Institution Submitting Request: University of Utah
Proposed Title: Undergraduate Certificate in Music Technology
Currently Approved Title:
School or Division or Location: College of Fine Arts
Department(s) or Area(s) Location: School of Music
Recommended Classification of Instructional Programs (CIP) Code¹ (for new programs): 50.0913
Current Classification of Instructional Programs (CIP) Code (for existing programs):
Proposed Beginning Date (for new programs): 11/20/2014
Institutional Board of Trustees' Approval Date: MM/DD/YEAR

Proposal Type (check all that apply):

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<th>SECTION NO.</th>
<th>ITEM</th>
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<tr>
<td>5.1.1</td>
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<td>5.1.2</td>
<td>Emphasis*</td>
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<td>5.2.1</td>
<td>Certificate of Proficiency*</td>
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<td>5.2.3</td>
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<td>5.4.1</td>
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<td>Out-of-Service Area Delivery of Programs</td>
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<td>Reinstatement of Previously Suspended Program</td>
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<td>Reinstatement of Previously Suspended Administrative Unit</td>
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*Requires “Section V: Program Curriculum” of Abbreviated Template

Chief Academic Officer (or Designee) Signature:
I certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Signature Date: MM/DD/YEAR

Printed Name: Name of CAO or Designee

¹ CIP codes must be recommended by the submitting institution. For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.
Program Request - Abbreviated Template

University of Utah
Undergraduate Certificate in Music Technology
11/20/2014

Section I: Request

This is a request for a new undergraduate Certificate in Music Technology. Individual faculty members initiated the concept which was then discussed, modified, and approved by the Undergraduate Studies Committee (a standing committee of the School of Music faculty). The proposal then came to all of the voting members of the faculty of the School of Music. Faculty approval of this proposal is enthusiastically endorsed by the administration of the School of Music. It should be noted that whereas this proposal for an undergraduate departmental Certificate can be fully implemented with MUSC courses offered within the School of Music, the degree plan includes an important option for elective courses from other departments in the university. Faculty members consulted with colleagues across campus to verify the suitability of those particular courses. Please see the attached letters from colleagues in Physics, Computer Science, and the Arts and Technology Program in the College of Fine Arts. Please see also the letter from the Head of the Music Education Area in the School of Music, in support of this program.

The proposed Certificate is comprised of existing courses. Last year the School of Music replaced two lower division Music Technology courses (MUSC 1350 and 1352) with two upper division Music Technology courses (MUSC 3250 and 3252). This was done in recognition that many of the topics in the lower division courses were more appropriate for upper division courses, and could be explored in more depth by eliminating from their curriculum the less advanced topics that the lower division courses originally included. These less advanced topics were then made part of a reactivated lower division course (MUSC 1340), which had not been offered in many years, that is also part of this proposed Certificate in Music Technology. MUSC 1340, 3250, and 3252 have now been offered for three semesters and had excellent enrollments.

Except for two courses, most of the non-Music electives for the Certificate do not require prerequisites. PHYS 2020 is included as an elective, even though it requires prerequisites, because its topics, heat, electricity and magnetism, waves, sound, light, and modern physics, are particularly relevant to electronic music. CS 1410 is included as an elective, even though it requires prerequisites and corequisites, because its topic, object-oriented programming, is particularly relevant to the programming languages currently most used in computer music.

Section II: Need

This proposed Certificate is a response to student need and it provides a coherent structure for Music Technology instruction. Although students in any major may enroll in the proposed Certificate in Music Technology, this program is especially suited to Music students completing our liberal arts degree, the Bachelor of Arts in Music (rather than the Bachelor of Music, our professional degree), who are interested in an emphasis in Music Technology, particularly in performance and/or composition with technology. The Certificate will acknowledge that these courses form a structured program. It will allow the university to more appropriately meet Music student needs and enhance student success in our community and beyond, by helping our students to compete with students graduating from colleges with these programs already in
place across the country. Existing courses in Music Technology are in high demand and will be increasingly important in achieving 66% by 2020.

Section III: Institutional Impact

It is anticipated that this proposed program will enhance enrollment in the Music Technology courses. No change in existing administrative structure is anticipated. The courses have been in place for three semesters and there is a modest impact on faculty load, because of the reactivation of MUSC 1340, which we are able to manage by supplementing the instructional load provided by our current faculty members through graduate teaching assistants in our Composition Ph.D. program. No immediate needs for new equipment or spaces are anticipated. Current instruction in Music Technology takes place in the Marriott Library and in David Gardner Hall. Dr. Miguel Chuaqui Would be the advisor for the Certificate.

