Agendum
Oakland University
Board of Trustees Formal Session
April 9, 2018

BACHELOR OF MUSIC IN MUSIC TECHNOLOGY
A Recommendation

1. **Division and Department:** Academic Affairs and College of Arts and Sciences, School of Music, Theatre and Dance: Department of Music.

2. **Introduction:** The Department of Music currently offers Bachelor of Music programs in *performance*, *music education*, and *piano pedagogy*. With this proposal, we seek to add a **Bachelor of Music in Music Technology.**

With this new major, we seek to attract and serve students who wish to study and achieve a high level of performance while also expanding their knowledge of music technology. The program is designed for students who have sufficient performance background to be able to succeed as art music performers and musicians at a level that would enable them to earn a Bachelor of Music degree, which is a professional music degree.

The program would bring to Oakland University's music program students who have professional goals different from those of most of our current students, thus fostering growth in the music program. The major would also better serve some of our current students. Widening the range of Oakland's offerings for music students would broaden the base of students we could attract and serve well.

The department could offer the program by revising 3 existing courses and creating 5 new courses (open to all BM or BA music majors), plus 2 capstone courses open only to music technology majors.

The program would require some additional equipment and software and, eventually, one faculty line and additional space. However, the program could be launched and successfully delivered without additional faculty, as the department already includes full-time and part-time faculty with expertise in the specialization areas needed. The program could begin upon approval.

The complete proposal is included as Attachment A.

We seek approval by the Board of Trustees for this new major in the B.M. program. We hope to enroll the first music technology majors in Fall 2018.

3. **Previous Board Action:** None.

4. **Budget Implications:** Tuition for the proposed program would cover the program costs.

The other expenses associated with the program are (a) an infusion of equipment and software in Year 1, (b) equipment maintenance and software updates in subsequent years, and (c) library funds.

The budget is based on a relatively small number of students (5 in Year 1, 16 in Year 5), to show that the program would be viable even with minimal enrollment of new students. In reality, we expect the program to attract more new students to Oakland than these figures reflect.

A *pro forma* budget is included as Attachment B.

5. **Educational Implications:** The mission of the School of Music, Theatre and Dance is "to provide pre-professional, professional, liberal arts, and general education in the performing arts through artistically-grounded academic programs and diverse performance opportunities." In the 21st century, working in the performing arts requires knowledge of relevant technologies. Adding music technology courses to the music program offerings will provide opportunities for all music majors to enhance their understanding of the capabilities of music technology. Adding other music business components will provide opportunity for students to learn how to be entrepreneurial as professional musicians. Because most courses in the proposed program would be open to all music majors as electives, the program would enhance the breadth of the current offerings available for music study at Oakland University.

6. **Personnel Implications:** Initially, with a small number of students pursuing the proposed major, we could begin to offer the program with current full-time and part-time faculty with expertise in these areas. Within the first few years, we would propose a tenure-track line in music technology or music technology and composition to support this program.

In the *pro forma* budget, we show this faculty position starting in the third year of the program, but the actual timing of this hire would depend on the timing of approval of other positions we have requested. Once this new position was filled, the part-time faculty would continue to teach in their areas of expertise as well so that, as the program grew, a team would be responsible for delivering the proposed program curriculum.

7. University Reviews/Approvals: The proposal for a Bachelor of Music in Music Technology program was reviewed and approved by the Music Department; the School of Music, Theatre and Dance; the CAS Committee on Instruction; the CAS Assembly; CAS Dean Kevin Corcoran; the University Committee on Undergraduate Instruction; the Oakland University Senate; the Senior Vice President for Academic Affairs and Provost; and the President.

8. Recommendation:

WHEREAS, the Bachelor of Music in Music Technology program is consistent with objectives contained in Oakland University's Institutional Priorities; and

WHEREAS, the Bachelor of Music in Music Technology program will produce competent graduates capable of providing valued contributions and service to their communities; now, therefore, be it

RESOLVED, that the Board of Trustees authorizes the College of Arts and Sciences to offer a Bachelor of Music in Music Technology program; and, be it further

RESOLVED, that the Senior Vice President for Academic Affairs and Provost will complete an annual review of the Bachelor of Music in Music Technology program to evaluate academic quality and fiscal viability to determine whether the program should be continued.

9. Attachments:

A. Proposal for a Bachelor of Music in Music Technology

B. *Pro forma* Budget for the B.M. in Music Technology program

Submitted to the President
on 3/22, 2018 by

James P. Lentini, D.M.A.
Senior Vice President for
Academic Affairs and Provost

Recommended on 3/26, 2018
to the Board for approval by

Ora Hirsch Pescovitz, M.D.
President

ATTACHMENT A

Oakland University

Proposal for a New Major in the Bachelor of Music Program:

BACHELOR OF MUSIC IN MUSIC TECHNOLOGY

Deborah VanderLinde, Chair, Department of Music

Jackie Wiggins, Director, School of Music, Theatre and Dance

Requested Implementation Term: Fall 2018

Approvals

Reviewing Body	Submitted	Approved
Music Program Faculty (Music Department in Fall 2017)	October 15, 2016	January 12, 2017
MTD (SMTD) Undergraduate Curriculum Committee	January 25, 2017	January 26, 2017
CAS Committee on Instruction	January 26, 2017	September 28, 2017
CAS Assembly	October 24, 2017	November 28, 2017
University Committee on Undergraduate Instruction	November 29, 2017	December 19, 2017
Senate Planning Review Committee	November 29, 2017	January 18, 2018
Senate Budget Review Committee	November 29, 2017	January 28, 2018
University Assessment Committee	November 29, 2017	January 31, 2018
Oakland University Senate	February 15, 2018	March 15, 2018
Oakland University Board of Trustees	April 9, 2018	
National Association of Schools of Music		
Michigan Association of State Universities		

Proposal for a New Major in the Bachelor of Music Program:

BACHELOR OF MUSIC IN MUSIC TECHNOLOGY

Abstract

The Department of Music in the School of Music, Theatre and Dance has a long-standing Bachelor of Music program with majors in *performance* and *music education* and a new major in *piano pedagogy* recently approved by the Board of Trustees. With this proposal, we seek to add a major in *music technology* to serve students who aspire to develop musical knowledge and skills that would enable them to work in music professions as performers, recording engineers, sound technicians, and/or audio designers and to know how to market themselves and/or establish and maintain business relationships in any of these areas.

The proposed music technology major would bring to Oakland University's music program students who have professional goals different from those of most of our current students, thus fostering growth in the music program. The major would also better serve some of our current students. To widen their options upon graduation, some students studying music performance also study music education or pedagogy. Rather than majoring in performance and music education or performance and pedagogy, some students would choose to study performance while also expanding their knowledge of music technology, but Oakland does not currently offer this option. Widening the range of Oakland's offerings for music students would broaden the base of students we could attract and ultimately serve.

The proposed program is for artist musicians interested in the intersection between sound, technology, and entrepreneurship. Some universities offer majors in music technology aimed at popular music performers and others who seek to learn the technical end of music business without also achieving a high level of art music competence and knowledge. The proposed major is not designed to serve these students. There are several programs in the metropolitan area that already serve such students quite well. Instead, the proposed major seeks to attract and serve students who have sufficient performance background on an instrument or voice to be able to pass the music program entrance audition and to be able to succeed as art music performers and musicians at a level that would enable them to earn a Bachelor of Music degree, which is a professional music degree.

To offer the proposed major, the department would revise 3 existing courses and develop 7 new courses, 5 of which would also serve some students who are pursuing other BM or BA music majors, plus 2 capstone courses that would be open only to those pursuing the music technology major (a senior project and a professional internship). The remainder of the courses that would serve the proposed major already serve current BM and BA music students. The proposed program would require some additional equipment and software and, eventually, one faculty line and additional space. However, the major could be launched and successfully delivered without additional faculty, as the department already includes full-time and part-time faculty with expertise in the specialization areas needed. The program could begin upon approval.

The proposed program would enable Oakland University to attract new students, better serve some of our current students, and better position Oakland in relation to our competitors.

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Proposal for a New Major in the Bachelor of Music Program:

BACHELOR OF MUSIC IN MUSIC TECHNOLOGY

The Department of Music in the School of Music, Theatre and Dance has a long-standing Bachelor of Music program with majors in *performance* and *music education* and a new major in *piano pedagogy* recently approved by the Board of Trustees. With this proposal, we seek to add a major in *music technology* to serve students who aspire to develop musical knowledge and skills that would enable them to work in music professions as performers, recording engineers, sound technicians, and/or audio designers and to know how to market themselves and/or establish and maintain business relationships in any of these areas.

To offer the proposed major, the department would revise 3 existing courses and develop 7 new courses, 5 of which would also serve some students who are pursuing other BM or BA music majors, plus 2 capstone courses that would be open only to those pursuing the music technology major (a senior project and a professional internship). The remainder of the courses that would serve the proposed major already serve current BM and BA music students.

The proposed program would require some additional equipment and software and, eventually, a new faculty line and additional space. However, the major could be launched and successfully delivered without additional faculty, as the department already includes full-time and part-time faculty with expertise in the specialization areas needed. The program could begin upon approval.

The proposed program would enable Oakland University to attract new students, better serve some of our current students, and better position Oakland in relation to our competitors.

Rationale

The proposed music technology major would bring to Oakland University's music program students who have professional goals different from those of most of our current students, thus fostering growth in the music program. The major would also better serve some of our current students. To widen their options upon graduation, some students studying music performance also study music education or pedagogy. Rather than majoring in performance and music education or performance and pedagogy, some students would choose to study performance while also expanding their knowledge of music technology, but Oakland does not currently offer this option. Widening the range of Oakland's offerings for music students would broaden the base of students we could attract and ultimately serve.

The proposed program is for artist musicians interested in the intersection between sound, technology, and entrepreneurship. Some universities offer majors in music technology aimed at popular music performers and others who seek to learn the technical end of music business without also achieving a high level of art music competence and knowledge. The proposed major is not designed to serve these students. There are several programs in the metropolitan area that already serve such students quite well. Instead, the proposed major seeks to attract and serve students who have sufficient performance background on an instrument or voice to be able to pass the music program entrance audition and to be able to succeed as art music performers and musicians at a level that would enable them to earn a Bachelor of Music degree, which is a professional music degree.

Adding to our current offerings, these exciting areas of study would enhance the experiences of all music students at Oakland. Except for the capstone courses designed specifically to support the proposed major, music majors pursuing other BA and BM music majors would also be permitted to enroll in the new courses, with attention to the prerequisites. Certainly, those preparing to be music performers or music educators would benefit from these opportunities as well.

Further, the presence of peers engaged in these studies would enhance the music community for all music students, faculty, and staff. The program also holds potential connections to student and faculty work in theatre and dance.

Promoting the Mission and Goals of the University, School, and Department

The proposed program fits well within Oakland University's mission to "engage students in distinctive educational experiences that connect to the unique and diverse opportunities within our region and beyond." The proposed program also contributes to the department's capacity to "foster student success" by providing opportunities for students whose interests and goals the current offerings do not fully meet.

The mission of the new School of Music, Theatre and Dance is "to provide pre-professional, professional, liberal arts, and general education in the performing arts through artistically-grounded academic programs and diverse performance opportunities." In the 21st century, working in the performing arts requires knowledge of relevant technologies. Adding music technology courses to the music program offerings will provide opportunities for all music majors to enhance their understanding of the capabilities of music technology. The proposed program would serve both these purposes and, in general, enhance Oakland's music program offerings for all students.

The proposed program fits solidly within the missions of the university, school, and music program.

Need for the Program

In addition to the reasons shared above, Oakland University needs to be offering a program of this type because, like so many fields, the field of music has been transformed by technological change. The proposed degree offers a fourth professional track in the Bachelor of Music, combining the same core of courses for the performance, education, and pedagogy degrees with a technology and entrepreneurship track. The proposed program will give students opportunity to develop knowledge and skills that could be critical to their success as professional musicians in the 21st century. While Oakland's music program would maintain its Western Art Music focus and continue to produce the high-quality musicians, we also need to be able to offer our students opportunities to explore other areas in the field of music. This is the reason we offer courses, minors, and ensembles in world music and jazz. This new degree expands opportunities for all music students by adding music technology and entrepreneurship.

The capacity of this program to better preparing music students for 21st century careers, combined with the rationale already shared, demonstrates that we are proposing this program to better serve our current students and to enable us to serve students we cannot currently attract.

Goals and Objectives of the Program

The overriding goal of the proposed program is to serve artist musicians interested in the intersection between sound, technology, and entrepreneurship.

Students completing the proposed major program would develop knowledge and skills in the following areas of the music profession:

- Music performance, theory, and history (common to all BM programs)
- Audio engineering and production
- Music composition
- Live sound reinforcement
- Technology-based performance
- Audio design for film/video/game
- Interactive computer music
- Music business and career building

Goals of the Music Program

All Oakland music major programs are designed to foster student understanding of a common set of goals (through common core courses) plus program specific goals. The common core goals and goals specific to this proposed major are shared below.

Music students will develop:

Goal 1. A comprehensive understanding of the relationships among sociocultural/historical perspective, theoretical analysis, and performance practice in music.

Goal 2. Understanding of music in its historical and cultural context such that it enables them to support the growth of their musicianship and enables them to have a better understanding of the music they perform, hear, and create.

Goal 3. Firm grasp of the basic principles of the structure, design, and language of music in the Western musical tradition.

Goal 4. Technical knowledge and vocabulary sufficient to approach music of any period, style, or genre.

Goal 5. Ability to form a mental image of the sound of written music, and to translate heard music into written form.

Goal 6. Technical skill, artistic integrity, and the ability to sight-read music of diverse styles and genres.

Goal 7. Knowledge of technology appropriate to and in connection with their field of specialization.

Goal 8. Knowledge of music literature appropriate to and in connection with their field of specialization.

Goal 9. Where appropriate to the focus of the particular degree program, music students will develop understanding of learning and teaching and music learning and teaching sufficient to be able to engage in music teaching in their area of specialization.

Objectives of the Proposed Bachelor of Music in Music Technology Program

Bachelor of Music in Music Technology majors will:

Obj.Tech1. Develop understanding of the global functions of technology in music including application of technology in performance, composition, pedagogy, and business.

Obj.Tech2. Develop technical proficiency in aural competency to professionally produce audio recordings, reinforce live sound, and create electronic music compositions.

Obj.Tech3. Expand knowledge of terminologies and procedure in music technology, recording techniques, and entrepreneurship.

Obj.Tech4. Learn and apply theoretical concepts to solve technology problems in electronic music.

Obj.Tech5. Learn a diverse repertoire representing many historical and interpretive styles in computer music.

Obj.Tech6. Apply knowledge of acoustics, music technology, audio hardware and software, and musical styles to recording, creating, and reinforcing live sound in musical performance.

Obj.Tech7. Develop knowledge of the basic principles, laws, regulations, and ethical considerations associated with music technology and intellectual property.

Program Plans

The proposed program would be a new major in the Bachelor of Music program. The Bachelor of Music degree has a core of foundational music courses that would also be part of the proposed degree. The differences lie in the specialization, which in this case would include music performance with additional coursework in music technology.

This program is not designed to compete with Bachelor of Science programs that include electrical engineering and/or computer science components. It is designed, however, to provide students interested in studying music performance related knowledge and skills that will support their work as professional musicians.

Extant, Revived, and Revised Music Courses

The proposed program includes two currently-offered courses, two extant courses that are not currently offered that would be revived to support this program, and one older course that would be revised to support this program.

Extant Courses

The music program runs two audio recording courses annually every Fall and Winter. These courses would be renamed and revised to reflect contemporary practice and better serve our students.

The extant course:

MUS 353 Audio Techniques (2)
Study of electronic issues, basic hardware, and acoustical phenomena associated with sound recording and sound reinforcement. Projects will involve the recording of live concerts.

would be revised to focus on acoustics:

MUS 3053 Acoustics for Musicians (2)
Physics of sound, characteristics of human hearing, room acoustics, psychoacoustics, measurement of sound, and analysis of sound properties of acoustic and electronic musical instruments. Class projects include frequency response and noise analysis of spaces, computation of RT60 reverb times, and interpretation FFT plots.

The extant course:

MUS 3054 (354) The Recording Studio (2)
Continuation of MUS 3053 (353) and a study of recording, editing, mixing and mastering in a recording studio. Final project is mastering a CD.
Prerequisite(s): MUS 3053 (353).

would be revised to reflect the addition of MUS 3711 Advanced Recording Techniques (2):

MUS 3054 Basic Recording Techniques (2)
Introduction to audio recording techniques, from classic stereo through contemporary multi-channel recording. Examination of recording hardware, including microphones, preamplifiers, computer interfaces, digital and analog recording devises, and monitors, and software, including ProTools, Logic Pro, and associated plugins.
Prerequisite: MUS 3053 (353).

Appendix B contains revised syllabi for these courses.

Revived Courses

Two previously-offered courses would be revived to support this program:

MUS 2701 (MUT 260) Creative Composition I (2)
Techniques for composing original music including approaches to conceptualization, form, texture, melody, harmony and counterpoint. Skills will be developed in music notation, synthesizers, sequences and computer software. Frequent composition projects will be assigned and performed in class

MUS 2702 (MUT 261) Creative Composition II (2)
Continuation of MUS 2701.
Prerequisite: MUT 2701.

Revised Course

The extant orchestration course:

MUT 411 Orchestration (4)
A study of the art of instrumental combination as applied to various ensemble applications, including full orchestra and band.
Prerequisite: MUT 214.

would be revised to include arranging:

MUS 4701 (MUT 411) Orchestration and Arranging (3)
Characteristics of instruments normally found in band and orchestra. Short writing projects for voice, chamber music, concert band, and orchestra along with sample library MIDI orchestration. (Formerly MUT 411, Orchestration)
Prerequisite: MUS 2214 (MUT 214).

Appendix B includes syllabi for the revised and revived courses.

Proposed New Music Courses

The proposed program would also require the creation of seven new courses:

MUS 3711 Advanced Recording Techniques (2)
Application of advanced recording, editing, and sound manipulation techniques in video, sound and live audio.
Prerequisites: MUS 3053 (353) & 3054 (354).

