these courses: History of

African American Music and History of Electronic Music. History of Folk, Rock and Jazz would remain the primary purviews of the other campuses.

- Offering unique music technology and creative coding courses online

This is an area in which significant and rapid growth is possible. This would require the adoption of a distance learning platform/environment, like Kadenze, designed for creative education.

With current facilities, the total on-ground capacity of Music & Sonic Arts (including Creative Coding & Immersive Technologies) is about 40 quarterly and 130 annual FTE, a reasonable scale given the economic and transfer opportunities and markets. With the addition of online curriculum, the program could expand to about 60 quarterly and 200 annual FTE.

C. Preparation for Program Entry

How are students selected and/or prepared (e.g., prerequisites) for program entry?

There are no specific program requirements or prerequisites. However, students are encouraged to meet with a program advisor before beginning study. Typically, students will meet with the Department Chair for an introductory interview to discuss educational and career goals. This usually includes a tour of Music and Sonic Arts facilities. Our goal is to ensure that potential students are given the guidance they need to help them determine if our program is right for them, and we believe that will ultimately help them achieve academic and/or industry success. Some of our courses require placement into WR 115, RD 115, and MTH 20, or equivalent placement scores.

D. Employment of Graduates

Review job placement data for students over the last five years, including salary information where available. Forecast future employment opportunities for students, including national or state forecasts if appropriate.

Most music professionals are self-employed or work in partnerships. Music writers may work with individual artists, music groups, studios, and publishing houses. Performers will work with clubs and organizations that feature live music, in musical groups and bands, or as studio session musicians. A recording professional will work with independent studios and project partnerships, and most engineers and producers today are self-employed. Private music teachers and coaches develop their own clientele and schedules, or they may work in connection with an established music school. Work in creative coding and interactive music technology may be done independently or in connection with other artists or performing organizations.

Many successful industry professionals will pursue a variety of activities comprising a "portfolio career" matching their own unique combination of skills and interests. The ever-changing music industry is largely entrepreneurial, which means there is no guaranteed level of income, but there is also no upper income limit. It also means that

tracking employment after completion of our programs is more difficult than in other fields where traditional employment is the norm.

Following is recent information regarding job placement of our graduates (provided by the PCC office of Institutional Effectiveness):

Of 18 Professional Music graduates in 2014-15 that were tracked through the Oregon Employment Department in 2015-16:

- 78% were employed
- 36% were employed full-time for at least one quarter
- 5 of 18 enrolled in a two or four year institution
- Wage information is not presented due to large variation in reported data

With the new degree launched Fall 2016, Music & Sonic Arts will see its earliest AAS graduates in 2017. Graduates will have the option of employment or transfer to PSU's Sonic Arts & Music Production Program. Future one-year certificate and AAS graduates may pursue employment in the following areas:

- Retail of musical instruments and audio gear
- Audio technician
- Audio production for radio, web, and/or video/film
- Location recording
- Live sound support in music venues
- Sound support for theaters
- Technical audio support for public agencies (higher ed. institutions, hotels, and event centers)
- Commercial music performance
- Private music instruction

Beginning 2017-18, students will have the opportunity to pursue a two-term Creative Coding and Immersive Technologies Certificate, which can prepare them for employment in the areas of:

- Creative coding
- Application development
- Instrument and controller design and development
- Commercial music and multimedia performances

In addition, graduates of Music & Sonic Arts may pursue employment opportunities at any number of Portland's music businesses and community organizations:

- 4ms Company
- Darkplace Manufacturing
- Qu-Bit Electronix
- Circuit Abbey

- Synthrotek
- Control Voltage
- Guitar Center
- Ethos
- Artichoke Community Music
- Community Music Center
- Trade-Up Music
- Portland Music Company
- Everyday Music
- Reverb Music
- Exile Records
- The Analog
- Turn! Turn! Turn!

Because our program was recently overhauled, we are beginning to collect data on job placements and salaries. However, over the next 5 years, we expect not only an increase in the number of graduates, but a growth in the number of students placed in jobs and continuing education at 4-year institutions.

This year, one of our advanced second year students was employed as a recording arts instructor at Rosemary Anderson High School while completing their degree at Cascade. Subsequently, he was also accepted for transfer to the Berklee School of Music. Also this year, another advanced second-year student earned over half of their household income through independent projects as a musician and stage lighting designer.

