FORM 1

COVER SHEET
NEW DEGREE PROGRAM PLANNING NOTIFICATION OF INTENT
(PLANNING NOI)

Program Information

Program Name: Music Informatics

Institution Name: Eastern Washington University

Degree Granting Unit: College of Arts and Letters
                                    (e.g. College of Arts and Science)
Degree: B.A. Music Informatics   Level: Bachelor   Type: Music and Technology

_____
      (e.g. B.S. Chemistry)   *(e.g. Bachelor)*   *(e.g. Science)*
Major: Music Informatics   CIP Code: 50.0913
           (e.g. Chemistry)
Minor: _____
           (if required for major)
Concentration(s):
           (if applicable)
Proposed Start Date: fall 2010

Projected Enrollment (FTE) in Year One: 5.00   At Full Enrollment by Year: 2014   20.00
                                                                (# FTE)   *(# FTE)*
Proposed New Funding: _____

Funding Source: ☒State FTE   ☐Self Support   ☐Other

Mode of Delivery

☒Single Campus Delivery   _Cheney campus_____

        (enter locations)
☐Off-Site   _____

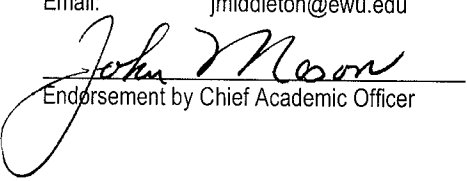   *(enter locations)*
☐Distance Learning   _____

        (enter formats)

Substantive Statement of Need
Attach Sheet

Contact Information (Academic Department Representative)

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_____   *1-4-10*
Endorsement by Chief Academic Officer   Date

Notice of Intent: Bachelor of Arts in Music Informatics
A Substantive Statement of Need for the Washington State Higher Education Coordinating Board

Prepared on December 7, 2009
By Dr. Jonathan Middleton with Assistance from Helen Bergland and Dr. Steve Simmons
Eastern Washington University

Introduction
A proposed BA in Music Informatics will offer students at Eastern Washington University a new degree from a unique interdisciplinary field that combines music, engineering, and computer science. The proposed degree seeks to exceed HECB goals relative to student, community and employer needs in Washington state, and adhere to the EWU mission to prepare "broadly educated, technologically proficient and highly productive citizens to attain meaningful careers."

Background and Market Outlook
Music Informatics is an area of research, development and artistic creation made possible by the contemporary expansion of digital representations and computer processing techniques widely known as digital convergence. Four primary industries that embraced digital convergence are: Information Technologies, Telecommunications, Consumer Electronics, and Entertainment (ITTCE). From its name, one can see that Music Informatics is inherently cross-disciplinary as it pairs music with other disciplines that require digital sound modeling, transfer, or synthesis; examples include telematics, psychoacoustics, computer music composition, digital sound processing, audio encoding for streaming, and music for film or gaming. Music Informatics is a wide-ranging field.

On a social level, digital convergence has played a significant role in transforming many communities in the Northwest from blue-collar oriented industries like timber, mining, and manufacturing to technology-based industries. Spokane's technological aspirations can be seen in its Comprehensive Plan, which seeks to "encourage the development of advanced and emerging technology based industries" because, in part, "the information age has produced a shift from production skills to information-processing and problem-solving skills." Ventures in is this area "can potentially create new jobs while increasing overall wealth" (section 7, ED 3.8 and ED 5.4 from Comprehensive Plan, 2007). In Spokane, companies like Itron, F5 Networks, Cisco, and Agilent are leaders among its high tech industries; however, community-based non-profit initiatives are also a driving force. For example, the City of Spokane is host to the Terabyte Triangle, an advanced fiber optic infrastructure within "a concentration of real estate designed to attract tenants with more sophisticated technology requirements" (Comprehensive Plan 2007). The Terabyte Triangle encompasses the WSU/EWU Riverpoint Campus, which sets the stage for important research and development.

The potential growth of Music Informatics can be measured in reference to the industries that make up the ITTCE. Information technology, for example, is one of the fastest growing fields according to the US Bureau of Labor Statistics; and as information technology merges with other disciplines like music, art, and medicine, there will be an increased demand for employees with interdisciplinary backgrounds in these fields. According to the US Bureau of Labor Statistics the occupational outlook for job growth in the music industry will be 11% through 2016. This positive, yet modest outlook for musically trained individuals changes considerably when combined with the projected employment growth of computer software industries at 38% through 2016 (Bureau of Labor Statistics 2009). These projections show that music and computer science, even when combined in an interdisciplinary manner, should have significant employment growth.

An important variable in these projections is location. Outlooks will be more positive in states with healthy and established high tech industries. In 2008, the Technology Alliance Report announced that

Washington State was ranked the fourth highest state in the nation "in terms of concentration of technology-based employment and R&D activity." Since, "Washington State has employment in [technology-based] industries 35% above the national average (Beyers 2008), it should come as no surprise that "technology-based industries continue to be the forefront of the development of the Washington economy. They account for the largest share of employment, business activity, and labor income of any major sector in the state's economic base" (Beyers 2008). Since Music Informatics has an integral relation to high-tech industries with media development and digital sound processing needs, one can note that digital audio specialists are essential to companies like RealNetworks, AT&T, Boeing, Microsoft, Disney Interactive Group, and Amazon. This diverse representation of potential employers offers those with proficient skills in Music Informatics an opportunity to satisfy the needs of many types of high tech companies. In order to gain a brief sampling of job prospects (in a recessionary economy), EWU staff identified 821 job postings in Washington and Oregon that were relevant to Music Informatics. This preliminary investigation took place in early November 2009 using the search terms "audio specialist," "digital media," and "media engineers." Although employment trends for Music Informatics seem quite favorable, EWU has taken additional steps to acquire a detailed market analysis from a professional consulting agency.