MUS 3701 Music Technology I: MIDI and Sequencing (2)
MIDI, synthesis, sampling, and sequencing in both studio environments and live performance, with attention to use of multidimensional polyphonic expression (MPE) controllers and the manipulation of audio with a variety of controllers. Includes frequent composition assignments and live performances.

MUS 3702 Music Technology II: Audio Design and Processing (2)
Creative applications of audio design, sound manipulation, and composition, including acousmatic music, diffusion and spatialization, and a look at media composition including film and games. Projects include sample library design, acousmatic composition, writing for new media, and diffusing works in a live concert.
Prerequisite: MUS 3701.

MUS 4711 Interactive Computer Music (2)
Programming for live audio and MIDI manipulation in Max/MSP language. Includes software instrument design, realtime audio manipulation, laptop ensemble performance, and non-traditional and graphical notation. Students will work with an instrumentalist or vocalist to create an idiomatic interactive work to be performed at a capstone concert.
Prerequisite: MUS 3701.

MUS 4720 Career Building for Musicians (2)
Establishing oneself in the music industry, including music publishing and licensing, recording contracts, copyright laws, basic business practices and start-up, marketing and promotion, website design, social media outreach, artist branding, grant writing, press kits, and resume/digital portfolio building.

MUS 4998 Senior Project: Music Technology and Recording (3)
Advanced application of individual work in music technology and audio production.
Prerequisites: MUS 2702, 3711, 3702, and 4711.

MUS 4951 Music Industry Internship: (4)
Field application of theories and practices in professional music production, recording arts, or music technology industries.
Prerequisites: MUS 2702, 3711, 3702, and 4711.

Appendix C contains syllabi for these proposed new courses.

Accreditation

The music programs at Oakland University are accredited by the National Association of Schools of Music (NASM). If approved by Oakland, the proposed program would be submitted to NASM for their approval as well. The proposed program was designed to follow NASM standards.

The 2016-17 *NASM Handbook* contains extensive information about music technology curricula because programs that include extensive coursework in engineering or business are regulated by NASM as well as accrediting bodies in those fields. The proposed program would be a music major with a focus on extending and enhancing students' music knowledge by linking their musical understandings and skills to technological tools that can produce, enhance, and capture music performance. The proposed program does not aim to prepare engineers or business professionals. All courses would be taught by music professionals and taught from a musical perspective. For example, Career Building for Musicians would teach performance and music technology majors how to establish and manage a career. Once approved, this course would likely become part of the BM in Music Performance major as well.

NASM Standards for a Bachelor of Music in Music Technology Program

In this section, we summarize and excerpt from the current NASM standards to include in this document the most relevant information that informs this particular proposal.

First, NASM recognizes that there are engineering and computer science programs that include some music production. They do not consider these to be music degrees. For a music technology program to be considered a music degree program, music concepts and processes must be the core of the program. This is emphasized in several places in the *NASM Handbook*, including in the first paragraph below, which includes the statement: "The degree requires development of a professional level of competence in music."

Second, the *NASM Handbook* describes the field of music technology as large, with a broad scope with many sectors and specializations. They also describe the field as dynamic, evolving with changes in and also influencing the evolutions of music and technology. Therefore:

> Consistent with the nature and scope of the field, the standards are intended to provide a foundation for creative action and supportive environments in institutions offering a wide variety of curricular programs in music technology....
>
> Each institution makes specific curricular content choices. These choices are to be consistent with purposes; they include, but are not limited to, what subjects are to be studied, the amount of time and emphasis each is given, the levels of achievement expected in specific subject and content areas, the relationships among required subject and content areas, and the competency expectations for graduation....
>
> NASM standards distinguish between music-centered content and other content. Music degrees and programs include significant knowledge and skill-building studies in music-centered content in areas such as music creation, performance; repertories and genres; theoretical, historical, and analytical study; and teaching. Music technology is associated with these and other music-centered content areas; often it and its component disciplines are themselves music-centered content areas.

As a Bachelor of Music degree program, the curriculum must be music focused and must meet the standards of any Bachelor of Music program, including the requirement of an entrance audition.

Institutions must establish enrollment or admissions policies for music technology programs consistent with the nature and expectations of program offerings. Students shall be admitted only to programs for which they show prospects of success.

G. Bachelor of Music in Music Technology

The Bachelor of Music in Music Technology is intended to produce professional competence in the integration of music and technology in one or more areas of the music technology field, and basic competence in one or more additional areas. The degree requires development of a professional level of competence in music.

1. Curricular Structure

a. **Standards.** Curricular structure, content, and time requirements shall enable students to develop the range of knowledge, skills, and competencies expected of those holding a professional baccalaureate degree in music technology as indicated below.

b. **Guidelines.** Curricula to accomplish this purpose that meet the standards just indicated normally adhere to the following structural guidelines: studies in the music technology area, including music-centered technology applications in the area(s) of focus, should comprise 25-35% of the total program; supportive courses in music (including basic musicianship studies and performance) and technology, 25-35%; general studies, 25-35%. Studies in the major area and supportive courses in music and technology normally total at least 65% of the curriculum.

2. Essential Competency Areas, Experiences, Opportunities, and Requirements *(in addition to those stated for all professional undergraduate degrees in music):*

No institution can develop professional-level competency in all of these areas in the context of a professional undergraduate program. Therefore, each institution offering the Bachelor of Music in Music Technology must meet the standards below where indicated in terms of music technology in general, and otherwise in terms of one or more specific areas of music technology chosen by the institution as its area(s) of focus in music technology. Students must develop a professional level of competency in at least one specific area, and a basic level of competency in a second area....The competencies outlined may be developed in various ways. The list of competencies below should not be construed as requiring a separate course for each competency.

a. **Essential Competencies**

1) Basic understanding of the scope, integrative nature, and various functions of music technology as a field, including acquaintance with various applications of music technology in music, technological development, research, pedagogy, and in other fields.

2) Knowledge of and ability to use various terminologies and procedures in music technology, music, and technology, and their combinations as employed in and associated with the work of music technology. This includes, but is not limited to, their respective vocabularies of practice, ways work is conceptualized, developed, synthesized, and finalized, and phases of production, presentation, and/or distribution.

3) Ability to solve music technology problems, including (a) problem identification, information gathering, solution development, and testing, and (b) knowledge and skill to produce case-specific decisions about what is useful, usable, effective, and desirable during the course of music technology project development and production.

4) Ability to describe and respond to the needs or expectations of users, audiences, and/or contexts associated with doing professional work in two or more areas of music technology.

5) Advanced capabilities in specific areas of musicianship consistent with the music technology areas that constitute the degree program's focus. Aural skills are essential. Abilities to apply advanced knowledge of the properties of musical structures and processes to solving music technology problems are essential.
6) Fundamental knowledge of current technologies and technological principles widely applicable to music technology, including but not limited to those associated with recording, manipulating, and presenting music and sound, signal flow and processing, music communication protocols, synthesis and interface technologies, sound synthesis, and interactive and generative media.
7) The ability to use industry standard technologies at a professional level to achieve goals and objectives associated with specific areas of music technology (e.g. Standards 4.C.2.b. below). These goals may be in terms such as mastery of production techniques, artistic expression, support for work in other fields, relationships with other technologies and media, and so forth.
8) Ability to apply knowledge of fundamental science, engineering, and math concepts and other aspects of the science of sounds and the electrical manipulations of sounds in music technology situations.
9) Basic understanding of connections among music, technology, music technology, and culture, including the evolution of music technology, the impact of technology on music and culture, technological influences on multiple musical styles, including contemporary styles, and their cultural contexts, and information and means for projecting future possibilities in music technology; and basic understanding of these connections with regard to current and emerging Internet- and network-based programs, services, and environments related to the creation, sharing, and distribution of music.
10) Knowledge of the basic principles, laws, regulations, and ethical considerations and practices associated with music technology and intellectual property as it is both acquired and created by individuals working in the music technology program.
11) Comprehensive capabilities to use and integrate the above competencies in at least one area of music technology to produce professional-level work in at least one area, and basic level work in a second area.

b. Relevant Competency:

1) In music technology programs with specific orientations to one or more **audio applications**, competencies include, but are not limited to, knowledge of the nature, purpose, and the way work is created for the application and the roles of music technology to conceptualization, development, and production; advanced knowledge of and ability to use industry-standard technology, equipment, labs, and studios to produce work in or for the application; the ability to apply science, computer engineering, and software development skills associated with the application. Experiences should include working together in teams that replicate, insofar as possible, professional working patterns associated with the application.

c. Specific Standards, Competencies, and Guidelines for Supportive and General Studies *(in addition to those stated for all professional undergraduate degrees in music):*

1) Consistent with the purposes and requirements of the program, institutions must require studies that support knowledge development in disciplines with direct applications to or connections with the practice of music technology. These disciplines may include, but are not limited to, mathematics, electrical or computer engineering, acoustics, or other sciences. Specific content choices, and the specific approaches to or locations of such studies in courses or curricular structures are the prerogative of the institution.
2) Studies in mathematics, including college calculus if applicable, are required as may be

necessary to support the needs of any electrical or computer engineering or other science-based course mandated by the program or the institution.

3) Studies in areas such as acoustics, computer science, engineering, physics, music business/industry, digital/interactive media, sound design, broadcast journalism, mass communication, film studies, cultural studies, mathematics, and expository writing is strongly recommended.

d. Experiences, Opportunities, and Project Requirements

1) Regular access to instruction and evaluation by faculty with the educational and professional backgrounds in music technology and associated disciplines to develop the competencies listed above both in general and in the music technology areas that are the focus of the degree. Appropriate backgrounds must include more than specific software or hardware skills.
2) Regular access to appropriate technology, equipment, and staff necessary for the development and professional production of work in the music technology areas that are the focus of the degree. Consistent with the purposes and content of the program, technology and equipment must align with disciplinary/industry standards.
3) To ensure that opportunities can be fully realized, programs that require student purchase of computers should provide the technological infrastructure and staff to support use of privately owned machines in music technology workspaces, studios, and classrooms. The institution should be cognizant of industry preferences for certain operating systems, computer platforms, and software in setting computer purchase requirements and infrastructure support.
4) Regular experiences and advanced practicums associated with producing work in the primary focus area of music technology must be provided. Students must have sufficient time with studios and equipment to develop their knowledge and skills and to complete required projects.
5) Opportunities to work with a variety of musical genres and styles are strongly recommended.
6) Internships in industry or the equivalent are strongly recommended.
7) A final project demonstrating competence in at least one area of music technology must be required for graduation. The final project and other demonstrations of competence at senior year must show readiness to produce work in one or more music technology areas at a professional level.

e. Guidelines

1) Normally, the institution maintains a program of regular consultation with professional practitioners in music technology.
2) Normally, institutions maintain a counseling program to provide students with a realistic assessment of job opportunities and professional requirements as appropriate to individual aptitude, professional interest, and academic progress.
3) Normally, institutions make a thorough assessment of each student's performance during internship experiences and use such assessment in the counseling process in general and with areas of music technology specialization that constitute the degree program's focus.

Bachelor of Music (B.M.) in Music Technology Program

NASM Curricular Table for the Proposed B.M. in Music Technology

Below is the NASM Curricular Table for a music technology degree showing how the proposed B.M. in Music Technology program meets NASM criteria:

NASM Curricular Table

Program Title: Bachelor of Music in Music Technology
Number of Years to Complete the Program: 4
Program Submitted for: Plan Approval
Current Semester's Enrollment in Majors: n/a
Name of Program Supervisor: Jeffrey Heisler, Assistant Professor of Music

	Studies in Music Technology Area	Supportive Courses in Music	General Studies	Total Number of Credits
BM in Music Technology	32 credits 25%*	54 credits 45%	36 credits 30%	122

*percentages based on 120 credits.

Studies in Music Technology Area (generally 25%-35%)

MUS 1171, 1172	Keyboard Techniques I, II	4 credits
MUS 2701, 2702	Creative Composition I, II	4 credits
MUS 4701	Orchestration and Arranging	3 credits
MUS 3053	Acoustics for Musicians	2 credits
MUS 3054	Basic Recording Techniques	2 credits
MUS 3711	Advanced Recording Techniques	2 credits
MUS 3701	Music Technology I: MIDI and Sequencing	2 credits
MUS 3702	Music Technology II: Audio Design & Processing	2 credits
MUS 4711	Interactive Computer Music	2 credits
MUS 4720	Career Building for Musicians	2 credits
MUS 4998	Senior Project: Music Technology and Recording	3 credits
MUS 4951	Music Industry Internship	4 credits

Total Studies in Music Technology Area 32 credits

Supportive Courses in Music (generally 25%-35%)

MUA 1xxx–3/4xxx	Applied Principal Instrument or Voice	16 credits
MUE 3xxx	Ensemble	8 credits
MUS 1212	Theory I	3 credits
MUS 1213	Aural Skills I	1 credit
MUS 1214	Theory II	3 credits
MUS 1215	Aural Skills II	1 credit
MUS 2212	Theory III	3 credits

MUS 2213	Aural Skills III	1 credit
MUS 2214	Theory IV	3 credits
MUS 2215	Aural Skills IV	1 credit
MUS 1331	History and Literature of Western Tonal Music	3 credits
MUS 1332	Music of World Cultures	3 credits
MUS 3331	History & Literature of Medieval & Renaissance Music	3 credits
MUS 3332	History & Lit. of Western Music from ca. 1900 to Present	3 credits
MUE 30xx	Improvisation Courses	2 credits

Total Supportive Courses 54 credits

General Studies (generally 25%-35%)

Writing Foundation	4 credits
Writing Intensive in General Education · can double-count	(4) credits
Writing Intensive in Major · can double-count	(4) credits
Arts · in this case, MUS 131, which is part of the major	(4) credits
Literature	4 credits
Foreign Language and Literature I	4 credits
Global Perspective	4 credits
Western Civilization · COM 3607, Rise of Electronic Media, recommended	4 credits
Social Science · AN 3110 Culture, Society and Technology, recommended	4 credits
Natural Science and Technology	4 credits
Formal Reasoning · MTH 1118 Mathematical Sciences in the Modern World, recommended	4 credits
Knowledge Applications	4 credits
Capstone · can double-count	(4) credits
Diversity · can double-count	(4) credits

Total General Studies 36 credits

Comparison with Other Similar Programs

Perusal of websites and catalogs of other schools in the state and region who offer similar programs enabled us to make some comparisons to the proposed program, as far as program goals and students served.

Technical schools like Specs Howard School of Media Arts, Recording Institute of Detroit, Detroit School of Rock and Pop Music, and others in the region aim to enable students to develop the technical skills they need for audio technology in popular music fields. These technical programs are not part of a college music major focused on developing knowledge and skills in art music performance and technology. They are not university programs and do not lead to a bachelor's degree.

Michigan Technological University offers a Bachelor of Science in Audio Production and Technology, a program with either an electrical engineering technology or computer science focus, in which students learn the technical end of the audio technology business: audio production and technology, system design and installation, and the technical elements of sound. This is an engineering or computer science degree with a specialization in audio technology. The proposed program is a music degree with a specialization in music technology within the field of music, serving students with very different interests and strengths.

Western Michigan University offers a Bachelor of Science in multimedia arts technology with a focus on "audio engineering, creative projects with digital media, live sound reinforcement, and computer programming," designed to "prepare students for work in technical and creative fields involving digital media." In this program, students take mostly technical courses along with a small number of basic music courses, none of which go into the musical depth of the program proposed herein.

The University of Michigan School of Music, Theatre and Dance offers four undergraduate degree programs in Performing Arts Technology. One of these programs, the Bachelor of Music in Music and Technology, seems to be the most similar to the proposed program in that it is "designed for students who possess demonstrated interest in producing music with computer technology who are also performers in voice or on an acoustic instrument."

The chart on the next page compares the proposed Oakland program to this similar program offered by the University of Michigan. For comparison, some courses are shifted into categories that are different from our catalog copy or NASM curricular categories.

University of Michigan BM in Music and Technology 120 Credits		Proposed Oakland University BM Music Technology 122 Credits	
Performance (24 credits)		**Performance (28 credits)**	
8 sem. Applied Music (instrument or voice)	16	8 sem. Applied Music (instrument or voice)	16
2 semesters Keyboard Technique	4	2 semesters Keyboard Technique	4
4 semesters of Ensemble	4	8 semesters of Ensemble	8
Music Core (31 credits)		**Music Core (41 credits)**	
4 semesters Music History & World Music	10	4 semesters Music History & World Music	12
4 semesters Music Theory & Aural Skills	12	4 semesters Music Theory & Aural Skills	16
1 sem. Adv. Theory (Orchestration is 1 option)	3	1 semester Orchestration and Arranging	3
2 semesters of Creative Composition	6	2 semesters of Creative Composition	4
		2 semesters of Improvisation	2
Performing Arts Tech (20 + 12 elec. = 32 cr.)		**Music Technology (18 credits)**	
Freshman Seminar in the Media Arts	3	Acoustics for Musicians	
Acoustics and Psychoacoustics	3	Basic Recording Techniques	2
Introduction to Computer Music	3	Advanced Recording Techniques	2
Computer Music Programming and Arranging	3	Music Tech I: MIDI & Sequencing	2
Sound Recording and Production I, II (3, 3)	6	Music Tech II: Audio Design & Processing	2
Digital Music Ens. or Electronic Chamber Music	2	Interactive Computer Music	2
		Career Building for Musicians	2
		Music Industry Internship	2
	3		4
<u>Plus 4 Perf Arts Tech electives chosen from:</u>	6		
Technical Ear Training and Critical Listening	3		
Contemp. Practices in Studio Production I, II	3		
Image, Sound, and Story	3		
Practicum in Music and Sound for Film	6		
Performance Systems	3		
Interactive Media Design I, II (3, 3)	1-3		
Digital Sound Synthesis	3		
Research & Scholarship (1-3)			
Business of Music			
Culminating Project (1-3 credits)		**Culminating Project (3 credits)**	
Senior Thesis (1-3)		Senior Project: Music Tech. & Recording	3
General Education (30 credits)		**General Education (36 credits)**	
Math 105 (Data, Functions and Graphs) or proficiency,		Recommended courses:	
the University's two-semester English writing requirement,		MTH 118 Mathematical Sciences in the Modern World	
one course in Computer Programming, and		AN 300 Culture, Society and Technology	
non-music electives to total at least 30 hours		COM 375 Rise of Electronic Media	

Plan of Study for the Proposed B.M. in Music Technology Program

Below is a plan of study for students who wish to complete the Bachelor of Music in Music Technology program in 4 years.