E. Degree Completion

Please present data on the number of students completing Degree(s) and/or Certificate (s) in your program. Analyze any barriers to degree or certificate completion that your students face, and identify common reasons why students may leave before completion. If the program is available 100% online, please include relevant completion data and analysis.

Degrees Awarded (Major = PMUS)

Academic year	2011-12	2012-13	2013-14	2014-15	2015-16
Professional Music certificates awarded	16	19	19	23	21

Our 2-year **AAS Degree in Music & Sonic Arts** first came online in the Fall of 2016. We currently have 45 students working toward completion of this new degree.

Barriers to Completion

The largely non-traditional students in our program often face a multitude of life challenges including finances, child care, food and/or housing insecurity, and work conflicts, which can create barriers to completion. In addition, our students occasionally are offered professional opportunities (e.g., performing, touring, studio work, record deals) that they cannot afford to pass up, but which interfere with their completion of our program. This is actually a good thing -- it is what we are preparing our students to do!

To address financial hardship, the department has made an intentional, collective effort to minimize or eliminate textbook costs by using open source resources and digital textbooks.

PCC and ASPCC have developed a student food bank, which is helpful to all students facing food security issues. ASPCC also has a bicycle loan program for students.

In the past, Professional Music students would sometimes run out of financial aid because of an over-abundance of elective courses in comparison to the number of core requirements. Students were taking too many electives and not enough core courses, because the electives were of greater interest, causing their financial aid would run out before they had completed the certificate. Music & Sonic Arts increased core requirements and reduced elective options, alleviating this problem.

Music & Sonic Arts adopted a cohort model, a research-supported method for improving retention and completion. Specifically, in Fall 2016, all courses were scheduled in a manner that FT students in the program would enroll in one of two coherent tracks to earn all needed credits. Students unable to attend FT were not prohibited from enrolling, but the coordinated scheduling encouraged the formation of cohorts of FT students, generating a sense of community and enabling more consistent and robust student support services.

To improve retention, we designed and created open lab spaces with wide assortments of tools and ample project space. This encourages students to engage in projects of their own creation, spending more time on campus and engaged with faculty, staff and peers.

While not necessarily a barrier to completion, some of our students have complained that the registration process is convoluted and unnecessarily complicated, and can cause problems with financial aid and their ability to maintain course continuity. The registration process can deviate from our mission in providing access, and may dissuade some potential students. However, when registration difficulties arise, our faculty provide all necessary overrides and assistance.

F. Continuing Education Opportunities

Describe opportunities that exist or are in development for graduates of this program to continue their education in this career area or profession.

The Music & Sonic Arts AAS degree was designed in collaboration with PSU and aligns with PSU's Sonic Arts & Music Production degree (scheduled to start Fall 2017).

Also, however, students may continue in any of the nation's more conventional music programs, as the core curriculum of the AAS includes standard study in music theory, piano, and voice.

Lastly, short of pursuing a four-year degree, MSA students are well prepared to continue their education in select courses offered through public and private universities and through community-based organizations.

8. Recommendations

A. Improving Student Success

What is the SAC planning to do to improve teaching and learning, student success, and degree or certificate completion, for on-campus and online students as appropriate.

Following are examples of what Music & Sonic Arts (MSA) does to improve teaching:

- MSA expects teachers to meet students where they are and to support them in moving forward. This means that MSA teachers do not prepare their curriculum and then rigidly deliver it as prepared. They adjust the curriculum and their approach to it as they get feedback from students, continuously devising custom strategies to support unique groups of students in accomplishing the course learning outcomes.
- MSA expects teachers to uphold the highest standards of professionalism and interpersonal judgment.
- MSA expects teachers to model a culture of inclusion. MSA strongly encourages teachers to participate in campus and college development activities related to social justice, critical race theory, and equity.
- MSA supports teachers in their learning. In the past two years, MSA has supported sending teachers to a number of the most exciting international music and music technology conferences. In addition, the SAC has supported ongoing professional development for the program's vocal instructor, Mary Kadderly, to help her in conducting Cascade's choir. And for Spring 2017, instructor Dan Pettis is team-teaching with Dan Green, supporting Pettis in developing the skills needed to teach Analog Modular Synthesizers.
- Lastly, the MSA SAC works closely with instructors to ensure alignment between courses, creating a coherent, program-wide learning experience for students.