Section IV: Finances

This program is anticipated to be relatively neutral in terms of costs. While additional instructional load is possible in the future, graduate teaching assistants are providing that workload, funded through productivity. Equipment up-grades are supported by the technology fees attached to the courses.

Section V: Program Curriculum

***THIS SECTION OF THE TEMPLATE REQUIRED FOR EMPHASES, MINORS, AND CERTIFICATES ONLY***

All Program Courses (with New Courses in Bold)

<table>
<thead>
<tr>
<th>Course Prefix and Number</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Required Courses</strong></td>
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<tr>
<td>Re-activated course: MUSC 1340</td>
<td>Introduction to Music Technology</td>
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<tr>
<td>MUSC 3250</td>
<td>Music Technology I</td>
<td>3</td>
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<tr>
<td>MUSC 3252</td>
<td>Music Technology II</td>
<td>3</td>
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<td></td>
<td><strong>Sub-Total</strong></td>
<td><strong>9</strong></td>
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<tr>
<td><strong>Electives</strong></td>
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<tr>
<td><strong>Computer Science</strong></td>
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<tr>
<td>CS 1400 (3 credits)</td>
<td>Intro to Computer Science</td>
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<tr>
<td>CS 1060 (3 credits)</td>
<td>Explorations in Computer Science</td>
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<tr>
<td>CS 1410 (4 credits)</td>
<td>Intro to Object-Oriented Programming</td>
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<tr>
<td>Prerequisite CS 1400.</td>
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<tr>
<td>Corequisite: MATH 1210 or MATH 1250 or MATH 1270 or MATH 1310 or MATH 1311.</td>
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<tr>
<td><strong>Physics</strong></td>
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<tr>
<td>PHYS 1330 (3 credits)</td>
<td>Physics of Audio and Video</td>
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<tr>
<td>PHYS 2020 (4 credits)</td>
<td>General Physics II</td>
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<tr>
<td>Prerequisites: MATH 1050 and 1060.</td>
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<tr>
<td><strong>Fine Arts</strong></td>
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<tr>
<td>FA 2000 (3 credits)</td>
<td>Computers and the Arts</td>
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<tr>
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<td><strong>Total Number of Credits</strong></td>
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Program Schedule

Fall of First Year to Engage the Certificate
MUSC 1340 Introduction to Music Technology (3)
Elective Course (3-4)

Spring of First Year to Engage the Certificate
MUSC 3250 Music Technology I (3)
Elective Course (3-4)

Fall of Second Year to Engage the Certificate
MUSC 3252 Music Technology II (3)
Elective Course (3-4)

Spring of Second Year to Engage the Certificate
Elective Course (3-4)
TO WHOM IT MAY CONCERN.

This is a letter of support for the Undergraduate Certificate in Music Technology. I am very happy that this Certificate is being proposed because it is very important and timely. It is in response to student needs and it will benefit the students in their careers. From past experience I had many students from the Music Department with interest in pursuing a career in Music Technology. It is an important area where students with the right background can be very successful and have very interesting careers. Seeing the proposal for a Certificate in this area makes a lot of sense and I give it my highest recommendation.

Looking over the proposed Program Curriculum I find it well balanced, logical, and rigorous. It addresses the needs of such a program and it anticipates the demands of the community and industry for people with knowledge, expertise, and skills in the latest approaches dealing with Music Technology. The balance of Music courses, Computer Science, Physics, and Fine Arts, is just right and I commend the committee for arriving at such a good blend. In my opinion it meets the requirements for a university degree and it prepares the students for a career in a field that is universally in demand, the world of entertainment, music being such an important component. I wholeheartedly support the proposal and I am willing to help in any way I can to make it successful.

Sincerely,

Orest G. Symko, Professor of Physics
Department of Physics and Astronomy
University of Utah
Salt Lake City, Utah 84112
Tel. (801)581-6132
October 1st, 2013

Members of the Undergraduate Council:

I am writing this letter in support of the School of Music’s proposed Music Technology Certificate program. As Music Education Division Chair, I can assure you that the field of music technology is becoming more and more important for our students. In fact, because of its growing importance, the Praxis exam (required statewide test for educators seeking licensure) now includes a substantial subsection for music technology, including questions regarding sound editing, microphones, recording and notation computer software, and other topics about which all teachers entering the field should know and understand upon graduation. Unfortunately, there simply is no way for us to include these topics in our existing coursework, because it is not an area of expertise for the music education faculty. And, increasingly, some of our students have difficulty with this portion of the test and cannot pass the test.