Plan of Study: B.M. in Music Technology

Year	Fall	Cr	Winter	Cr
FRESHMAN	MUA 1xxx Applied Music	2	MUA 1xxx Applied Music	2
	MUE 3xxx Major Ensemble	1	MUE 3xxx Major Ensemble	1
	MUS 1212 Music Theory I	3	MUS 1214 Music Theory II	3
	MUS 1213 Aural Skills I	1	MUS 1215 Aural Skills II	1
	MUS 1171 Keyboard Tech I	2	MUS 1172 Keyboard Tech II	2
	MUS 1331 Western Tonal Music History & Lit (Gen.Ed.1 Art)	3	MUS 1332 Music of World Cultures	3
			MUS 3053 Acoustics for the Musician	2
	WRT 160 (G.E.2)	4	MUS 2701 Creative Composition I	2
	TOTAL CREDIT HOURS:	16	TOTAL CREDIT HOURS:	16
	Fall	Cr	Winter	Cr
SOPHOMORE	MUA 2xxx Applied Music	2	MUA 2xxx Applied Music	2
	MUE 3xxx Major Ensemble	1	MUE 3xxx Major Ensemble	1
	MUS 2212 Music Theory III	3	MUS 2214 Music Theory IV	3
	MUS 2213 Aural Skills III	1	MUS 2215 Aural Skills IV	1
	MUS 3331 Medieval/Renaissance Hist & Lit	3	MUS 3332 West. Mus History/Lit fr. 1850	3
	MUS 3054 Basic Recording Technique	2	MUS 3701 Music Technology I	2
	General Education (G.E.3)	4	ML 1114 Modern Language and Lit (G.E. 4)	4
	TOTAL CREDIT HOURS:	16	TOTAL CREDIT HOURS:	16
	Fall	Cr	Winter	Cr
JUNIOR	MUA 3xxx Applied Music	2	MUA 3xxx Applied Music	2
	MUE 3xxx Major Ensemble	1	MUE 3xxx Major Ensemble	1
	MUS 2702 Creative Composition II	2	MUS 4701 Orchestration & Arranging	3
	MUS 3702 Music Technology II	2	MUS 4711 Interactive Computer Music	2
	MUS 3755 Adv. Recording Technique	2	General Education (G.E.6)	4
	General Education (G.E.5)	4	General Education (G.E.7)	4
	Improvisation Course	1		
	TOTAL CREDIT HOURS:	14	TOTAL CREDIT HOURS:	16
	Fall	Cr	Winter	Cr
SENIOR	MUA 3xxx or 4xxx Applied Music	2	MUA 3xxx or 4xxx Applied Music	2
	MUE 3xxx Major Ensemble	1	MUE 3xxx Major Ensemble	1
	MUS 4720 Career Building for Musicians	2	MUS 4951 Music Industry Internship	4
	MUS 4998 Senior Project: Music Tech & Recording (Gen Ed Capstone)	3	General Education (G.E.9)	4
			General Education (G.E.10)	4
	General Education (G.E.8)	4		
	TOTAL CREDIT HOURS:	12	TOTAL CREDIT HOURS:	15
Degree Total = 122 Credit Hours				

Please note: Oakland University requires 124 credits for a Bachelor's degree. The BM in Music technology program consists of 122 credits. To graduate, please make sure you enroll in at least 2 credits of elective beyond the required courses listed in this plan of study.

Academic Unit

How the Proposed Program Serves the Goals of the Department

The introductory sections and section entitled "Promoting the Mission and Goals of the University, School, and Program" on pp. 2-3 explain how the proposed program serves the goals of the Music Department, which the SMTD faculty have articulated at the school level in a statement that well serves all three departments.

Staff Support for the Proposed Programs

The proposed program should not require any additional staff support beyond the support of the rest of the music programs. The school currently has two administrative professional positions that would serve this program: our Technical Coordinator / Sound Technician position and Marketing Manager position. The job descriptions of these position are included as Appendix E.

Faculty Qualifications

Initially, with a small number of students pursuing the proposed major, we could begin teaching the courses with the current full-time and part-time faculty. A composer who holds a DMA with expertise in electronic and electroacoustic music currently teaches applied composition and music technology courses for the Music Department. This individual would deliver the composition and music composition technology portions of the curriculum. Within the first few years, we would propose a tenure-track line in music technology or music technology and composition to support this program. In the *pro forma* budget, we show this position starting in the third year of the program, but the actual timing of this hire would depend on the timing of approval of other positions we have requested. Once this new position was filled, the faculty described in Appendix A would continue to teach in their areas of expertise as well, so that, as the program grew, a team would be responsible for delivering the proposed program curriculum.

Second, the SMTD has a full-time administrative professional who is a sound technician and recording engineer. He currently teaches our recording technology courses as a lecturer. The SMTD will always need a sound technician and recording engineer. Anyone in that position would have the knowledge and skills to teach the basic recording courses that are part of this degree program, so there is no reason to assume we would eventually need a tenure-track line in recording technology.

Third, the SMTD has a full-time marketing manager with both a degree and extensive experience in music business. She will teach Career Building for Musicians.

Appendix A contains abbreviated *curriculum vitae* for the extant faculty with expertise in music technology and related areas of the curriculum.

Resources

Faculty:

As explained above, although we have included a full-time faculty position in the third year of the *pro forma* budget, we would not request this position until the proposed program had grown sufficiently (to 20 majors) to require and support the position. The CAS part-time budget would not be negatively impacted by this program because the three part-time faculty who would teach in the program currently deliver the same number of credits as they would for the proposed program, teaching general education courses. As the charts in Appendix F show, these faculty would continue to deliver general education courses, just fewer of these and, over time, replace some of their current teaching with courses for this program. The department offers so many general education courses annually that this would not substantially impact our capacity to meet the needs of OU students. At present, we sometimes run general education courses with low enrollments, so there would be little impact on our overall production.

Facilities:

Most courses that comprise this program would be taught in the Recital Hall sound booth or music technology lab, but some could be taught in one of our small classrooms: 218, 229, or 230 Varner.

In any new performing arts facilities designed and built, we would include specialized space for this program. This space would serve the entire school (SMTD), not just this degree program.

Equipment and Materials Needed:

Five computers in the existing music technology lab would be designated to support the proposed program and would need to have the following hardware:

- USB Audio Interface (Mackie, MOTU, PreSonus, MAudio)
- Monitors (stereo pair – KRK, Event, Adam, Genelec)
- Headphones (Shure or Sennheiser)
- Midi Keyboard (MAudio keystation)
- One additional computer with hardware/software setup in Recording Studio Booth

The five computers would need to have the following software:

- Pro Tools HD (Industry Standing Digital Audio Workstation) with Instruments / Effects Plugin
- Logic Pro X Studio Suite (Music Production Software – Electronic-Acoustic Composition)
- MAX/MSP w/ Jitter (Interactive Computer Software)
- Sibelius and Finale (Notation Software)
- Ozone 7 (for Audio Mastering)

We would also need to purchase the following equipment:

- Mics, Stands and Cables for recording studio booth / class)
- Large Condenser: Neumann U87, Soundelux U195, Neumann M147, AKG C414
- Small Condenser: shoeps or earthworks omnis (2), Neumann KM184 (2)
- Dynamic: EV RE-20, Shure SM7b, Sennheiser MD421 (2), Sennheiser MD441
- Ribbon: Royer R-121, AEA R84
- Drum Set: AKG Drum Session I Set

Software Subscriptions

The proposed program would require several software subscriptions that would need to be renewed annually, at a cost of about $4000 per year. This appears in the *pro forma* budget in the Supplies and Services line.

Academic Direction and Oversight

Until we could establish a tenure-track position in music technology, Jeffrey Heisler, Assistant Professor of Music,[1] would serve as coordinator of the proposed program. He would add responsibility for this new program to his current load. Professor Heisler estimates that he would spend about 5% of his time administering and coordinating this program.

Catalog Description for the B.M. in Music Technology

Requirements for the major in music technology, Bachelor of Music program

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Admission to Music degree programs

Admission to the music degree programs at Oakland University (OU) is a two-tiered process, except for the B.A. in Music. The first step in the process for all students is the entrance audition. These auditions are held several times a year and determine whether or not a student will be admitted to OU in any of these degree programs. For all B.M. programs, the second step is the major standing audition, which determines whether students may continue in the program, and if they can be admitted into a professional program in the school.

Entrance auditions

Entrance audition days are held several times each year. The audition schedule and downloadable application are available on the school website at www.oakland.edu/music. Please submit application to the school office. Students should be prepared to demonstrate proficiency in their proposed area of specialization.

- Students seeking admission to Oakland University as music majors or auditioned music minors must audition for the music faculty.
- Students who audition and do not enroll within two semesters must re-audition.
- Students who enroll and leave school for at least two semesters must re-audition. Music students who enroll and leave school must re-audition and also retake the theory placement exam.

The Bachelor of Music degree is intended for students who wish pre-professional and professional preparation in music education and/or performance, piano pedagogy, or music technology. Students should consult the Undergraduate Music Handbook available on the department website, oakland.edu/music and should also consult with the departmental adviser in the College of Arts and Sciences Advising Office to plan their degree program.

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[1] Professor Heisler has an extensive scholarship record and, at the recommendation of the department, is under review for tenure and promotion in a 41.h review during 2017-2018.

Only major courses in which a grade of at least 2.0 or C has been earned will count toward the major. For this program, MUS 1331 (131) satisfies the general education arts requirement. MUS 3331 (331) and 3332 (332) count as writing intensive in the major. MUS 4998 counts as the general education capstone. Degree requirements are as follows:

Applied music - 20 credits (or placement)

Must achieve 3000-level in principal instrument or voice:

- Applied principal instrument or voice 1000 level **(4)** (2 credits per semester, 4 credits total)
- Applied principal instrument or voice 2000 level **(4)** (2 credits per semester, 4 credits total)
- Applied principal instrument or voice 3000 level **(4)** (2 credits per semester, 4 credits total)
- Applied principal instrument or voice 3000 or 4000 level **(4)** (2 credits per semester, 4 credits total)
- MUS 1171 (MUA 191) - Keyboard Technique I **(2)**
- MUS 1172 (MUA 192) - Keyboard Technique II **(2)**

Music history, theory, and world music - 28 credits (or placement)

- MUS 1212 (MUT 112) - Music Theory I **(3)** and MUS 1213 (MUT 113) - Aural Skills I **(1)**
- MUS 1214 (MUT 114) - Music Theory II **(3)** and MUS 1215 (MUT 115) - Aural Skills II **(1)**
- MUS 2212 (MUT 212) - Music Theory III **(3)** and MUS 2213 (MUT 213) - Aural Skills III **(1)**
- MUS 2214 (MUT 214) - Music Theory IV **(3)** and MUS 2215 (MUT 215) - Aural Skills IV **(1)**
- MUS 1331 (131) - History and Literature of Western Tonal Music **(3)**
- MUS 1332 (132) - Music of World Cultures **(3)**
- MUS 3331 (331) - History and Literature of Medieval and Renaissance Music **(3)**
- MUS 3332 (332) - Western Music from ca. 1850 to the Present **(3)**

Music technology – 30 credits

- MUS 2701 (MUT 260) - Creative Composition I **(2)**
- MUS 2702 (MUT 261) - Creative Composition II **(2)**
- MUS 3053 (353) - Acoustics for Musicians **(2)**
- MUS 3054 (354) - Basic Recording Techniques **(2)**
- MUS 3711 - Advanced Recording Techniques **(2)**
- MUS 3701 - Music Technology I: MIDI and Sequencing **(2)**
- MUS 3702 - Music Technology II: Audio Design and Processing **(2)**
- MUS 4701 - Orchestration and Arranging **(3)**
- MUS 4711 - Interactive Computer Music **(2)**
- MUS 4720 - Career Building for Musicians **(2)**
- MUS 4998 - Senior Project: Music Technology and Recording **(3)** [2]
- MUS 4951 - Music Industry Internship **(4)**

Minimum of 2 credits of improvisation selected from

- MUE 3001 (310) - Vocal Jazz Improvisation Workshop **(1)**
- MUE 3004 (315) - Oakland Jazz Singers **(1)**
- MUE 3019 (340) - Oakland University Jazz Band **(1)**
- MUE 3020 (341) - Jazz Improvisation Combos **(1)**
- MUE 3029 (345) - African Ensemble **(1)**
- MUE 3031 (346) - Steel Band **(1)**
- MUE 3019 (348) - World Percussion Ensemble **(1)**
- MUE 3020 (365) - Contemporary Music Ensemble **(1)**
- MUS 3029 (314) - Jazz Theory and Improvisation I **(2)**
- MUS 3031 (315) - Jazz Theory and Improvisation II **(2)**

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[2] Once approved as a course, MUS 4998 would be proposed as a General Capstone in the major.

Language – 4 credits

- Must choose a foreign language to fulfill general education foreign language requirement (not ALS or ML)

Ensembles – 8 credits

Must enroll in an ensemble that uses the primary performance area every semester of major.

- MUE 3001 (301) - University Chorus **(1)**
- MUE 3004 (304) - Oakland Chorale **(1)**
- MUE 3019 (319) - University Chamber Orchestra **(1)**
- MUE 3020 (320) - Oakland Symphony **(1)**
- MUE 3029 (329) - Symphonic Band **(1)**
- MUE 3031 (331) - Wind Symphony **(1)**

Non-credit requirement

Events attendance requirement
Major Standing

Recommended General Education Courses:

- Formal Reasoning: MTH 118 Mathematical Sciences in the Modern World
- Social Science: AN 300 Culture, Society and Technology
- Western Civilization: COM 375 Rise of Electronic Media

Source of Students and Recruitment Plan

First, there are students in the BM and BA programs who would opt to transfer into this new program. (These students are not counted in the *pro forma* budget.)

Second, our faculty actively recruit high school students and would add information about the proposed program to the information they would share when working out in the field (in high school settings), when high school students are at on-campus events hosted by the music program (e.g., MTD Day, Honor Band, Honors Vocal Day, Honors Orchestra, and other annual recruitment days), and at the annual Michigan Music Conference (a meeting of K-12 music educators and all-state music students).

Third, we would launch a marketing campaign in the context of our usual marketing efforts to alert high school students to the existence of the new program. These efforts would be designed by the faculty and carried out by the department's marketing manager and outreach coordinator.

Finally, we would also advertise the program in national professional and industry journals in hopes of attracting students from outside the region and state.

Advising Students

The music faculty and CAS advisers who currently advise undergraduate music students would continue to do so.

Retention Plan

One purpose of proposing this program is to increase recruitment to and retention in the undergraduate music program by offering a new program that would appeal to students we seek to serve.

Businesses that Would Employ Program Graduates

Graduates of this program could work as performers and/or in music technology fields. After graduation, some might opt to pursue further study to become more specialized, either as performers or technicians. Employers who might employ our graduates include venues like the Max M. Fisher Music Center / Detroit Symphony Orchestra, Detroit Institute of Arts, Fisher Theatre, Fox Theatre, Fillmore Theatre, Harpers, Macomb Center for the Performing Arts, Majestic Theatre, Detroit Opera House, Meadow Brook Amphitheatre, DTE. Students could also work for radio stations, recording studios, television stations, museums, consumer audio companies, automobile industry (car audio design), technology companies (communications and systems/interface design), colleges and universities, and music retailers and manufactures (e.g., Yamaha, Sweetwater, Selmer, Sam Ash, Guitar Center).

Needs and Costs of the Program

New Resources Needed for the Program

The program would require the purchase of some additional equipment and materials. Eventually, in a new facility, state of the art spaces would enable the program to flourish and expand.

As described earlier, launching the proposed program would initially require purchase of some equipment and materials and, when the program reaches 20 majors, reflected in the *pro forma* budget as the third year, we would request a tenure-track line in music technology or music technology and composition. If the program ever grew to 60 or 70 students, we would request a second faculty position.

In its first year, the program would require about $20,000 in equipment and upgrades to the department's extant equipment. These upgrades would serve other aspects of the curriculum as well, and so would be welcomed by all. Starting in the first year, we would also need some new software subscriptions (considered a supply in this budget), which would cost about $4000 the first year and each year thereafter. Again, some of this software would improve the learning situation for all music majors.

In the second year, we would not expect to need to purchase any new equipment, but anticipating that the program would grow, we have included some funding for additional equipment that we would purchase as needed.

The budget also includes support for equipment repair and maintenance.

Library Resources Needed

As noted in the library report, "The Libraries' current offerings are quite strong in the support of general music instruction and study for a Bachelor of Music degree. However, to specifically support this newly proposed major in music technology, the Libraries would need to acquire the recommended periodical and

book resources listed in (Library Report) Appendix C and (Library Report) Appendix E respectively. Additionally, the Libraries currently do not subscribe to a contemporary music score database therefore we recommend either a subscription to the Babel Scores Contemporary Music Online database or alternatively, to purchase approximately five specific contemporary music scores per year. With the addition of these recommended resources, the Libraries would then be able to provide access to materials that would be more than sufficient to address the teaching, research and learning needs of faculty and students for this proposed new undergraduate major." The report resulted in the following requested library budget increase:

Year 1	Year 2	Year 3	Year 4	Year 5
$4,718	$3,607	$3,932	$4,287	$4,675

The full library report is attached as Appendix D.

5-Year Budget and Revenue from Program

The *pro forma* budget is based, conservatively, on 5 new students the first year and 16 new students by the fifth year, assuming students would graduate after 4 years.