Additionally, to improve student success the Music & Sonic Arts SAC does the following:

- MSA looks to expand on its various bridge programs--custom courses and workshops that help prepare students for the program in advance. In Spring 2017, for example, MSA is offering a custom, introductory course to a small cohort of alternative high school students. MSA is grant-funded to offer a bridge for Creative Coding & Immersive Technologies for Fall 2017. These custom courses and workshops provide safe, low-pressure environments where prospective students

can gain their bearings without falling behind or feeling threatened by any initial lack of understanding.

- MSA looks to expand on its growing culture of open and active labs staffed by teachers, instructional support technicians, and/or intermediate and advanced students. The Digital Audio lab provides students standard digital audio workstations on which to practice methods, techniques, processes and concepts learned in foundational classes. And the Interactivity Lab provides an open workspace with a large assortment of electronic and media technologies where students work on and complete projects of their own invention. The Digital Audio Lab was constructed in 2014 and the Interactivity Lab in Winter 2017.

B. Administrative Support

What support do you need from administration in order to carry out your planned improvements? (For recommendations asking for financial resources, please present them in priority order. Understand that resources are limited and asking is not an assurance of immediate forthcoming support, but making administration aware of your needs may help them look for outside resources or alternative strategies for support.

Campus administration has been enormously supportive of Music & Sonic Arts, advancing the broader vision of Cascade Campus as a Portland hub for digital arts. Faculty deeply appreciate the trust that has been put in them. As a consequence of two years of robust campus investment, the program has the physical resources to reach, if not exceed, its 2017-2018 annual FTE target of 87. Indeed, Music & Sonic Arts is among the best resourced contemporary music technology programs in the country, and the draw to students and the positive effects on student learning are palpable and measurable.

Music & Sonic Arts has requested a temporary FT position for 2017-2018, and a FT permanent position thereafter. Presently, the program has 1 FT permanent faculty and 1 FT temporary position that ends Spring 2017.

Music & Sonic Arts would like approval to offer online courses using an online learning platform designed for creatives and creative education (such as Kadenze). While the majority of our curriculum relies on the hands-on opportunities afforded only in our labs, we do have some courses that are unique in our region and nation, and would be well suited for an online environment.

Appendix 1: Core Outcomes Mapping Matrix

Course #	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
MUC 101	Commercial Music Theory I	3	1	3	2	3	1
MUC 102	Commercial Music Theory II	3	1	3	2	3	1
MUC 103	Commercial Music Theory III	3	1	3	2	3	1
MUC 120A	Sight Singing and Ear Training I	3	1	3	2	1	1
MUC 120B	Sight Singing and Ear Training II	3	1	3	2	2	2
MUC 120C	Sight Singing and Ear Training III	3	1	3	2	3	3
MUC 130A	Rhythm Training I	3	1	3	2	3	1
MUC 130B	Rhythm Training II	3	1	3	2	3	1
MUC 130C	Rhythm Training III	3	1	3	2	3	1
MUS 131	Group Vocal	2	2	2	2	2	2
MUC 140A	Group Piano I	2	2	3	3	1	3
MUC 140B	Group Piano II	2	2	3	3	2	3
MUC 140C	Group Piano III	2	2	3	3	3	3
MUC 144	Contemporary Singing	3	2	3	3	2	3
MUC 144B	Contemporary Singing II	3	2	3	3	3	3
MUC 145A	Group Guitar/Bass I	3	2	3	3	1	3
MUC 145B	Group Guitar/Bass II	3	2	3	3	2	3
MUC 145C	Group Guitar/Bass III	3	2	3	3	3	3
MUC 154A	Band Performance Workshop I	2	3	3	3	1	3
MUC 154B	Band Performance Workshop II	2	3	3	3	2	3
MUC 154C	Band Performance Workshop III	2	3	3	3	3	3
MUC 166	Songwriting and Music Publishing	2	3	3	2	2	3
MUS 170	Music Technology: Beats and Basics	3	1	3	3	1	3
MUS 171	Music Technology: Record and Mix	3	1	3	3	2	3
MUS 172	Music Technology: Record, Remix, and DJ	3	1	3	3	3	3
MUC 200A	Composition and Arranging I	2	1	3	3	2	3
MUC 200B	Composition and Arranging II	2	1	3	3	3	3