A music technology certificate could also potentially be added on to the music education degree by students who wish to increase their expertise in this area and demonstrate evidence to an administrator that such a course could be beneficial to public school students. Given the advancement of technology and the interest young people are expressing in current trends, it is also possible that such a course might interest principals and thereby increase the marketability of our students when seeking employment.
If perchance you require additional information, please do not hesitate to contact me at 581-7368.

Thank you for your consideration.

Sincerely,

Jessica Napoles

Associate Professor

Music Education
28 January, 2014

To Whom It May Concern:

We have looked over the proposed Music Tech Minor proposed by the Music Department. The proposal looks good, and Physics 1330 (Physics of Audio and Video) and 2010 (College Physics I) should greatly strengthen the degree

I (Dr. Symko) teach both Physics 1330 and Physics 2010 and know that much of the material is applicable to what the Music Department is trying to achieve with this degree.

If either of us can be of further assistance, please feel free to contact us

Dr. Orest Symko
Professor of Physics

Lynn Higgs
Undergraduate Advisor of Physics
From: H. James de St. Germain  
Subject: Music Tech – Computer Science Electives  
Date: January 30, 2014  

To the Curriculum Committee,

I am writing to suggest the suitability of Computer Science courses for the Music Tech minor. In general, many CS courses would be very beneficial to students who wish to delve into the computational aspects of music processing, production, producing, etc. I would suggest that you allow any CS course at the 3000 level and above. That being said, for non-CS majors or those who are only going to get a taste of CS/programming, I would suggest the following:

- CS 1400 – A basic introduction to the ideas behind computation and programming
- CS 1060 – Similar to 1400 but for non pre-majors
- CS 1410 – A fast paced introduction to programming. (Note: there are several flavors of this class and the regular or EAE versions may be the most appropriate.) This course requires CS 1400 as a pre-req (but this requirement can be waived based on a successful proficiency test score) and Calculus I as a co-req. For those with the right background, this would be the most recommended course.

Please be aware that the numbering for CS 1400 and CS 1060 will likely change in the near future (based on statewide curriculum articulation agreements). Also note that while we are working to expand our offerings, 1400 and 1410 are currently filling up very quickly and we anticipate this to continue.

Sincerely,

H. James de St. Germain  
Associate Professor of Computer Science &  
Director of Undergraduate Studies  
School of Computing  
University of Utah, 801-585-3352, germain@cs.utah.edu
April 14, 2014

Donn Shaefer  DMA
Associate Director, School of Music
University of Utah

Dear Donn,

Thank you for your interest in including FA 2000 Computers and the Arts as an elective in Technology Minor curriculum for the School of Music. FA 2000 Computers and the Arts is open to all undergraduate students at University of Utah and is a stepping stone for courses to Minor and Certificate in Arts and Technology program at the Art and Art History Department. As part of the Arts and Technology program in the Art and Art History Department, the focus is on visual arts, specifically editing digital imaging, creating vector graphics, video editing and web design. The applications students learn during the course include Adobe Photoshop, Illustrator, PremierPro and Dreamweaver. The program is focused on interdisciplinary study, encouraging students from wide range of academic backgrounds to engage in using visual digital tools in their practice.

It would be a great addition to the class and we would welcome students in the proposed Minor in Music Technology and Certificate in Music Technology to enroll in FA 2000.

Sincerely,

Martin Novak
Letters of support

To whom it may concern,
My name is Joseph Pedersen; I am a recent BUS graduate in Music Technology. I found my degree very stimulating and appropriate for the career path I have chosen to follow. While I had been a member of the University's 'Music Industry Group' for the latter part of the time I was studying, I believe it would have been greatly beneficial to have had a structured program to follow. I give my full support as a forerunning alumni to the establishment of a Minor in Music Technology.

-Joseph Pedersen
MEMO

Date: June 14, 2013

To: Edward Barbanell, Associate Dean
    Undergraduate Studies

From: Raymond Tynan-Jones, Dean
      College of Fine Arts

Subject: Support for Certificate in Music Technology

This memorandum is in support of the Certificate in Music Technology offered in the School of Music. This certificate will accord the proper credit for the extra work that these students will be accomplishing above and beyond their normal courses of study. This proposal has received support from the faculty, Director of the School, and College Curriculum Committee; I now add my support as well. Should you have any questions, please feel free to contact me. Thank you for your consideration and assistance.