College of Arts and Sciences
Program: BM – Music Technology
Program Inception FY F18
Five-Year Budget: New to OU Students
Fund:
Date 1/5/18

	Acct.	Budget Year 1	Budget Year 2	Budget Year 3	Budget Year 4	Budget Year 5
Revenue Variables:						
Headcount		5	8	11	14	16
UG lower		5	8	6	6	10
UG Upper		0	0	5	8	6
Average credits per year per major		32	32	32	32	32
Total Credit Hours		80	128	176	224	256
Undergraduate (lower)		80	128	96	96	160
Undergraduate (upper)		0	0	80	128	96
Graduate						
Total FYES		2.67	4.27	5.87	7.47	8.53
Undergraduate lower (cr.÷30)		2.67	4.27	3.20	3.20	5.33
Undergraduate upper (cr.÷30)		0.00	0.00	2.67	4.27	3.20
Graduate (cr.÷24)		0.00	0.00	0.00	0.00	0.00
Tuition Rate Per Credit Hour						
Undergrad (lower)		$ 399.00	$ 399.00	$ 399.00	$ 399.00	$ 399.00
Undergrad (upper)		$ 462.50	$ 462.50	$ 462.50	$ 462.50	$ 462.50
Graduate		$ 680.75	$ 680.75	$ 680.75	$ 680.75	$ 680.75
Revenue						
Tuition		$ 31,920	$ 51,072	$ 75,304	$ 97,504	$ 108,240
Other		$ -	$ -	$ -	$ -	$ -
Total Revenue		$ 31,920	$ 51,072	$ 75,304	$ 97,504	$ 108,240
Compensation						
Salaries/Wages						
Faculty Inload Replacements	6301	$ -	$ -	$ -	$ -	$ -
Faculty Salaries	6101	$ -	$ -	$ 56,000	$ 56,000	$ 56,000
Faculty Overload	6301	$ -	$ -	$ -	$ -	$ -
Part-time Faculty	6301	$ -	$ -	$ -	$ -	$ -
Visiting Faculty	6101	$ -	$ -	$ -	$ -	$ -
Administrative	6201	$ -	$ -	$ -	$ -	$ -
Administrative - IC	6221	$ -	$ -	$ -	$ -	$ -
Clerical	6211	$ -	$ -	$ -	$ -	$ -
Student	6501	$ -	$ -	$ -	$ -	$ -
Graduate Assistantship Stipend	6311	$ -	$ -	$ -	$ -	$ -
Out of Classification	6401	$ -	$ -	$ -	$ -	$ -
Overtime	6401	$ -	$ -	$ -	$ -	$ -
Wages - General	6401	$ -	$ -	$ -	$ -	$ -
Total Salaries/Wages		$ -	$ -	$ 56,000	$ 56,000	$ 56,000
Fringe Benefits	6701	$ -	$ -	$ 24,864	$ 24,864	$ 24,864
Total Compensation		$ -	$ -	$ 80,864	$ 80,864	$ 80,864
Operating Expenses						
Supplies and Services	7101	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000
Graduate Assistant Tuition	7726	$ -	$ -	$ -	$ -	$ -
Travel	7201	$ -	$ -	$ -	$ -	$ -
Telephone	7301	$ -	$ -	$ -	$ -	$ -
Equipment	7501	$ 20,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
Library	7401	$ 4,718	$ 3,607	$ 3,932	$ 4,287	$ 4,675
Total Operating Expenses		$ 28,718	$ 10,607	$ 10,932	$ 11,287	$ 11,675
Total Expenses		$ 28,718	$ 10,607	$ 91,796	$ 92,151	$ 92,539
Net		$ 3,202	$ 40,465	$ (16,492)	$ 5,353	$ 15,701

Program Assessment Plan

Student achievement and success in the proposed program would be measured in the same ways the Music Department assesses the other Bachelor of Music programs, through:

- Annual performance juries (performed as final examinations for applied performance study)
- Success in the program's terminal projects (senior project and internship)

The following language would be added to the Music Department's Program Assessment Plan to describe the Senior Project in the BM Music Technology degree program:

Senior Project: Music Technology and Recording

When the Bachelor of Music coursework is complete or near completion, all music technology majors engage in an advanced application of individual work in music technology and audio production. Each student selects a topic under the guidance of the project adviser and completes the project with guidance from the adviser.

The Senior Project in Music Technology and Recording is the culminating experience of this degree and will consist of a faculty-approved live recital of electronic music composition, lecture presentation on relevant music technology research, or live listening session/lecture recital of a large scale (30 minute +) recording project.

A committee of at least three faculty with expertise in the students' performance area approves the senior project and attends the live recital, lecture presentation, or listening session. Information is then reported to the student and faculty on the Senior Project Comment Sheet. Assessment of quality of completed projects is reported to the music faculty as a whole and discussed annually at a music program faculty meeting.

To qualify for the degree sought, students must earn a grade of at least B in the project.

Senior Project Assessment Rubric

An excellent Senior Project for the Bachelor of Music in Music Technology program would reflect:	Percentage Possible	Percentage Earned	B.M. in Music Technology Learning Objectives
Technical mastery and professional knowledge of acoustics, audio technology, and musical styles to successfully record, create, and/or reinforce a musical performance.	25%		Obj.Tech1,2,3,4,5,6,7
Appropriate decisions in sound reinforcement, microphone choice, hardware/ software choices, and mixing/mastering.	25%		Obj.Tech1,2,4,5,6
Artistically and characteristically appropriate uses of technology.	15%		Obj.Tech1,2,5,6
Aural proficiency to create, process, edit, and master live sound and recording.	15%		Obj.Tech2,6
Understanding of the historical, theoretical, stylistic, and cultural context of technology in music.	10%		Obj.Tech1,5,6,7
Satisfactory accomplishment in the general education program cross-cutting capacities: critical thinking, effective communications, information literacy, and social awareness.	10%		(Because this is a general education capstone course)

Appendix A: Abbreviated Faculty Vitae

This section contains information about the music faculty who would teach in the proposed program. Students in the BM in Music Technology program would also be taught by and interact with numerous music faculty, as almost all full-time music faculty teach in the Bachelor of Music program.

Complete *Curriculum Vitae* available upon request.

Professor Heisler will serve as the Program Coordinator until we are able to hire a full-time person who will assume that role. Professor Heisler is seeking tenure and promotion during 2017-18 through a 41.h review.

Name	**Office**	**Phone**	**Email**
Jeffrey Heisler, DMA Assistant Professor of Music	317 Varner	370-2871	jaheisle@oakland.edu

Education	**Scholarly/Artistic Interests**
DMA Saxophone Performance, Bowling Green State Univ, 2010, Cognate in Digital Media MM Saxophone Performance, Bowling Green State Univ, 2006 BME Music Education, Central Michigan University, 2003	Contemporary music performance, saxophone performance and pedagogy, electronic music performance, digital media and entrepreneurship.

Most Recent Scholarly/Artistic Work (most recent 6)

2016 Guest Artist Clinician: University of Mississippi (Ole Miss) Single Reed Summit – Solo Recital featured works by: Sekhon, Decruck, Albright, Reich, and the **World Premiere** of *Dash (for 2 saxophones and piano)* by Pultizer-Prize winning composer Jennifer Higdon (4/1/16)

2015 Featured Performer, World Saxophone Congress (SaxOpen – Strasbourg, France) – **European Premiere** of Steve Reich: *Vermont Counterpoint for Saxophone (arr. Heisler)* (7/11/15)

2015 Assembly Saxophone Quartet (Jeffrey Heisler, soprano saxophone) **World Premiere** Performances at the World Saxophone Congress (SaxOpen) (Strasbourg, France) of: Marilyn Shrude: *energy flows nervously...in search of stillness and* Kurt Iasscson*: flickering species* (7/9/14)

2016 North American Saxophone Alliance (NASA) Biennial Conference Texas Tech University (Lubbock, TX) -- performance of: Shrude: *energy flow nervously... in search of stillness* and Iasscson: *flickering species* -- http://nasaconference.com (3/10/16)

2016 Guest Artist Clinician: University of Evansville (IN) Saxophone Workshop Recital performance of Sekhon: Gradient, Biedenbender: Still, Albright: Sonata, and Reich: Vermont Counterpoint (arr. Heisler) (1/17/16)

2016 Recording: *... in search of stillness* by the Assembly Quaret (Jeffrey Heisler, soprano saxophone) (AMP Records – 2017 Release) Works by: Shrude, Taylor, Rogers, Isaacson, and Fink

2016 Recording: *Wilk Silk* by Andrea Reinkemeyer for baritone saxophone, piano, and percussion – Albany Records (pending release in Fall 2016)

Courses Taught (relevant to new degree)
MUE 3065 Contemporary Music Ensemble

Prospective Courses (relevant to new degree)
MUS 4720 Career Building for Musicians
MUS 4951 Music Industry Internship

Name Benjamin Fuhrman, DMA Music Lecturer & Applied Composition Instructor	**Email** bfuhrman@oakland.edu
Education DMA Music Composition, Michigan State University, 2009 MM Music Composition, Michigan State University, 2006 BM Violin Performance, Hope College, 2004	**Scholarly/Artistic Interests** Acoustic and Electroacoustic Music Composition and Performance, Interactive Computer Music, Audio Design, Music Recording

Most Recent Scholarly/Artistic Work (most recent 6)

Commissioned Works:

Mechanical Landscapes for Strings, Percussion, Piano, and Live Electronics – for East Lansing High School Orchestra, premiered May 18, 2016.

Separation Anxiety (electro-acoustic) for the MSU National Superconducting Cyclotron Laboratory and Facility for Rare Isotope Beams, 2015.

Mind the Gaps (short film score) for the MSU National Superconducting Cyclotron Laboratory and Facility for Rare Isotope Beams, 2015.

Un Coup de Dés for Narrator and Computer with Live Multi-Media Processing for Corrina Van Hamlin, 2015.

Elegy for Violin, Viola, and Computer for Mary Kothman and Kaitrin Meidell, 2014.

(plus 22 more commissions)

Recordings/Filmography:

As sole composer and performer: *Concrete Oasis*, 2016.

With *Wisaal* as a composer and mandolinist:

Live, 2017

The Warp and the Weft, 2012

Mosaic, 2010

As sound recording & mixing engineer, and mandolinist: *Hmong Memories at the Crossroads* – scheduled for a 2016 release. Partnership of the Humanity Without Walls Consortium and MSU.

As director, audio engineer, and composer: *Most Teens Don't* – PSA for Ingham Substance Abuse Coalition, screened at NCG Cinema, Lansing, MI, 2014.

Article

The Past is The Waste Land on Which to Build the Future: A Composer's Response to "Blanch It, Mix It, Mash It: A Fairuse Framework for the Mashup" - solicited and published by the *Thomas M. Cooley Law Review* – Published by the *Thomas M. Cooley Law Review*, Volume 29, No. 3, 2012.

Courses Taught (relevant to new degree)

MUS 1002 Exploring Technology in Music
MUS 2020 Computer-based Music Composition
MUA 4960 Applied Composition Lessons

Prospective Courses (relevant to new degree)

MUS 2701 Creative Composition I
MUS 2702 Creative Composition II
MUS 4701 Orchestration and Arranging
MUS 3701 Music Technology I: MIDI and Sequencing
MUS 3702 Music Technology II: Audio Design and Processing
MUS 4711 Interactive Computer Music
MUS 4998 Senior Project: Music Technology and Recording

Name Terry Herald, MM MTD Technical Coordinator and Sound Technician Music Lecturer Composer and Arranger	**Office** 202 Varner	**Phone** 370-3014	**Email** herald@oakland.edu
Education MM Music Theory, Wayne State University BM Music Theory, Wayne State University	**Scholarly/Artistic Interests** Electronic and Acoustic Design, Microphone Design and Construction, Instrument Design, Compositional Techniques, Multi-media Collaborative Performance		
Most Recent Scholarly/Artistic Work (most recent 6) Oakland Symphony Orchestra, October 2, 2016, Edited, and Mastered Ben Wendel, September 20, 2016, Mixed, Edited, and Mastered Regina Carter and the Oakland Jazz Quartet, September 10, 2016, Recorded, Mixed, and Mastered Oakland Symphony Orchestra and Oakland Chorus Orchestra Hall performance, April 5, 2016, Mixed and Mastered Dr. Jeffrey Heisler, April 22, 2016, Mixed and Mastered *Kakaire*, Mark Stone, Jumbie Records, January-September, 2015, Recorded, and Mixed <u>Also</u> 16 films 21 published compositions plus 11 commissioned works 99 ASCAP publications Has produced 7 records of his own work			
Courses Taught (relevant to new degree) MUS 3053 Audio Techniques MUS 3054 The Recording Studio			
Prospective Course (relevant to new degree) MUS 3711 Advanced Recording Techniques MUS 4998 Senior Project: Music Technology and Recording MUS 4951 Music Industry Internship			

<table>
<tr><td>Name
Carly Uhrig, MA Music Business
MTD Marketing Manager
Lecturer, Foundations of Rock (rock and roll history)</td><td>Office
207 Varner</td><td>Phone
370-2032</td><td>Email
uhrig@oakland.edu</td></tr>
<tr><td>Education
MA Music Business, New York University, 2010
BM Music Education, University of Michigan, 2004</td><td colspan="3">Professional Interests
Emerging business models in the music industry, the craft and business of songwriting.</td></tr>
<tr><td colspan="4">Professional Work (recent examples)
Production of the 2016-17 Oakland University Music, Theatre and Dance season brochure
Launch of three crowdfunding campaigns, including strategically-designed videos
Continuous social media campaigns across various platforms such as Facebook, Twitter, Instagram and SnapChat. Ex: Musical Theatre Major takeover of Oakland University Snapchat
Launch of new email marketing system Emma and content management system Percussion
Other Relevant Professional Work
Two Tomatoes Records and Touring; Cherry Lane Music Publishing; New York Youth Symphony; Ann Arbor Summer Festival; American Symphony Orchestra; Dodworth Saxhorn Band
Avid songwriter with experience as a recording and touring musician (trumpet, guitar, piano, voice)
Relevant Coursework
Entrepreneurship for the Music Industry; The Law and the Music Industry; Environment of the Music Industry; Managing the Performing Artist; Concert Management; Entrepreneurial Selling; Ethics of the Entertainment Industry; Principles & Practice in the Music Industry; The Business of Music and Film; Global Music Management; Entertainment Law; Development for the Performing Arts; Financial Accounting and Reporting; and Song Writers Forum</td></tr>
<tr><td colspan="4">Prospective Course (relevant to new degree)
MUS 4720 Career Building for Musicians</td></tr>
</table>

Appendix B: Syllabi for the Revised and Revived Music Courses

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 3053 Acoustics for Musicians (2 credits)

INSTRUCTOR: Terry Herald
OFFICE: 202 B Varner Hall
PHONE: (248) 370-3014
E-MAIL: herald@oakland.edu
OFFICE HOURS: By appointment
CLASSROOM: 236 VAR

COURSE DESCRIPTION
Physics of sound, characteristics of human hearing, room acoustics, psychoacoustics, measurement of sound, and analysis of sound properties of acoustic and electronic musical instruments. Class projects include frequency response and noise analysis of spaces, computation of RT60 reverb times, and interpretation FFT plots.

COMMUNICATION:
E-mail will be the preferred method of remote communication between students and the instructor. I will be sending any important announcements to you via e-mail. If you don't already have an e-mail account, please get one during the first week of classes; and check your e-mail on a regular basis. If your e-mail address changes, please let me know.

REQUIRED TEXTS AND MATERIALS:
Parker, S. & Smith, J. (2013). *Musician's Acoustics*. Createspace. ISBN-13 978-1482566338

COURSE OBJECTIVES: This course is intended to familiarize students with fundamentals of sound production and acoustic principles as they relate to the work of musicians.

Students will develop:

- A firm understanding basic acoustic principles.
- Understanding of the various tools used to re-evaluate the acoustic properties of a musical space.
- Ability to use software/hardware to evaluate the acoustic properties of a space.
- Understanding of how to improve a space for musical purposes.
- Familiarity with basic methods for calculating reverberation times, and frequency responses of rooms.
- Familiarity with basic analysis of noise measurements.
- Ability to interpret FFT and frequency response graphs.

COURSE REQUIREMENTS AND PROCEDURES:

- Class activity will emphasize practical application of principles discussed in lectures.
- Homework assignments will consist of reading material in the text, and using MTD facilities and equipment to record and reinforce departmental music programs.
- Visits to off-campus recording studios will occasionally replace classroom instruction.
- Two class projects will be assigned during the term.
- The final project will be an analysis of an assigned musical space.

ATTENDANCE: Classroom lectures and discussion are a vital part of developing an understanding of a complex subject. Attendance is therefore required and constitutes 25% of the final grade.

University Excused Absence Policy: The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see http://www.oakland.edu/?id=6850&sid=175.

GRADING: You are expected to take the semester exams as scheduled. If you miss a semester exam, it must be made up within one week of the scheduled time, and a unique exam may be given. Make-up exams will be graded, but the grade will be based on 80 points instead of 100. This penalty may be waived in cases of documented illness or documented family emergency. Semester exams not made up within one week will become a 0.0. A missed final exam may result in an Incomplete or a 0.0 GPA in the class.

Grading

Attendance	25%
2 Class Projects	30%
Semester Project	25%
2 Semester Exams	20%

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

COURSE OUTLINE

(SUBJECT TO CHANGE)

Week	Topic	Assignment	Exams
1	Introduction		
2	Vibration & Sound		
3	Sound Wave Properties		
4	Harmonic Series	Project 1-Assigned	
5	Intensity and Loudness		
6	Human Hearing		
7	Software Analysis Tools	Project 2-Assigned	**Exam 1**
8	Acoustic Measurements		
9	Scales and Tunings		
10	String Instruments	Final Project Assigned	
11	Percussion Instruments		
12	Woodwind/Brass		
13	Human Voice		
14	Musical Illusions		
15		Final Project Presentations	**Final Exam**

Policy Regarding Late Assignments: Assignments will not be accepted after the class period for which they are due except for documented illness or documented family emergency. No assignments will be accepted after the last scheduled class meeting.

Academic Conduct Policy:

The University's regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating and/or plagiarism will be reported to the Dean of Students and, thereafter, to the Academic Conduct Committee for adjudication. Anyone found guilty of academic misconduct in this course

may receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Students found guilty of academic misconduct by the Academic Conduct Committee may face suspension or permanent dismissal. The full policy on academic misconduct can be found in the General Information section of the Undergraduate Catalog.