MUC 200C	Composition and Arranging III	2	1	3	3	4	3
MUC 201	Analog Modular Synthesis	2	1	3	2	3	3
MUC 202A	Ensemble I: Intro to Ensemble	2	2	3	3	1	3
MUC 202B	Ensemble II: Jazz Ensemble	2	2	3	3	2	3
MUC 202C	Ensemble III: Multimedia Ensemble	3	2	3	3	3	3
MUS 205	Introduction to Jazz History	3	3	3	4	1	3
MUS 206	Introduction to History of Rock Music	3	3	3	4	1	3
MUS 207	Introduction to History of Folk Music	3	3	3	4	1	3
MUS 209	Introduction to African-American Music	3	3	3	4	1	3
MUS 220A/B	Chorus	3	2	4	3	1	2
MUS 220C/D	Chorus	3	2	4	3	2	2
MUS 220E/F	Chorus	3	2	4	3	3	2
MUC 223	Studio Recording I	3	2	2	3	3	3
MUC 224	Studio Recording II	3	2	2	3	3	3
MUC 225	Studio Recording III	3	2	2	3	3	3
MUC 226	Studio Recording IV	3	2	3	3	3	3
MUC 227	Studio Recording V	3	2	3	3	4	3
MUC 228	Studio Recording VI	3	2	4	3	4	3
MUC 270	Audio Programming I: Intro to Max/MSP	3	1	3	3	3	3
MUC 271	Audio Programming II: Intermediate Max/MSP	3	1	4	3	4	3
MUC 280 A	Cooperative Ed: Vocational Music	4	3	3	3	3	3

Appendix 2: Advisory Committee Meeting Minutes

Music & Sonic Arts Advisory Board Meeting Minutes

Date: May 12, 2016

Board Members in Attendance:

- Alessandro Cipriani, Professor of Electronic Music, Conservatorio di Musica Frosinone
- Maurizio Giri, Professor Electronic Music, Conservatorio di Musica Frosinone
- Dan Green, Electronic Design Engineer, 4ms
- Darwin Grosse, Director of Education and Customer Support, Cycling '74 and professor of sonic arts and visual programming at University of Denver
- Jason Kramer, Owner of Control Voltage

PCC Employees in Attendance:

- Sarah Gaskins, Department Chair for Music & Sonic Arts
- Mary Kadderly, Instructor of Music
- Dan Pettis, Instructor of Music
- Don Thompson, Instructor of Music
- Carl Thor, Instructional Support Technician, Music
- Daniel Wenger, Division Dean, Arts & Professions

Summary of Advisory Board Input

Topic: Emerging Possibilities, Technologies and Economies

Procedural Sound. Coming from the game development world, procedural sound refers to sound systems designed to morph along with an environment the system senses or that is generated by a programming system. Sonic art installations and interactive kiosks are examples.

Sonification. Along with the growth of data (more data sources, more data gathered) comes a greater need for tools for understanding and interacting with data. Sonification is a powerful tool in that enterprise.

Sound Design for Specific Environments. Sound is becoming a more intentionally designed element of more environments. For example, Darwin mentioned a sound designer creating sonic environments in collaboration with master chefs (soundscapes designed to accompany and accentuate the experience of the foods served).

Hardware Extension. Whereas the tools we had used to be largely static, new tools are expandable and new technologies rendering old tools also expandable. Students are well served by learning how to extend tools, how to add to hardware, for example.

Tool Design. Increasingly, artists, designers and engineers are creating their own tools. Artistically, designing your own tools “gives you an idiosyncratic result that becomes your artistic signature and market niche.”

The Internet of Things. Darwin said, “The near future will be an internet of things”—a world wherein physical things all around us are interconnected through small, wireless technologies. In this world, the concept of “the interface”—or HMI—becomes increasingly important. If many more things around us are sending and receiving information, how are we in communication with them? “How do we package data so that humans and other systems can understand and interact with it?” How do we use the data being generated artistically? How do we sonify or visualize this data so that people can make sense of it? Students need to develop an understanding of how to interact with emerging data and new volumes of data.

Games. Alessandro brought up the importance of games as educational tools, as ways of presenting information and allowing for the interactive exploration and acquisition of knowledge.

Open Source. There are learning opportunities for students if the institution is able to become an active, contributing sponsor of some part of the Open Source World.

Question: Should we be teaching the fabrication of instruments?

A: No. Board members see fabrication as beyond the scope of a two-year education in music and sonic arts and advised the department to “choose a focus.” Digital Design + Fab was noted as more appropriate to a Masters or PhD program. “In a two-year program,” commented a board member, “you need to be thoughtful in order to cover things in depth.”

Question: Should we be teaching more than one programming language? And where does Max/MSP (the language we are currently teaching) figure in the mix of languages available?