Add/Drop Policy:
The University add/drop policy will be explicitly followed. The last date to drop the course with a full refund is **TBD**. The last date to withdraw is **TBD**. https://wwwp.oakland.edu/registrar/important-dates/

Special Considerations:
A student with a documented learning or physical disability must contact the Office of Disability and Support Services, 121 North Foundation Hall, (248) 370-3266, and inform the professor of special needs during first week of classes. For more information, visit http://www.oakland.edu/dss.

OU Excused Absence Policy:
University excused absences applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see http://www.oakland.edu/?id=6850&sid=175.

Excused students are responsible for requesting from the instructor, in a timely manner, an opportunity to complete missed assignments, activities, labs, examinations or other course requirements in a timely manner. Students are responsible for all material covered in classes they miss, even when their absences are excused. Students should be aware that excessive absences—whether excused or unexcused—may affect their ability to do well in the class.

OU Preferred Name Policy:
If you do not identify with the name that is listed with the registrar, please notify me so that I may appropriately amend my records. In addition, if you prefer to go by a different pronoun, please inform me.

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 3054 Basic Recording Techniques (2 credits)

INSTRUCTOR: Terry Herald
OFFICE: 202 B Varner Hall
PHONE: (248) 370-3014
E-MAIL: herald@oakland.edu
OFFICE HOURS: By appointment
CLASSROOM: 236 VAR

COURSE DESCRIPTION:
Introduction to audio recording techniques, from classic stereo through contemporary multi-channel recording. Examination of recording hardware, including microphones, preamplifiers, computer interfaces, digital and analog recording devises, and monitors, and software, including ProTools, Logic Pro, and associated plugins.
Prerequisite: MUS 3053 (353).

COMMUNICATION:
E-mail will be the preferred method of remote communication between students and the instructor. I will be sending any important announcements to you via e-mail. If you don't already have an e-mail account, please get one during the first week of classes; and check your e-mail on a regular basis. If your e-mail address changes, please let me know.

REQUIRED TEXTS AND MATERIALS:
Huber, David Miles and Robert E. Runstein. *Modern Recording Techniques*. 8th ed. Boston: Focal Press/Elsevier, 2005. Print.

COURSE OBJECTIVES: This course is intended to familiarize students with advanced practices of audio recording, production, and sound reinforcement techniques.

Students will develop:

- A firm understanding basic acoustic principles.
- Familiarity with basic technologies used for audio.
- Familiarity with basic audio production techniques.
- Ability to record and edit a live recording.
- Understanding of the various tools used to record and reproduce audio.
- Ability to record, mix and edit audio.
- Capacity to select appropriate equipment for his/her own audio needs.

COURSE REQUIREMENTS AND PROCEDURES:

- Class activity will emphasize practical application of principles discussed in lectures.
- Homework assignments will consist of reading material in the text, and using MTD facilities and equipment to record and reinforce departmental music programs.
- Visits to off-campus recording studios will occasionally replace classroom instruction.
- Three recording/editing projects will be assigned during the term.
- The final project will be the recording, editing, and mixing of a musical work.

ATTENDANCE: Classroom lectures and discussion are a vital part of developing an understanding of a complex subject. Attendance is therefore required and constitutes 25% of the final grade.

University Excused Absence Policy: The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see http://www.oakland.edu/?id=6850&sid=175.

GRADING: You are expected to take the semester exams as scheduled. If you miss a semester exam, it must be made up within one week of the scheduled time, and a unique exam may be given. Make-up exams will be graded, but the grade will be based on 80 points instead of 100. This penalty may be waived in cases of documented illness or documented family emergency. Semester exams not made up within one week will become a 0.0. A missed final exam may result in an Incomplete or a 0.0 GPA in the class.

Grading

Attendance	25%
2 Recording Experiences	30%
Semester Project	25%
2 Semester Exams	20%

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

COURSE OUTLINE

(SUBJECT TO CHANGE)

Week	Reading	Topic	Assignment	Exams
1	Introduction	Course Overview		
2	MRT Chapters 1 & 2	Properties of Sound		
3	MRT Chapter 4	Microphones		
4	MRT Chapter 6	Digital Audio	Project 1-Assigned	
5	MRT Chapter 7	DAWs: Logic, ProTools		
6	MRT Chapter 14	Intro to Mixing		
7	MRT Chapter 15	Signal Processing	Project 2-Assigned	**Exam 1**
8	MRT Chapter 9	MIDI		
9	MRT Chapter 10	Multimedia/Web		
10	MRT Chapter 12	Amplifiers	Final Project Assigned	
11	MRT Chapter 17	Monitoring		
12	MRT Chapter 18	Surround Sound		
13	MRT Chapter 21	Studio Proceedures		
14	MRT Chapter 19	Mastering		
15		Final Project		**Final Exam**

Recording Experiences

Each student is required to have the following recording experiences

A. Live Recital Recording (2-track, live) in Varner Recital Hall.
   1. Record to Logic 9.
   2. Edit master and burn CD-R

B. Multi-track recording of live performance in Varner Recital Hall.
   1. Record to Logic.

2. Mix the multiple tracks.
3. Burn project to CD-R.

Semester Project

A. Take responsibility for recording a musical performance.
   1. Decide mic placement and techniques
   2. Decide on media and recording techniques.

B. Edit Program.
   1. Schedule and use MTD facility to edit recording.
   2. Mix and master final version to CD-R.

C. Present your final recording during class and explain the techniques used.
   1. Play portions of the mastered CD.
   2. Describe the techniques used and why they were chosen.

Policy Regarding Late Assignments: Assignments will not be accepted after the class period for which they are due except for documented illness or documented family emergency. No assignments will be accepted after the last scheduled class meeting.

Academic Conduct Policy:
The University's regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating and/or plagiarism will be reported to the Dean of Students and, thereafter, to the Academic Conduct Committee for adjudication. Anyone found guilty of academic misconduct in this course may receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Students found guilty of academic misconduct by the Academic Conduct Committee may face suspension or permanent dismissal. The full policy on academic misconduct can be found in the General Information section of the Undergraduate Catalog

Add/Drop:
The University add/drop policy will be explicitly followed. The last date to drop the course with a full refund is **TBD**. The last date to withdraw is **TBD**. https://wwwp.oakland.edu/registrar/important-dates/

Special Considerations:
A student with a documented learning or physical disability must contact the Office of Disability and Support Services, 121 North Foundation Hall, (248) 370-3266, and inform the professor of special needs during first week of classes. For more information, visit http://www.oakland.edu/dss.

OU Excused Absence Policy:
Student athletes and students participating as representatives of Oakland University at academic events and artistic performances approved by the Provost or designee are excused from class without penalty. Excused students are responsible for requesting from the instructor, in a timely manner, an opportunity to complete missed assignments, activities, labs, examinations or other course requirements in a timely manner. Students are responsible for all material covered in classes they miss, even when their absences are excused. Students should be aware that excessive absences—whether excused or unexcused—may affect their ability to do well in the class.

OU Preferred Name Policy:
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Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 4701 Orchestration and Arranging (3 credits)

INSTRUCTOR: Terry Herald
OFFICE: 202 B Varner Hall
PHONE: (248) 370-3014
E-MAIL: herald@oakland.edu
OFFICE HOURS: By appointment
CLASSROOM: 236 VAR

COURSE DESCRIPTION:
Characteristics of instruments normally found in band and orchestra. Short writing projects for voice, chamber music, concert band, and orchestra along with sample library MIDI orchestration. (Formerly MUT 411, Orchestration)
Prerequisite: MUS 2214 (MUT 214).

COMMUNICATION:
E-mail will be the preferred method of remote communication between students and the instructor. I will be sending any important announcements to you via e-mail. If you don't already have an e-mail account, please get one during the first week of classes; and check your e-mail on a regular basis. If your e-mail address changes, please let me know.

REQUIRED TEXTS AND MATERIALS:
TBD

COURSE OBJECTIVES: This course is intended to familiarize students with fundamentals of orchestration for performing ensembles as well as computer generated works.

Students will develop:

- A firm understanding of how to orchestrate each family of symphonic and band instruments.
- Familiarity with principles of instrumental textures and voicings.
- Ability to write a complete orchestration to be realized by both real and virtual ensembles.
- Familiarity with software sample libraries.
- Ability to effectively arrange and orchestrate musical works using software such as Sibelius, and sample libraries.

COURSE REQUIREMENTS AND PROCEDURES:

- Class activity will emphasize practical application of principles discussed in lectures.
- Homework assignments will consist of reading material in the text and completing orchestration using Sibelius.
- The final project will be to arrange an assigned musical work for a large ensemble.

ATTENDANCE: Classroom lectures and discussion are a vital part of developing an understanding of a complex subject. Attendance is therefore required and constitutes 25% of the final grade.

University Excused Absence Policy: The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see http://www.oakland.edu/?id=6850&sid=175.

GRADING: You are expected to take the semester exams as scheduled. If you miss a semester exam, it must be made up within one week of the scheduled time, and a unique exam may be given. Make-up exams will be graded, but the grade will be based on 80 points instead of 100. This penalty may be waived in cases of documented illness or documented family emergency. Semester exams not made up within one week will become a 0.0. A missed final exam may result in an Incomplete or a 0.0 GPA in the class.

Grading

Attendance	25%
7 Orchestration Assignments	40%
Semester Project	15%
2 Semester Exams	20%

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

COURSE OUTLINE

(SUBJECT TO CHANGE)

Week	Reading	Topic	Assignment	Exams
1	Introduction	Sibelius		
2		Strings		
3			String Quartet	
4		Woodwinds		
5			Woodwind Quintet	
6		Brass		
7			Brass Quintet	
8		Percussion		
9			Percussion Ensemble	
10		Orchestral Arranging		
11			Orchestration	
12		Band Arranging		
13			Symphonic Band	
14		Sample Libraries		
15			MIDI Orchestration	

Policy Regarding Late Assignments: Assignments will not be accepted after the class period for which they are due except for documented illness or documented family emergency. No assignments will be accepted after the last scheduled class meeting.

Academic Conduct Policy:

The University's regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating and/or plagiarism will be reported to the Dean of Students and, thereafter, to the Academic Conduct Committee for adjudication. Anyone found guilty of academic misconduct in this course may receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Students found guilty of academic misconduct by the Academic Conduct Committee may face suspension or permanent dismissal. The full policy on academic misconduct can be found in the General Information section of the Undergraduate Catalog.

Add/Drop Policy:
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Special Considerations:
A student with a documented learning or physical disability must contact the Office of Disability and Support Services, 121 North Foundation Hall, (248) 370-3266, and inform the professor of special needs during first week of classes. For more information, visit http://www.oakland.edu/dss.

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Student athletes and students participating as representatives of Oakland University at academic events and artistic performances approved by the Provost or designee are excused from class without penalty. Excused students are responsible for requesting from the instructor, in a timely manner, an opportunity to complete missed assignments, activities, labs, examinations or other course requirements in a timely manner. Students are responsible for all material covered in classes they miss, even when their absences are excused. Students should be aware that excessive absences—whether excused or unexcused—may affect their ability to do well in the class.

OU Preferred Name Policy:
If you do not identify with the name that is listed with the registrar, please notify me so that I may appropriately amend my records. In addition, if you prefer to go by a different pronoun, please inform me.

Appendix C: Syllabi for New Music Courses

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 3711 Advanced Recording Techniques (2 credits)

INSTRUCTOR: Terry Herald
OFFICE: 202 B Varner Hall
PHONE: (248) 370-3014
E-MAIL: herald@oakland.edu
OFFICE HOURS: By appointment
CLASSROOM: 236 VAR

COURSE DESCRIPTION:
Application of advanced recording, editing, and sound manipulation techniques in video, sound and live audio. Prerequisites: MUS 3053 (353) & 3054 (354).

COMMUNICATION:
E-mail will be the preferred method of remote communication between students and the instructor. I will be sending any important announcements to you via e-mail. If you don't already have an e-mail account, please get one during the first week of classes; and check your e-mail on a regular basis. If your e-mail address changes, please let me know.

REQUIRED TEXTS AND MATERIALS:
Bartlett, Bruce and Bartlett, Jenny. *Practical Recording Techniques*. 7th ed. New York and London: Routledge, 2017. Print.
Levitin, Daniel J. *This is your brain on music: the science of a human obsession*. New York, NY: Dutton, 2006.
Moylan, William. *The art of recording: understanding and crafting the mix*. Boston, MA: Focal Press, 2002.

COURSE OBJECTIVES: This course is designed to familiarize students with advanced application of audio production, mixing, editing, and mastering techniques.

Students will develop:
- A firm understanding of audio production techniques and the various tools used to record and reproduce audio.
- Familiarity with aesthetic/stylistic considerations of music recording.
- Familiarity with audio hardware and software.
- Ability to record, mix, and edit audio for a wide spectrum of music styles.
- Capacity to select appropriate equipment for his/her own audio needs.

COURSE REQUIREMENTS AND PROCEDURES:
- Class activity will emphasize practical application of principles discussed in lectures.
- Homework assignments will consist of reading material in the text and visits to off-campus recording studios will occasionally replace classroom instruction.
- Three recording/mixing projects of differing styles will be assigned during the term.
- The final project will be the recording, editing, and mixing of a musical work.

ATTENDANCE: Classroom lectures and discussion are a vital part of developing an understanding of a complex subject. Attendance is therefore required and constitutes 25% of the final grade.

University Excused Absence Policy: The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see http://www.oakland.edu/?id=6850&sid=175.

GRADING: You are expected to take the semester exams as scheduled. If you miss a semester exam, it must be made up within one week of the scheduled time, and a unique exam may be given. Make-up exams will be graded, but the grade will be based on 80 points instead of 100. This penalty may be waived in cases of documented illness or documented family emergency. Semester exams not made up within one week will become a 0.0. A missed final exam may result in an Incomplete or a 0.0 GPA in the class.

Grading

Attendance	25%
2 Recording Experiences	30%
Semester Project	25%
2 Semester Exams	20%

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

COURSE OUTLINE

(SUBJECT TO CHANGE)

Week	Reading	Topic	Assignment	Exams
1	Introduction	Course Overview		
2	PRT Chapter 5	Equipping Studio		
3	PRT Chapter 9	Microphone Techniques		
4	PRT Chapters 15 & 16	DAW Flow & Operation	Project 1-Assigned	
5	PRT Chapter 17	Critical Listening		
6	TAOR Chapters 3 & 4	Evaluating Sound		
7	PRT Chapter 21	Location Recording A	Project 2-Assigned	**Exam 1**
8	PRT Chapter 22	Location Recording B		
9	TIYBOM Chapter 4-5	Anticipation, Categorization		
10	TAOR Chapters 5		Final Project Assigned	
11	TAOR Chapters 7	Loudness		
12	TIYBOM Chapter 6,8	Emotion, Taste		
13	TAOR Chapters 9	Space		
14	PRT Chapter 19			
15		Final Project Presentations		**Final Exam**

Recording Projects

Each student is required to have the following recording experiences

A. Record, Edit, and Mix a multi-track musical work
   1. Document pre-production proceedures.
   2. Record using ProTools.
   3. Mix using a variety of plug-ins.
   4. Master to Red Book Standard Audio CDR.

B. Multi-track recording of live performance.
   1. Document pre-production proceedures.
   2. Record using ProTools.
   3. Mix using a variety of plug-ins.
   4. Master to Red Book Standard Audio CDR.

Semester Project

A. Take responsibility for recording a musical performance.
   1. Decide mic placement and techniques.
   2. Decide on media and recording techniques.

B. Edit Program.
   1. Schedule and use MTD facility to edit recording.
   2. Mix and master final version to Red Book Standard CD-R.

C. Present your final recording during class and explain the techniques used.
   1. Play portions of the mastered CD.
   2. Describe the techniques used and why they were chosen.

Policy Regarding Late Assignments: Assignments will not be accepted after the class period for which they are due except for documented illness or documented family emergency. No assignments will be accepted after the last scheduled class meeting.

Academic Conduct Policy:
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Add/Drop Policy:
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Special Considerations:
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OU Excused Absence Policy:
Student athletes and students participating as representatives of Oakland University at academic events and artistic performances approved by the Provost or designee are excused from class without penalty. Excused students are responsible for requesting from the instructor, in a timely manner, an opportunity to complete missed assignments, activities, labs, examinations or other course requirements in a timely manner. Students are responsible for all material covered in classes they miss, even when their absences are excused. Students should be aware that excessive absences—whether excused or unexcused—may affect their ability to do well in the class.

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Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 3701: Music Technology I: MIDI and Sequencing (2 credits)

Instructor: Dr. Ben Fuhrman
Email: bfuhrman@oakland.edu
Email and Course Response: 9AM-9PM Mon-Fri
Office Hours: TBA
Preferred Contact: Through OU email

Course Description
MIDI, synthesis, sampling, and sequencing in both studio environments and live performance, with attention to use of multidimensional polyphonic expression (MPE) controllers and the manipulation of audio with a variety of controllers. Includes frequent composition assignments and live performances.

Course Objectives
Students will develop:

- Understanding of the anatomy, creation, and usage of MIDI data, and apply this understanding to the sequencing of MIDI data, using standard notation and the piano roll notation present in digital audio workstations (DAW's).
- Understanding of common techniques for audio synthesis, sampling, and sample manipulation.
- Ability to express musical ideas using MIDI data to control synthesizers and samplers through a combination of sequencing and live performance, using advanced hardware controllers.

Course Experiences
Through their experiences in this course, students will:

- Demonstrate the use of MIDI hardware and software through assignments and performances
- Sequence and edit MIDI information in a variety of digital audio workstations (DAWs) and notation editors
- Create a sample based instrument for use in an original composition
- Develop an understanding of the basics of AM, FM, and wavetable synthesis, along with Karplus-Strong synthesis and Risset Drums. Demonstrate this knowledge in a live performance
- Understand how to configure various MIDI controllers (keys, pads, faders, grids, etc.) to work with various audio programs
- Articulate the advances available in the MPE extension to MIDI and demonstrate them on an MPE capable controller
- Perform original compositions using the hardware and software taught in the course.