A: Max/MSP has a 30-year history. Alessandro and Maurizio described it as “one of the best options we have today” and “the most complete tool set.” It is a “multimedia language that gives you the possibility of doing almost everything.” Darwin further added that makes continues to evolve and that with the development of “gen”—a sub language of Max—programmers may export their algorithms to other machines (mobile phones or tables). “You can develop your algorithm without writing code and create something original only by patching.”

A: Maurizio emphasized the importance of teaching one language in depth rather than a multitude of languages in less depth. Only by going deep into a language do students learn more sophisticated concepts, and the learning of these concepts is more important than a superficial facility with multiple languages. Understanding of the deeper concepts allows students to “imagine possibilities” and “ask the right questions”—regardless of the language. Students need to understand a language “in a deep way.”

A: Advisory Board members underscored that students need to be adept in creating their own tools using things like Max but also adept at using commercial software (which, in many instances, is excellent and more rapidly serves standard purposes).

A: Maurizio underscored the importance of teaching students to “solve problems.” They need to be able to “confront their intelligence and the technology and to imagine a solution to a certain problem.” He added, “You need expertise commercial software and in programming, but also you need a mind that is ready to adapt continuously.” By way of illustrating how dramatically things are changing and the surprising direction things are going, Maurizio brought up the example of Hatsune Miku (translation: the first sound from the future), the humanoid persona voiced by a singing synthesizer application developed by Crypton Future Media.

A: Jason also endorsed Max/MSP. It is a programming language “known by name” by many customers. Even those who do not code are aware of artists who do and who have done something impressive with Max. He counted among the principle strengths of Max its “connectivity” or “ability to connect things: software to hardware” and its adaptability (as a tool for sound, interactive environments, video etc.).

A: As with the earlier question around fabrication, the board cautioned against “getting lost in options” and counseled “focus and depth.”

Question: Why teach programming languages?

A: Darwin: Programming languages allow you to work and develop in “different environments.” For instance, knowing how to use a commercial software allows you to work only in that software’s environment (the computer). Knowing how to code, you can work in any number of environments: computers, mobile devices, small-platform digital tools etc. Darwin also reiterated the artistic and economic value of being able to “make your own tools.”

A: Dan Green: Code is ubiquitous. It’s going on behind the scenes all around us. “It effects us in our lives all day long.” Allowing students a glimpse of what it is and how it works is a matter of glimpsing the mechanics of everyday modern life.

Question: We have some additional capacity for a lab area or learning space. What might we do with it?

A: Board members gravitated towards the notion of an area wherein students were encouraged to “connect things” and to “explore connectivity.” Darwin brought up the educational value in connecting computers to modular synthesizers, allowing students to prototype tools within the computer (without any capital expenditure or physical materials) and then to test those tools in connection with hardware.

Jason brought up the value of connectivity in connection with the earlier emphasis on problem solving, recommending a lab space wherein students are provided a variety of tools and the

knowledge to connect them in ways that solve problems.

Darwin mentioned the importance of a space wherein students have hardware. He observed that younger people “desire hardware. They may use software. But they desire hardware.” He also mentioned that hardware provides a more streamlined and intuitive interface for artistic creation. Computer labs are nice, but computers are all-purpose tools, whereas creative hardware is designed more intentionally for the specific purpose of creation.

Dan and Jason brought up the possibility of a modular video system (LZX) as a natural extension on modular synthesis.

Question: How do studies in sonic arts connection with inclusion and social justice?

A: Alessandro and Maurizio described a project they are working on, developing a technology allowing vision impaired and blind people to interact with commercial computer interfaces. They feel this is especially important in music because visually impaired people often possess enhanced sensitivities to sound. The technology they are working on is a glove that allows a person with limited or no vision to interact with the computer.

Darwin brought up the importance of gesture control as a way for people with a variety of physical impairments to compose or perform music. Because we are able, with programming, to assign gestures of our choice to outputs of our choice, we can design instruments (adaptive use instruments) to accommodate the physical conditions of many more people than are accounted for by traditional instruments. We can “transcribe motion into musically viable results.”

Dan Green mentioned a music venue in Portland for the deaf, Cymaspace, where sensors convert sound and produce lights and vibrations.

Darwin brought up the importance of the sonic arts in the preservation of our sonic environment. “The world that we’ve known is rapidly disappearing because of things like climate change, redistribution of populations, expansions of cities into rural areas etc.—and there are opportunities for people with sound design and sound art expertise to capture, document and store the sound of the world that we have now.

Acknowledgements

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