Technical Assistance with Composition Software: I am more than happy to talk to you in person or through email to assist you with the various programs we will be using, show you some of the shortcuts I use, or try and figure out why something has stopped working. Please stop by during office hours, or email me.

Expectations
Students are expected to:

- Complete all course work and assignments on time
- Perform at all course performances
- Respond to emails within two days.
- Participate in a thoughtful manner

The instructor is expected to:

- Grade assignments within seven days of the assignment deadline
- Respond to emails within two days

Grading

Music Compositions	3 Compositions * 10% each =	30% of the grade
Performances	3 Performances * 10% each =	30% of the grade
Assignments	10 Assignments * 4% each =	40% of the grade

Missed or late assignments will not be accepted and will receive a grade of zero unless there are mitigating circumstances such as a death in the immediate family or a serious illness. Incompletes for the course will only be given due to extreme circumstances beyond the student's control.

Grading percentages and how they apply to OU's grading scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

Academic Conduct Policy

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Add/Drop:

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Special Considerations:

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Course Outline: Tentative and subject to change as needed

Week 1	Course introduction and syllabus, introduction to software used in the course (Ableton Live, Reason, Max/MSP and the BEAP library, **Notation Editor TBD**).

PART 1: MIDI and Sequencing	
Week 2	Using MIDI in a DAW and in a Notation Editor. Traditional notation and piano roll notation. Creating sequences with a keyboard controller and by hand.
Week 3	Anatomy of a MIDI message. Quantization and editing of MIDI sequences. Timing and synchronization. Exploring different controller layouts. Hand out **Composition 1 (MIDI Sequencing)** and **Performance 1** guidelines (start of week 3).
Week 4	Plugins and instruments in Ableton Live, presets, grouping and macros. Changing meter and tempo. MIDI and automation.
Week 5	**Composition 1 Due at the Start of Week 5** – listening session of compositions in class. Review and revise. Dress rehearsal for **Performance 1** during class. **Performance 1** on **TBD** night.
PART 2: Synthesis and Sampling	
Week 6	Review Performance 1. An introduction to synthesis using Max/MSP and BEAP. Differences between audio, MIDI, and control voltage. Building a basic modular synthesizer using Max/MSP and BEAP
Week 7	Different types of synthesis in depth: AM, FM, wavetable, Karplus-Strong, Risset Drum.
Week 8	Introduction to and synthesis in Reason. Differences between synthesis in Reason and Max/MSP and BEAP. Synchronizing Reason with Ableton Live via Link and ReWire. Routing in Reason.
Week 9	Reason synthesis devices in depth. Modulation with audio and control voltage signals in Reason. Hand out **Composition 2 (Synths and Samples)** and **Performance 2** guidelines (start of week 9).
Week 10	Introduction to acousmatic music. Recording audio and creating a sample based instrument. Single versus multi-sample instruments. Creating multi-sample based instruments.
Week 11	Creating a percussion sample library. Creating a multi-timbral sample library.
Week 12	**Composition 2 Due at the Start of Week 12** – listening session of compositions in class. Review and revise. Dress rehearsal for **Performance 1** during class. **Performance 1** on **TBD** night. Hand out **Final Composition (Variations on Samples)** and **Final Performance** guidelines (start of week 12).
PART 3: Composing/Performing for Multidimensional Polyphonic Expression Controllers	
Week 13	Review Performance 2. Revisit the Anatomy of a MIDI message. Introduction to MPE controllers (KMI, Linnstrument, ROLI). Adapting software for MPE controllers via channel assignments.
Week 14	Work on Final Composition and Final Performance pieces. Individual sessions with instructor to troubleshoot any technical issues.
FINALS	**Final Composition** due at the start of Final exam. Soundcheck and **Final Performance** on **TBD** night.

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 3702: Music Technology II: Audio Design and Processing (2 credits)

Instructor: Dr. Ben Fuhrman
Email: bfuhrman@oakland.edu
Email and Course Response: 9AM-9PM Mon-Fri
Office Hours: TBA
Preferred Contact: Through OU email

Course Description
Creative applications of audio design, sound manipulation, and composition, including acousmatic music, diffusion and spatialization, and a look at media composition including film and games. Projects include sample library design, acousmatic composition, writing for new media, and diffusing works in a live concert. Prerequisite: MUS 3701.

Course Objectives
Students will be able to

- Build upon the knowledge of MIDI sequencing, synthesis, and sampling developed in MUS 3701 and apply it to create new multimedia works.
- Develop an understanding of the history of acousmatic music (music presented solely using loudspeakers), its history, and its influence on sound design.
- Develop the skills to record and manipulate audio for the purposes of sound design for film and video games.
- Develop an understanding of the skills used in scoring music for film and video games, with a focus on using MIDI and sample libraries to create effective simulations of live performances.

Course Experiences
Through their experiences in this course, students will:

- Demonstrate their understanding of sound manipulation and audio design through projects in acousmatic music, film scoring, and video game scoring.
- Manipulate audio for a variety of purposes
- Compose and diffuse multi-channel acousmatic compositions
- Understand the various multi-channel audio configurations used in music, film, and games
- Develop an original sample library for use in sound design for a short film
- Compose original music for a short video game level, and use their sample library to create original sound effects for it.

Technical Assistance with Composition Software: I am more than happy to talk to you in person or through email to assist you with the various programs we will be using, show you some of the shortcuts I use, or try and figure out why something has stopped working. Please stop by during office hours, or email me.

Expectations
Students are expected to:

- Complete all course work and assignments on time
- Perform at all course performances
- Respond to emails within two days.
- Participate in a thoughtful manner

The instructor is expected to:

- Grade assignments within seven days of the assignment deadline
- Respond to emails within two days

Grading

Projects	4 Projects * 10% each =	40% of the grade
Performances	3 Performances * 3.33% each =	10% of the grade
Assignments	10 Assignments * 2.5% each =	25% of the grade
Listening Assignments	10 Assignments * 2.5% each =	25% of the grade

Missed or late assignments will not be accepted and will receive a grade of zero unless there are mitigating circumstances such as a death in the immediate family or a serious illness. Incompletes for the course will only be given due to extreme circumstances beyond the student's control.

Grading percentages and how they apply to OU's grading scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

Academic Conduct Policy

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Add/Drop:

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Special Considerations:

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Course Outline: Tentative and subject to change as needed

PART 1: Acousmatic Music and Spatialization	
Week 1	Course introduction and syllabus, introduction to software used in the course (Logic Pro X, GRM Tools, EastWest Sample Library, and FMOD Studio). Introduction to acousmatic music. **Listening Assignment 1**
Week 2	Audio editing and manipulation with built in plugins and instruments. **Assignment 1 (Editing 1), Listening Assignment 2**. Hand out **Project 1 (Composition)** at the start of the week
Week 3	Audio editing and manipulation with GRM Tools Plugins. Automation. **Assignment 2 (Editing 2 – GRM Tools), Listening Assignment 3**
Week 4	Panning in stereo and surround. Spatial configurations and diffusion. Diffusion practice. **Listening Assignment 4**
Week 5	**Project 1 Due at the Start of Week 5 –** listening session of compositions in class. Review and revise. Dress rehearsal for **Performance 1** during class. **Performance 1** on **TBD** night.
PART 2: Scoring and Sound Effects for Film and Video Games	
Week 6	Introduction to film scoring – sample rate, multichannel configurations, and other conventions. Introduction to the EastWest Library and its use in scoring. **Assignment 3 (1 min Film), Listening Assignment 5**
Week 7	Introduction to film sound design and Foley artistry. Developing a sample library. **Assignment 4 (Sound FX in a 1 min Film),** begin **Project 2 (Sample Library), Listening Assignment 6.** Hand out **Project 3 (Short Film Score/Sound Design)** at the start of the week along with short films.
Week 8	Continue work on sample library development. Recording with portable equipment. Studio recording sessions. Editing recorded audio. **Assignment 5 (Microphones), Assignment 6 (Recording)**
Week 9	Additional recording sessions and more work on sample library development. Morphing samples with plugins. **Project 3 Due at the End of Week 9.**
Week 10	**Project 3 Due at the Start of Week 10.** Review and revise projects. Dress rehearsal for **Performance 2** during class. **Performance 2** on **TBD** night.
Week 11	Review Performance 2, and discuss similarities of film and video game audio and music. Introduction to Unity and FMOD Studio. Integrating Unity and FMOD Studio, navigating and using FMOD Studio. . **Assignment 7 (Creating a Generic Voice), Listening Assignment 7**
Week 12	Working with the Demo Games in Unity and FMOD studio – adding basic sound assets. **Assignment 8 (Robot and Alien Sounds), Listening Assignment 8**
Week 13	Working with the Demo Games in Unity and FMOD studio – adding layered sound and music assets. **Assignment 9 (Multi-Timbral Layers), Listening Assignment 9**
Week 14	Working with the Demo Games in Unity and FMOD studio – mixing and perfecting the final, playable demo. Rendering projects for different platforms and testing them. **Assignment 10 (Reverb and Resonance), Listening Assignment 10**
FINALS	**Project 4 Due at the Start of Finals Weeks. In lieu of a traditional performance, playable, scored games will be exhibited in the OU Student Center during lunch on DAY TBD.**

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 4711: Interactive Computer Music (2 credits)

Instructor: Dr. Ben Fuhrman
Email: bfuhrman@oakland.edu
Email and Course Response: 9AM-9PM Mon-Fri
Office Hours: TBA
Preferred Contact: Through OU email

Course Description
Programming for live audio and MIDI manipulation in Max/MSP language. Includes software instrument design, realtime audio manipulation, laptop ensemble performance, and non-traditional and graphical notation. Students will work with an instrumentalist or vocalist to create an idiomatic interactive work to be performed at a capstone concert.
Prerequisite: MUS 3701.

Course Objectives
Students will be able to:

- Develop programming skills in Max/MSP, the most widely used programming language for computer music.
- Develop an understanding of a variety of synthesis algorithms and use them to create software-based instruments
- Explore how audio effects such as delay, reverb, flanging, and gating work and apply this knowledge to manipulating audio from a live source.
- Explore human and computer interaction through user interface design, the use of human input devices, sequencing, and pitch and impulse tracking.
- Develop best practices for programming, including abstraction, encapsulation, modular design, and the reuse of code.

Course Experiences
Through their experiences in this course, students will:

- Learn to program in Max/MSP language.
- Create an original instrument using Max/MSP.
- Compose an original piece for laptop ensemble.
- Create an interactive program for live audio processing in Max/MSP.
- Compose an original piece for a soloist or ensemble with live computer processing.
- Perform live using the Max/MSP programs that they have created in class.

Required Materials
Students will need to purchase a copy of Max/MSP. A one year subscription is available for $59 at cycling74.com Some students may wish to purchase the Mira App. Available for iPad for $9.99

Technical Assistance with Composition Software: I am more than happy to talk to you in person or through email to assist you with the various programs we will be using, show you some of the shortcuts I use, or try and figure out why something has stopped working. Please stop by during office hours or email me.

Expectations

Students are expected to:

- Complete all course work and assignments on time
- Perform at all course performances
- Respond to emails within two days.
- Participate in a thoughtful manner

The instructor is expected to:

- Grade assignments within seven days of the assignment deadline
- Respond to emails within two days

Grading

Compositions	3 Compositions * 10% each =	30% of the grade
Performances	3 Performances * 10% each =	30% of the grade
Assignments	10 Assignments * 4% each =	40% of the grade

Missed or late assignments will not be accepted and will receive a grade of zero unless there are mitigating circumstances such as a death in the immediate family or a serious illness. Incompletes for the course will only be given due to extreme circumstances beyond the student's control.

Grading percentages and how they apply to OU's grading scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

Academic Conduct Policy

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Add/Drop:

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Course Outline: Tentative and subject to change as needed

Week 1	Course introduction and syllabus, introduction to dataflow programming, intro to Max/MSP. Math, logic, keyboard and mouse in Max, and "Hello World"
PART 1: MIDI and Instrument Design	
Week 2	The importance of reusing code and modularity. Getting MIDI into Max and generating MIDI information. Overview of oscillators and envelope generation. Creating a basic monosynth and avoiding aliasing.
Week 3	Exploring different types of synthesis in Max: Additive, AM, FM, Karplus-Strong. Hand out **Composition 1 (Laptop Ensemble)** and **Performance 1** guidelines (start of week 3).
Week 4	Making polyphonic patches with [poly~]. Creating graphical scores.
Week 5	**Composition 1 Due at the Start of Week 5** – listening session of compositions in class. Review and revise. Dress rehearsal for **Performance 1** during class. **Performance 1** on **TBD** night.
PART 2: Interactive Audio	
Week 6	Microphones and audio interfaces in Max. Getting audio in and out of Max as files, and live streams. Looping audio.
Week 7	Creating a pedal board – analysis of classic effects and recreating them in Max. Hand out **Composition 2 (Vocal Manipulation)** and **Performance 2** guidelines (start of week 7).
Week 8	Pedal board part 2 – continue re-creating classic effects in Max. Panning.
Week 9	Combining live and processed audio. Smoothing transitions with [line] and [curve]. Programming in "padding" for live performers.
Week 10	**Composition 2 Due at the Start of Week 10** – listening session of compositions in class. Review and revise. Dress rehearsal for **Performance 1** during class. **Performance 1** on **TBD** night. Hand out **Final Composition (Live and Interactive)** and **Final Performance** guidelines (start of week 10).
Week 11	Advanced messages, the [coll] object, and creating cues. Extending Max by installing packages
Week 12	Installing external objects. Pitch and impulse tracking – the [bonk~], [fiddle~], [fzero~], and [sigmund~] objects
Week 13	Structuring interactivity with HID and MIDI controllers, MIRA, and creating your own footpedal.
Week 14	Continued work on interactivity. Individual sessions with the instructor for programming assistance and compositional advice.
FINALS	**Final Composition** due at the start of Final exam. Soundcheck and **Final Performance** on **TBD** night.

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 4720 Career Building for Musicians (2)

Instructor: Carly Uhrig
Email: uhrig@oakland.edu
Office hours: TBA through email

Office: 207 Varner Hall
Phone: 248-370-2032

Course Description:
Establishing oneself in the music industry, including music publishing and licensing, recording contracts, copyright laws, basic business practices and start-up, marketing and promotion, website design, social media outreach, artist branding, grant writing, press kits, and resume/digital portfolio building.

Required Text and Supporting Course Material (subject to change):
Baskerville, David and Tim Baskerville*: Music Business Handbook and Career Guide,* 11th Edition (and accompanying website.)
Mark Halloran, Esq.: *The Musician's Business and Legal Guide*, 4th Edition
Billboard and *Pollstar* magazines, as well as the music listings in any local newspaper you happen to read.
Suggested supplemental readings posted on Moodle.

Evaluative components:
15% class participation
25% weekly quizzes/assignments
30% midterm exam and/or project/presentation
30% final exam and/or project/presentation

Grading

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

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Add/Drops: The University add/drop policy will be explicitly followed. It is the student's responsibility to be aware of the University deadline dates for dropping the course.

Special Considerations: A student with a documented learning or physical disability must contact the Office of Disability and Support Services, 121 North Foundation Hall, (248) 370-3266, and inform the professor of special needs during first week of classes. For more information, visit http://www.oakland.edu/dss.

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Class Schedule and Topical Outline: The class schedule, below, indicates class dates, exam dates, specific topical material to be covered, and reading/homework assignments. The instructor reserves the right to make minor adjustments to this schedule.

Day 1
Due at the start of class: reading assignment listed
-History of the music industry and how it looks today (digital revolution)
-Record labels and key industry players

Day 2
Due at the start of class: reading assignment listed
-Music Business Law, part 1:
    -Songwriting
    -Copyright laws: copyright background, exclusive rights, fair use, work made for hire, infringement, etc.

Day 3
Due at the start of class: reading assignment listed
-Music Business Law, part 2
    -Music publishing
    -Music licensing (mechanical, synchronization) and supervision

Day 4
Due at the start of class: reading assignment listed
-Music Business Law, part 3
    -Reviewing parts 1 & 2 – protecting your intellectual property
    -Recording contracts

Day 5
Due at the start of class: reading assignment listed
-Income Streams
    -Recording royalties
    -Performance royalties
    -New revenue streams (YouTube, internet streaming, etc.)
    -Performing Rights Organizations

Day 6
Due at the start of class: reading assignment listed
-Artist Branding
    -Artist development
    -Image, graphic design, message (consistency)
    -Trademark protection

Day 7 Midterm and/or Presentation/Project
Review sheet/instructions will be available on Moodle

Day 8
Due at the start of class: reading assignment listed
-How to Market Yourself, part 1
    -Print, radio, direct-mail marketing, advertisement, placement
    -Media relations, press releases
    -Website design (design options, domain name, web hosting services, analytics)

Day 9
Due at the start of class: reading assignment listed
-How to Market Yourself, part 2
    -Social media outreach, best practices
    -Email marketing
    -Digital press kit, resume
    -**Project:** preparing a one-sheet

Day 10
Due at the start of class: reading assignment listed
- Starting Your Own Business
    -Options: proprietorship, partnership, corporation, LLC
    -Accounting and finance
        -Other options: Crowdfunding, grant writing, sponsorships

Day 11
Due at the start of class: reading assignment listed
-The Team: who to employ and what to join
    -Producer, music publisher, attorney, artist manager, publicist, agent, recording label, tour manager, venue, promoter, business manager, crew
    -Musicians' unions and guilds

Day 12
Due at the start of class: reading assignment listed
-Concert promotion, touring, tour marketing
-Merchandising
-Artist management

Day 13
Due at the start of class: reading assignment listed
-Career options
-Future resources
-Final projects

Final and/or Presentation/Project
Review sheet/instructions will be available on Moodle

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 4998 Senior Project: Music Technology and Recording (3 credits)

Instructors: Jeffrey Heisler, Kenneth Kroesche, or other music performance faculty, depending on the students' performance area (instrument, voice), Ben Fuhrman, or Terry Herald.

Course Description:
Advanced application of individual work in music technology and audio production.
Prerequisites: MUS 2702, 3711, 3702, and 4711.

Structure and Organization:
When the Bachelor of Music coursework is complete or near completion, all music technology majors engage in an advanced application of individual work in music technology and audio production.

- The **Senior Project in Music Technology and Recording** is the capstone coursework experience of this degree program.
- Students are also required to complete an internship in the music industry MUS 4951 **Internship in Music Industry**.
- Students should discuss and plan the timing of these two culminating experiences with their faculty adviser.

Requirements:
The Senior Project consists of a faculty-approved live recital of electronic music composition, lecture presentation on relevant music technology research, or live listening session/lecture recital of a large scale (30 minute +) recording project.

- Each student selects a topic under the guidance of the Project Adviser and completes the project with guidance from the adviser.
- A committee of at least three music faculty with expertise in the students' performance area (Project Committee) must approve the senior project before the student begins work.

Assessment:
Student work in the Senior Project will be assessed by the Project Adviser, in an ongoing fashion throughout the experience.

Ultimately, the Project Committee will attend the live recital, lecture presentation, or listening session and assess the final product.

The final assessment is then reported to the student and faculty on the Senior Project Comment Sheet.

To qualify for a Bachelor of Music in Music Technology degree, a student must earn a grade of at least 3.0 in the Senior Project.

Assessment Criteria:
Please see rubric on the next page.

Senior Project Assessment Rubric

An excellent Senior Project for the Bachelor of Music in Music Technology program would reflect:	Percentage Possible	Percentage Earned	B.M. in Music Technology Learning Objectives
Technical mastery and professional knowledge of acoustics, audio technology, and musical styles to successfully record, create, and/or reinforce a musical performance.	25%		Obj.Tech1,2,3,4,5,6,7
Appropriate decisions in sound reinforcement, microphone choice, hardware/ software choices, and mixing/mastering.	25%		Obj.Tech1,2,4,5,6
Artistically and characteristically appropriate uses of technology.	15%		Obj.Tech1,2,5,6
Aural proficiency to create, process, edit, and master live sound and recording.	15%		Obj.Tech2,6
Understanding of the historical, theoretical, stylistic, and cultural context of technology in music.	10%		Obj.Tech1,5,6,7
Satisfactory accomplishment in the general education program cross-cutting capacities: critical thinking, effective communications, information literacy, and social awareness.	10%		(Because this is a general education capstone course)

Grading

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	no credit

Academic Conduct Policy: The University's regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating and/or plagiarism will be reported to the Dean of Students and, thereafter, to the Academic Conduct Committee for adjudication. Anyone found guilty of academic misconduct in this course may receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Students found guilty of academic misconduct by the Academic Conduct Committee may face suspension or permanent dismissal. The full policy on academic misconduct can be found in the General Information section of the Undergraduate Catalog.

Add/Drops: The University add/drop policy will be explicitly followed. It is the student's responsibility to be aware of the University deadline dates for dropping the course.

Special Considerations: A student with a documented learning or physical disability must contact the Office of Disability and Support Services, 121 North Foundation Hall, (248) 370-3266, and inform the professor of special needs during first week of classes. For more information, visit http://www.oakland.edu/dss.

University Excused Absence Policy: The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see http://www.oakland.edu/?id=6850&sid=175.

OU Preferred Name Policy:
If you do not identify with the name that is listed with the registrar, please notify me so that I may appropriately amend my records. In addition, if you prefer to go by a different pronoun, please inform me.

Oakland University
Department of Music, Theatre and Dance
Syllabus

MUS 4951 Music Industry Internship (4 credits)

Course Description:
Field application of theories and practices in professional music production, recording arts, or music technology industries.
Prerequisites: MUS 2702, 3711, 3702, and 4711.

Course Objectives:
This one-semester, culminating internship will enable a student to gain professional experience in the field of music technology, recording, and industry prior to graduation.

Structure and Organization:
When a student's Bachelor of Music coursework is complete or near completion, an OU music faculty member will work with a selected music industry organization to secure an internship for the student.

Internship Placements:
At present, we have confirmation of one internship site:

- Interns would work with Matthew Pons, an audio technician who runs concerts at the Detroit Institute of Arts and who is also the stage department head of the Detroit Symphony Orchestra.

Other placements we would pursue, if the program were approved, include The Palace, Meadow Brook Festival, the DTE Center, radio and television stations, IRCAM, MACCM, and similar organizations.

Grading: Pass/Fail

Requirements:
To fulfill the requirements of the Internship, students must

- work a minimum of two days a week in the music industry field,
- implementing a working knowledge of the technology used in the industry.

Assessment:
Student work in the internship will be assessed in an ongoing fashion throughout the experience and ultimately evaluated by the industry mentor and OU program adviser.

Assessment Criteria:
A successful intern will:

- Perform quality work comparable to that of an entry-level professional in their field.
- Demonstrate a level of professionalism appropriate for an entry-level professional in their field.

Academic Conduct Policy: The University's regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating and/or plagiarism will be reported to the Dean of Students and, thereafter, to the Academic Conduct Committee for adjudication. Anyone found guilty of academic misconduct in this course may receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Students found guilty of academic misconduct by the Academic Conduct Committee may face suspension or permanent dismissal. The full policy on academic misconduct can be found in the General Information section of the Undergraduate Catalog.

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Special Considerations: A student with a documented learning or physical disability must contact the Office of Disability and Support Services, 121 North Foundation Hall, (248) 370-3266, and inform the professor of special needs during first week of classes. For more information, visit http://www.oakland.edu/dss.

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Appendix D: Library Report

Please see the pages that follow.

University Libraries
Rochester, Michigan 48309-

MEMORANDUM

To: Jackie Wiggins, Ed.D., Chair, Department of Music, Theatre and Dance, Oakland University

From: Helen Levenson, Collection Development Librarian
Katie Greer, Librarian Liaison to Department of Music, Theatre and Dance

Re: Library collection evaluation for proposed addition of a music technology major within the Bachelor of Music degree

Date: January 10, 2017

To conduct this Library collection evaluation for the proposed addition of a music technology major within the Bachelor of Music degree, we reviewed the draft program proposal in relation to the University Libraries' current resources in music, music education, and music technology. Overall, the Libraries' current offerings are quite strong in the support of general music instruction and study for a Bachelor of Music degree. However, to specifically support this newly proposed major in music technology, the Libraries would need to acquire the recommended periodical and book resources listed in Appendix C and Appendix E respectively. Additionally, the Libraries currently do not subscribe to a contemporary music score database therefore we recommend either a subscription to the Babel Scores Contemporary Music Online database or alternatively, to purchase approximately five specific contemporary music scores per year. With the addition of these recommended resources, the Libraries would then be able to provide access to materials that would be more than sufficient to address the teaching, research and learning needs of faculty and students for this proposed new undergraduate major. In order to compile this collection evaluation, we consulted *Magazines for Libraries* and the holdings of other university libraries which offer similar programs. The following is our assessment of the Libraries' ability to support the proposed new major.

Reference Sources and Periodical Indexes

The University Libraries subscribe to the premier music reference resource, *Oxford Music Online* which includes *Groves Music Online*, *The Oxford Companion to Music*, and *The Oxford Dictionary of Music*. The Libraries also owns *The Music Tech Dictionary: A Glossary of Audio-Related Terms and Technologies*. The *Credo Reference* collection offers *The Harvard Dictionary of Music; Musical Terms, Symbols and Theory: An Illustrated Dictionary; The New Penguin Dictionary of Music*, and other titles. The University Libraries also subscribe to numerous major periodical indexes that would support this proposed new major, many of which also provide full text access. These include the EBSCO indexes *Music Index*, *Education Full Text*, *ERIC*, and *OmniFile Full Text Select*. Additionally, the Libraries subscribe to the Gale indexes *Academic OneFile*, *Fine Arts and Music Collection*, and *Expanded Academic ASAP*, and the Proquest *ABI/INFORM Complete Collection*.

Music Instruction and Study Journals

The Libraries subscribe to a number of journals that support a Bachelors in Music in general (see Appendix A). The Libraries also subscribe to a number of journals that would specifically support the proposed new major in music technology (see Appendix B) but this list should be supplemented with the journal purchase recommendations listed in Appendix C. Title recommendations in Appendix C were compiled from recommendations made by faculty from the Department of Music, Theatre, and Dance and from comparisons to other university library holdings with similar programs to this proposed new major. The Libraries also subscribe to music journals peripheral to this new proposed major, such as *Ethnomusicology*, *American Music*, *Black Music Research Journal*, and *Journal of the Society for American Music*, among others.

Databases

The University Libraries own the entire collection (Volumes I through IV) of the Alexander Street *Classical Music Scores* and subscribe to the *Contemporary World Music* and *NAXOS Music Library* databases. The recommendation to either subscribe to the Babel Scores Contemporary Music Online database or purchase of contemporary music scores is made to fill the gap the Libraries have in holdings in this area of music scores. Musical scores are available openly on the Internet from such sources as IMSLP, Petrucci Music Library at http://imslp.org/ and the UCLA Sheet Music Consortium at http://digital2.library.ucla.edu/sheetmusic/ although contemporary scores are generally less available.

Monographs

The University Libraries has a strong music monograph collection which has been regularly supported through the years through annual resource allocations to the Music Department. For the current fiscal year, the music department is currently allocated $3,000.00 for the purchase of book resources. See Appendix D for the total number of print monographs held by the University Libraries in the Library of Congress Classification range or ranges of M1470-M1480, ML74, ML1092, ML3795, MT40-MT67, MT41, MT655-MT725, and MT723 as well as the number of print monographs added in these classifications or classification ranges since 2010. As mentioned above, Appendix E lists the title recommendations for books to purchase in order to have appropriate resources to support this proposed new major. These title recommendations are from both the faculty of the Department of Music, Theatre, and Dance and the Library. In addition to print monographs, the University Libraries have access to purchase over 600 ebooks indexed under various subjects such as "Music History & Criticism, Instrumental," "Music History & Criticism, Popular—Jazz, Rock, etc." and "Music Instruction & Study" among others. Included in these ebook collections are titles relevant to a music technology major such as *Electronic and Computer Music; Beyond Sound: The College and Career Guide in Music Technology;* and *Using Technology to Unlock Musical Creativity*, all three published by Oxford University Press. Also included in the ebook collections is *Computer Music Modeling and Retrieval, Sense of Sounds,* published by Springer, *Music Education: Navigating the Future*, published by Routledge, and *Expanding the Horizon of Electroacoustic Music Analysis*, published by Cambridge University Press.

Searches of GOBI, the online book ordering service from the University Libraries' primary book vendor demonstrate that there are about 15 books per year that are published in the relevant Library of Congress classification ranges that would support the proposed major. Many of these titles are considered "basic recommended" or "research recommended." The average cost of these titles is about $70.00 per book, although some individual titles can cost as much as $150.00. We would recommend a purchase of a minimum of five new monographs per year to continue to support the proposed new undergraduate major. See the Monographs/Reference Books line in Appendices F and G for the approximate costs to support these acquisitions. The projected costs for monographs in both Appendices is the same. Appendix F includes the cost of the Babel Scores Contemporary Music Online database whereas Appendix G includes the alternative costs of acquiring five contemporary music scores per year.

Support for Current Library Resources

As noted throughout this collection evaluation, the University Libraries already provide access to a rich collection in music education and resources that are more than sufficient to support the teaching, research and learning needs of faculty and students for the overall Bachelors in Music degree. Recognized gaps in the collection to support a music technology major would be effectively filled by the acquisition of the recommended resources noted in this collection evaluation. However, the currently held resources that contribute to the support of this proposed new major would need continual, incremental financial support. Due to anticipated, industry-standard annual inflation cost increases for journals, reference resources, indexes, and databases, the Libraries cannot guarantee that we will be able to maintain subscriptions even to our current resources. Therefore, we ask that the library be given $500.00 per year (with inflationary increases in years two through five) to assist us in funding these resources that are critical to the Bachelor of Music degree with a music technology major, as well as to the entire Music Department.

Cc: Stephen Weiter, Dean of Oakland University Libraries
Dominique Daniel, Library Representative to the University Senate

Appendix A

A Sample of Kresge Library Currently Owned Periodicals in Music Instruction & Study that Support Bachelors in Music majors in general

Periodical Title	Online Source
American music teacher	JSTOR & various
Arts education policy review	Taylor & Francis & various
British journal of music education	Cambridge Journals
Bulletin - Council for Research in Music Education	various
General music today	SAGE & various
Indiana theory review	JSTOR (up to 2012)
Journal of music teacher education	SAGE & various
Journal of research in music education	JSTOR, SAGE & various
Music analysis	JSTOR & WileyBlackwell
Music education research	Taylor & Francis
Music educators journal	SAGE & various
Music theory spectrum	JSTOR & Oxford Journals
Research and issues in music education	various (2006-2013)
RIME Research and issues in music education	Open access
Teaching music	various

Appendix B	
A Sample of Kresge Library Currently Owned Periodicals in Music Instruction & Study that Support a Bachelors in Music, Music Technology & Industry Major	
Periodical Title	**Online Source**
Acoustics today	Acoustical Society of America
Billboard	various
Computer music journal[1]	IEEE, JSTOR, Project Muse & various
Electronic musician[1]	various
International computer music conference proceedings	open access
IEEE/ACM transactions on audio, speech, and language processing	IEEE & ACM
Journal of popular music studies	WileyBlackwell
Journal of the acoustical society of america	Acoustical Society of America
Journal on the art of record production	open access
Leonardo music journal	JSTOR & Project Muse
Mix	various
Music week	various
Proceedings of the international conference on DAFX (Digital Audio Effects)	open access
Organised sound	Cambridge Journals
Popular music and society	Humanities & OmniFile Full Text
[1]Recommended in Magazines in Libraries as core title	

Appendix C	
Recommended Journals to Purchase in Music Instruction & Study to Support a Bachelors in Music, Music Technology & Industry Major	
Periodical Title	**Approximate Annual Cost**
Audio Media - England	164.00
Av magazine	202.00
Broadcast: The weekly newspaper of the television & radio industry	650.00
Journal of the Audio Engineering Society Audio-Acoustics-Application	325.00
New Musical Express	92.00
Popular Music and Society	510.00
Sound & vision	25.00
Sound on sound	75.00
Tape op	60.00
TOTAL	**2103.00**

Appendix D	
Monograph holdings in Library of Congress Classification Ranges	
that Support a Bachelors in Music, Music Technology & Industry Major	
Total Monograph Holdings	447
Total Monographs added since 2010	22
M 1470-M 1480 Music. Instrumental music. Aleatory music. Electronic music. Mixed media	7
ML 74 Literature on music. Aspects of the field of music as a whole	7
ML 1092 Literature on music. History & criticism. Instruments & instrumental music	17
ML 3795 Literature on music. Music as a profession. Vocational guidance	73
MT 40-MT 67 Instruction & study. Composition. Elements & techniques of music	294
MT 41 Instruction & study. Composition. Elements & techniques of music	6
MT 655-MT 725 Instruction & study. Instrumental techniques. Percussion & other instruments	35
MT 723 Instruction & study. Instrumental techniques. Percussion & other instruments	8

Appendix E

Recommended books in Music Instruction & Study to purchase

to Support a Bachelors in Music, Music Technology & Industry Major

Title	Approximate Cost
Recording Orchestra and Other Classical Music Ensembles	55.00
Practical Recording Techniques: The Step-by-Step Approach to Professional Audio Recording, 7th Edition	60.00
Recording Studio Design, 4th edition	100.00
Self on Audio: The Collected Audio Design Articles of Douglas Self, 3rd Edition	75.00
Handbook for Sound Engineers, 5th edition	165.00
Mastering Audio: The Art and the Science, 3rd Edition	45.00
Recording Secrets for the Small Studio	50.00
The SOS Guide to Live Sound: Optimising Your Band's Live-Performance Audio	42.00
Modern Recording Techniques, 8th edition	60.00
The Science of Sound Recording	43.00
Acoustics and Psychoacoustics, 4th edition	71.00
Electroacoustic Devices: Microphones and Loudspeakers	47.00
A Sound Engineer's Guide to Audio Test and Measurement	36.00
Audio Wiring Guide: How to wire the most popular audio and video connectors	45.00
Surround Sound: Up and running, 2nd Edition	52.00
Spatial Audio	70.00
Aaron Marks' Complete Guide to Game Audio: For Composers, Musicians, Sound Designers, Game Developers, 3rd Edition	146.00
New Channels of Music Distribution	40.00
Monetizing Entertainment: An Insider's Handbook for Careers in the Entertainment & Music Industry	80.00
Music Commodities, Markets, and Values: Music as Merchandise	140.00
Record Label Marketing: How Music Companies Brand and Market Artists in the Digital Era, 3rd Edition	55.00
Web Marketing for the Music Business, 2nd edition	40.00
The Art of Music Publishing: An Entrepreneurial Guide to Publishing and Copyright for the Music, Film, and Media Industries	41.00
Music Theory for Computer Musicians, new ed, 2015	13.00
Harmony for Computer Musicians	35.00
Essentials of music technology, Oxford, 2015	73.00
Audio processes: Musical analysis, modification, synthesis, & control, Routledge, 2017	60.00
TOTAL	**1739.00**

Appendix F
Proposed Five-Year Budget for Library Materials to Support a Bachelors in Music, Music Technology & Industry Major

	Year 1	Year 2	Year 3	Year 4	Year 5
Monographs/Reference books[1]	$ 1,740	$ 350	$ 368	$ 386	$ 405
Periodicals[2]	$ 2,103	$ 2,313	$ 2,545	$ 2,800	$ 3,080
Babel Scores Contemporary Music Online database[3]	$ 450	$ 495	$ 545	$ 600	$ 660
Support for current library resources[4]	$ 500	$ 550	$ 605	$ 666	$ 733
Total	$ 4,793	$ 3,708	$ 4,063	$ 4,452	$ 4,878

[1]Year 1 is cost of specific recommended titles from Appendix E. Years 2-5 reflect a 5 percent annual inflationary increase for 5 book purchases per year.
[2]Year 1 is cost of specific recommended titles from Appendix C. Years 2-5 reflect a 10 percent annual inflationary increase to maintain subscriptions.
[3]Reflects a 10 percent annual inflationary increase in years 2-5 to maintain the database subscription.
[4]Reflects a 10 percent annual inflationary increase in years 2-5 to maintain currently held music related resources.

Appendix G
Proposed Five-Year Budget for Library Materials to Support a Bachelors in Music, Music Technology & Industry Major

	Year 1	Year 2	Year 3	Year 4	Year 5
Monographs/Reference books[1]	$ 1,740	$ 350	$ 368	$ 386	$ 405
Periodicals[2]	$ 2,103	$ 2,313	$ 2,545	$ 2,800	$ 3,080
Contemporary music scores[3]	$ 375	$ 394	$ 414	$ 435	$ 457
Support for current library resources[4]	$ 500	$ 550	$ 605	$ 666	$ 733
Total	$ 4,718	$ 3,607	$ 3,932	$ 4,287	$ 4,675

[1]Year 1 is cost of specific recommended titles from Appendix E. Years 2-5 reflect a 5 percent annual inflationary increase for 5 book purchases per year.
[2]Year 1 is cost of specific recommended titles from Appendix C. Years 2-5 reflect a 10 percent annual inflationary increase to maintain subscriptions.
[3]Reflects a 5 percent annual inflationary increase in years 2-5 to maintain purchases of 5 scores per year.
[4]Reflects a 10 percent annual inflationary increase in years 2-5 to maintain currently held music related resources.

Appendix E: Job Descriptions for SMTD Staff Involved in this Program

SMTD Technical Coordinator and Sound Technician

Minimum Qualifications:
A degree in music and experience in recording techniques and computer technology, or an equivalent combination of education and/or experience.

Desired Qualification:
Master's degree in music with extensive experience in recording, and knowledge of recording techniques and computer technology, or an equivalent combination of education and/or experience.

Position Purpose:
Responsible for all aspects of audio and video support for performances in an active, comprehensive academic performing arts unit that offers 17 degree programs in music, theatre, and dance and produces more than 150 productions annually. Includes envisioning, designing, engineering, and providing audio and visual support for live performances; recording and archiving performances; and training and supervising casual staff and student workers who implement audio and video support and recording for performances.

Responsibilities:
- Collaborate with faculty, students, and clients in SMTD to realize their artistic musical visions for a wide spectrum of musical genres, dance, and theatrical performances through the use of audio engineering and sound reinforcement techniques.
- Envision, design, and implement audio and video support for 150+ live music, theatre, and dance performances annually.
- Develop and implement systems that enable seamless support of the work of students, faculty, and staff enhancing the experiences of the public within the unit's performance venues.
- Record and archive departmental performances.
- Envision and implement state-of-the-art audio and technical upgrades needed in Varner Recital Hall to assist performers in the realization of their artistry.

Job Duties:
- Engineer and supervise the audio recording of all concerts, recitals, and performances in Varner Recital Hall (approximately 100 per year).
  - Mix and master all recordings to:
  - Save to an archival format.
  - Provide copies to primary participants.
  - Document program information including titles, composers, performers, dates, etc. for archival retrieval.
  - Record graduate application video and audio.
  - Author all DVDs.
  - Duplicate CDs.
- Design, engineer, and supervise all aspects of sound reinforcement and mixes during live performances, including front-of-house mixes and stage monitor mixes.
- Design and implement system-integration schemes for audio/video in Varner Recital Hall.
- Write and maintain a procedural manual and troubleshooting guide for all audio and video systems in Varner Recital Hall.

- Provide audio sound reinforcement and video support for dance performances (approx. 28 per year).
- Engineer and supervise location recording services for off-campus performances (approx. 10 per year).
- Engineer and supervise sound reinforcement for outdoor performances (approx. 5 per year).
- Engineer and supervise audio and video support for external community events (approx. 30 per year).
- Train and supervise a staff of student assistants in all areas of their job descriptions.
- Develop and provide training for new audio software applications and equipment.
- Supervise video recording of all performances in Varner Recital Hall.
- Supervise live streaming of performances and concerts.
- Supervise video projection for performances and presentations.
- Troubleshoot audio and video problems in Varner Recital Hall and SMTD classrooms.
- Maintain and troubleshoot hardware and software systems in Varner Recital Hall and SMTD classrooms.
- Maintain continual upgrades in the SMTD Computer Lab, troubleshoot and provide technical assistance.
- Evaluate audio and video needs for SMTD.
- Prepare budget proposals for SMTD audio upgrades.
- Prepare annual budget proposal for software requirements in the Music Computer Lab.

SMTD Marketing Manager

Minimum Qualifications:

- Master's Degree or an equivalent combination of education and/or experience.
- Experience marketing both performance events and the academic side of an academic performing arts unit.
- Experience designing both print and online materials, including capacity for artistic layout appropriate for marketing arts programs and ability to communicate in well-crafted, sophisticated language. Excellent organizational, analytical, and management skills.
- Working knowledge of the needs and nature of the various performing arts disciplines and sub-disciplines.
- Ability to collaborate with and communicate effectively with work colleagues, arts faculty and students, administrators, and the general public.

Desired Qualification:
Master's Degree in Arts Marketing

Position Purpose:
Responsible for all marketing efforts of a large, complex, comprehensive academic performing arts unit that offers 17 degree programs in music, theatre, and dance and produces more than 150 productions annually, all open to the public. Includes overseeing all marketing efforts, maintaining brand consistency, working closely with University Communications and Marketing, and supervising casual staff and student workers.

Responsibilities:

- Create a comprehensive communications approach to interface with the community, potential audience, faculty, staff, and students.
- Publicizing 150+ music, theatre and dance performances while simultaneously growing awareness and increasing our visibility in the community.
- Brand management: ensure that communications from the Department of Music, Theatre and Dance adhere to the university style guidelines and are consistent with the university's branding strategies.
- Act as the liaison between the Music, Theatre and Dance faculty/students/staff and OU Communications and Marketing; this includes gathering, organizing and condensing information for various projects (e.g., brochures, pamphlets, posters, videos, etc.)

Job Duties:

- Production of the annual School of Music, Theatre and Dance season brochure (20,000+ printed): creating copy; choosing photos as well as the concept and layout of each year's design; collaborating with UCM on graphic design and engaging through the editing process.
- Creating content and graphic design for distribution of all e-blasts to our listserv (4500+ subscribers), including weekly event updates and targeted e-marketing campaigns
- Maintenance of listserv as well as Season Brochure mailing list; Oakland Symphony Orchestra mailing list; and the Electronic Database (specific and targeted divisions, i.e., "family friendly", "brass enthusiasts" etc.)
- Work directly with Recruiting Coordinator to create content/materials for workshops/camps as well as constantly refining our recruiting strategies
- Constant management of School of Music, Theatre and Dance social media outlets: Facebook, Twitter, Instagram, and YouTube.
    - This includes: creating, curating and managing all published content (photos, videos, written posts); engaging followers and responding to their messages and comments; adding each of our performances to the events calendar; management of online advertising campaigns and reporting

to UCM; monitoring trends in social media tools, applications, channels, design and strategy; studying analytics of our pages' data.

- Working directly with the UCM Media Relations Director to provide content to pitch stories to various media outlets and coordinate television/radio interviews for our faculty/students.
- Webmaster of School of Music, Theatre and Dance website, including Department sites: writing and updating content (written and visual); training in Careworks and Percussion.
- Graphic design of posters and postcards for events
- Proofread and edit copy for press releases and the monthly department e-newsletter, Prism (all written by the associate publicist)
- Oversee student workers and collaborate with associate publicist (casual employee)
- MaTilDa Awards: serve on committee, coordinate advertising, oversee creation of all written materials (invitation, program), online marketing efforts
- Support Music Preparatory Division by preparing content for website, brochure and various small projects
- Ensure that all Music, Theatre, and Dance events are input on the Oakland University calendar, departmental Google calendar, external calendars (Detroit Free Press, Metro Times, etc.)
- Coordination of off-campus recruiting events with faculty
- Scheduling photo shoots
- Committees: MaTilDa Awards, Season Planning, Arts@OU
- Organization and archival of past SMTD publicity photos, posters and materials
- Management of print and digital advertising: this includes serving as the contact person, completing necessary paperwork/contracts, designing the advertisements, seeking approval from UCM and coordinating payment details with the budget manager
- Audience development (example: implementation of Arts-After-Work concert series)
- Project management
- Event planning
- Community outreach and development

Appendix F: Impact on CAS Part-time Faculty Budget

The information shared below demonstrates that the creation of the proposed program would have no significant impact on the CAS Part-time Faculty Budget.

Current planned schedule of offerings taught by the part-time faculty involved in delivering the proposed program:

Instructor	Typical Fall	Typical Winter
Fuhrman 16 cr/year	*Arts Exploration Gen Ed:* MUS 1002 Exploring Technology in Music (4)	*Arts Exploration Gen Ed:* MUS 1002 Exploring Technology in Music (4)
	Knowledge Applications Gen Ed: MUS 2020 Computer-based Mus Composition (4)	*Knowledge Applications Gen Ed:* MUS 2020 Computer-based Mus Composition (4)
Herald 8 cr/year	*Elective Course:* MUS 3053 Audio Techniques (2)	*Elective Course:* MUS 3054 The Recording Studio (2)
		Online only Arts Exploration Gen Ed: MUS 1006 Exploring Film Music (4)
Uhrig 8 cr/year	*Exploration Gen Ed:* MUS 1005 Foundations of Rock (4)	*Exploration Gen Ed:* MUS 1005 Foundations of Rock (4)

Schedule of offerings taught by these part-time faculty for the proposed degree program:
Note that BA Music students and BM Music students pursuing music education or performance degrees would also choose to enroll in these courses, so enrollment would not be totally dependent upon students pursuing the proposed degree program.
General education courses currently taught by the part-time faculty in question here are shown in gray.

Instructor	Fall, Year 1	Winter, Year 1
Fuhrman 16 cr	MUS 1002 Exploring Technology in Music (4)	MUS 1002 Exploring Technology in Music (4)
	MUS 2020 Computer-based Music Composition (4)	MUS 2020 Computer-based Music Composition (4)
Herald 6 cr	MUS 1006 Exploring Film Music (4)	MUS 3053 Acoustics for the Musician (2)
Uhrig 8 cr	MUS 1005 Foundations of Rock (4)	MUS 1005 Foundations of Rock (4)
Instructor	**Fall, Year 2**	**Winter, Year 2**
Fuhrman 16 cr	MUS 1002 Exploring Technology in Music (4)	MUS 1002 Exploring Technology in Music (4)
	MUS 2020 Computer-based Music Composition (4)	MUS 2020 Computer-based Music Composition (4)
Herald 6 cr	MUS 3054 The Recording Studio (2)	MUS 3053 Acoustics for the Musician (2)
		MUS 3711 Advanced Recording Techniques (2)
Uhrig 8 cr	MUS 1005 Foundations of Rock (4)	MUS 1005 Foundations of Rock (4)
Instructor	**Fall, Year 3**	**Winter, Year 3**
Fuhrman 15 cr	MUS 2701 Creative Composition I (2)	MUS 2702 Creative Composition II (2)
	MUS 4701 Orchestration and Arranging (3)	MUS 3702 Mus Tech II: Audio Design/Process (2)
	MUS 1002 Exploring Technology in Music (4)	MUS 4711 Interactive Computer Music (2)
Herald 8 cr	MUS 3054 The Recording Studio (2)	MUS 3053 Acoustics for the Musician (2)
	MUS 3701 Mus Tech I: Audio Design/Process (2)	MUS 3711 Advanced Recording Techniques (2)
Uhrig 8 cr	MUS 1005 Foundations of Rock (4)	MUS 1005 Foundations of Rock (4)

Instructor	Fall, Year 4	Winter, Year 4
Fuhrman 17 cr	MUS 2701 Creative Composition I (2)	MUS 2702 Creative Composition II (2)
	MUS 4701 Orchestration and Arranging (3)	MUS 3702 Mus Tech II: Audio Design/Process (2)
	MUS 4998 Senior Project: Music Tech & Recording (2)	MUS 4711 Interactive Computer Music (2)
		MUS 2020 Computer-based Music Composition (4)
Herald 8 cr	MUS 3054 The Recording Studio (2)	MUS 3053 Acoustics for the Musician (2)
	MUS 3701 Mus Tech I: Audio Design/Process (2)	MUS 3711 Advanced Recording Techniques (2)
Uhrig 6 cr	MUS 4720 Career Building for Musicians (2) (offered every other year)	MUS 1005 Foundations of Rock (4)
Instructor	**Fall, Year 5**	**Winter, Year 5**
Fuhrman 17 cr	MUS 2701 Creative Composition I (2)	MUS 2702 Creative Composition II (2)
	MUS 4701 Orchestration and Arranging (3)	MUS 4711 Interactive Computer Music (2)
	MUS 4998 Senior Project: Music Tech & Recording (2)	MUS 3702 Mus Tech II: Audio Design/Process (2)
		MUS 1002 Exploring Technology in Music (4)
Herald 8 cr	MUS 3054 The Recording Sonetudio (2)	MUS 3053 Acoustics for the Musician (2)
	MUS 3701 Mus Tech I: Audio Design/Process (2)	MUS 3711 Advanced Recording Techniques (2)
Uhrig 8 cr	MUS 1005 Foundations of Rock (4)	MUS 1005 Foundations of Rock (4)

Full-time faculty member Jeff Heisler will supervise MUS 4951 Music Industry Internship, so this does not appear on the chart. It is comparable to student teaching. Faculty responsibility will be arranging for the internship, checking in from time to time with student and mentor, and contributing to the final assessment of student work.

Number of credits paid by the part-time budget in fall and winter over 5 years in relation to the present cost:

Budget Year	Number of credits to be paid	No. fewer credits than present
Present	**32**	**n/a**
Year 1	**30**	**-2**
Year 2	**30**	**-2**
Year 3	**31**	**-1**
Year 4	**31**	**-1**
Year 5	**33**	**+1**

Thereafter, the number will alternate between 31 and 33, averaging 32, which means no budgetary impact on the CAS part-time budget. The 2-credit difference from one year to the next is produced by Urhig's load which alternates between two 4-credit gen eds and one gen ed plus one 2-credit course for the proposed program.

ATTACHMENT B

College of Arts and Sciences
Program: BM - Music Technology
Program Inception: FY19
Five-Year Budget: **New to OU students**
Fund:
Date: 3/20/18

	Acct.	Budget Year 1	Budget Year 2	Budget Year 3	Budget Year 4	Budget Year 5
Revenue Variables:						
Headcount		**5**	**8**	**11**	**14**	**16**
UG lower		**5**	**8**	**6**	**6**	**10**
UG Upper		**0**	**0**	**5**	**8**	**6**
Average credits per year per major		**32**	**32**	**32**	**32**	**32**
Total Credit Hours		**160**	**256**	**352**	**448**	**512**
Undergraduate (lower)		160	256	192	192	320
Undergraduate (upper)		0	0	160	256	192
Graduate						
Total FYES		**5.33**	**8.53**	**11.73**	**14.93**	**17.07**
Undergraduate lower (cr.÷30)		5.33	8.53	6.40	6.40	10.67
Undergraduate upper (cr.÷30)		0.00	0.00	5.33	8.53	6.40
Graduate (cr.÷24)		0.00	0.00	0.00	0.00	0.00
Tuition Rate Per Credit Hour						
Undergrad (lower)		$ 414.00	$ 414.00	$ 414.00	$ 414.00	$ 414.00
Undergrad (upper)		$ 479.75	$ 479.75	$ 479.75	$ 479.75	$ 479.75
Graduate		$ 706.25	$ 706.25	$ 706.25	$ 706.25	$ 706.25
Revenue						
Tuition		$ 66,240	$ 105,984	$ 156,248	$ 202,304	$ 224,592
Other		$ -	$ -	$ -	$ -	$ -
Total Revenue		**$ 66,240**	**$ 105,984**	**$ 156,248**	**$ 202,304**	**$ 224,592**
Compensation						
Salaries/Wages						
Faculty Inload Replacements	6301	$ -	$ -	$ -	$ -	$ -
Faculty Salaries	6101	$ -	$ -	$ 56,000	$ 56,000	$ 56,000
Faculty Overload	6301	$ -	$ -	$ -	$ -	$ -
Part-time Faculty	6301	$ -	$ -	$ -	$ -	$ -
Visiting Faculty	6101	$ -	$ -	$ -	$ -	$ -
Administrative	6201	$ -	$ -	$ -	$ -	$ -
Administrative - IC	6221	$ -	$ -	$ -	$ -	$ -
Clerical	6211	$ -	$ -	$ -	$ -	$ -
Student	6501	$ -	$ -	$ -	$ -	$ -
Graduate Assistantship Stipend	6311	$ -	$ -	$ -	$ -	$ -
Out of Classification	6401	$ -	$ -	$ -	$ -	$ -
Overtime	6401	$ -	$ -	$ -	$ -	$ -
Wages - General	6401	$ -	$ -	$ -	$ -	$ -
Total Salaries/Wages		$ -	$ -	$ 56,000	$ 56,000	$ 56,000
Fringe Benefits	6701	$ -	$ -	$ 24,864	$ 24,864	$ 24,864
Total Compensation		**$ -**	**$ -**	**$ 80,864**	**$ 80,864**	**$ 80,864**
Operating Expenses						
Supplies and Services	7101	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000
Graduate Assistant Tuition	7726	$ -	$ -	$ -	$ -	$ -
Travel	7201	$ -	$ -	$ -	$ -	$ -
Telephone	7301	$ -	$ -	$ -	$ -	$ -
Equipment	7501	$ 20,000	$ -	$ -	$ -	$ -
Library	7401	$ 4,718	$ 3,607	$ 3,932	$ 4,287	$ 4,675
Total Operating Expenses		**$ 28,718**	**$ 7,607**	**$ 7,932**	**$ 8,287**	**$ 8,675**
Total Expenses		$ 28,718	$ 7,607	$ 88,796	$ 89,151	$ 89,539
Net		$ 37,522	$ 98,377	$ 67,452	$ 113,153	$ 135,053