Assessment
The primary goal of the BA in Music Informatics is to provide students with skill sets for meaningful careers in industries that share music and technology needs. Assessment of the program will be based on three broad categories: knowledge and understanding, intellectual skills, and practical skills, all drawn from the University of Sussex's comprehensive assessment guide. A variety of assessment measures will be used to refine the program as needed. For example, course evaluations will be used to examine course content and its relevance to the larger program; surveys will be used to periodically gather feedback from students in reference to individual courses and the program as a whole; and exit surveys will be used to assess students' skill preparation, knowledge of core learning areas, and readiness for employment or advanced graduate-level study. All assessments will follow recommendations from the National Survey of Student Assessment (NSSE). Additional measures will include data from student recruitment and retention rates, success of graduating students, and the ability to raise funding through grants and business relations.

Community Demand
The Music Informatics program seeks to provide two immediate goals: 1) educate workers for local and region-wide high tech industries, and 2) help students acquire skills to start their own companies in the Spokane area. In reference to Seattle, which has been fully established with a high tech job market since the 1980s, Spokane represents a developing high tech job market with significant potential due to four post secondary schools in the area: EWU, WSU, Whitworth, and Gonzaga. The creation of SIRTI, the Terabyte Triangle, and EWU's dynamic graduate program in computer science has laid a foundation for future development in high tech jobs and industries. In music, Spokane is host to a vibrant symphony orchestra that is expanding its outreach activities via Internet2 and telematics. The EWU departments of Music and Computer Science are partnering with the Spokane Symphony in this effort.

The Music Informatics program at EWU will address two significant community and state-wide challenges as indicated by the HECB: "Access to post secondary educational opportunities for this new wave of graduates is increasingly important. Washington is unique in that we are a leader in innovation and technology-based industries; however, that leadership position has relied heavily on drawing highly trained workers from outside of Washington, especially in computer science, engineering and health care occupations" (HECB 2005, 8). As a regional comprehensive school, EWU is one of the most accessible universities in our region; it provides individuals improved opportunities to seek an education, with low costs and student-oriented resources. The Music Informatics program at EWU will provide employers a highly trained source of workers from the Spokane area.

Student Demand/Needs

Students who are seeking careers in music often struggle to meet today's standard of living. Most music majors face few options in highly competitive and low-paying jobs as performers, teachers, or arts administrators. At the same time, many students are seeking careers in high tech areas relative to multimedia, even when music would have been their first choice. Through Music Informatics, parents and students will find a combined music and technology degree that represents a practical approach to building a career related to music. EWU faculty have reported several inquiries into the Music Informatics program over the past year despite the fact the program is in the proposal stage. Since 2006 a significant number of students have already participated in independent studies in Music Informatics. There are eight graduate thesis projects related to Music Informatics that are forthcoming or completed in the EWU Computer Science Department. Roughly twenty undergraduate students have helped develop software for music education and composition. In addition, there are two graduate and five undergraduate students from the Department of Music that have collaborated with computer science majors in Music Informatics projects. Music Informatics projects have also engaged EWU students in the technical writing program. The Music Informatics program proposes to combine departmental resources across colleges to meet students' interests and needs.

Conclusion

The proposed intent to develop a Music Informatics program of study has evolved since 2006 from Eastern Washington University's Strategic Planning initiative. A primary goal for the Strategic Plan is interdisciplinary work across departments. At EWU, faculty and students have tested our abilities to collaborate across colleges in successful ways. Through the support of the Strategic Plan, we have designed projects that connect the fields of music, computer science, engineering, design, and technical writing. The Music Informatics projects have developed music software and conducted telematics research for musical performance over a high-speed networks. The projects have also led to the completion of graduate theses in computer science, partnerships with companies like MusicianLink, Nokia, and the Spokane Symphony, and two grants from the Northwest Academic Computing Council and CPATH (funded by NSF). In the near future, EWU faculty and students will partner with schools like Gonzaga University, the University of Washington (DXARTS), the University of Montana, the University of Michigan, Stanford University, and the University of Chile. The benefits over time will be broad and substantial if this program proposal is approved. A state approved program will provide EWU with a unique program that explores advance interdisciplinary projects through experiential learning processes in music and technology.

References

Beyers, W. B. (2008). "The Economic Impact of Technology-Based Industries in Washington State." A Technology-Alliance Report. Located at <http://www.technology-alliance.com/documents/economic_impact_2008.pdf>.

Bureau of Labor Statistics. (2009). *Occupational Outlook Handbook, 2008-09 Edition.* Retrieved from <http://www.bls.gov/oco/home.htm>.

Comprehensive Plan and Background Documents (2001, last update 2007). Located at <http://www.spokaneplanning.org/documents/cityplan/text/toc.pdf>.

National Survey of Student Engagement (2007). "Experiences that Matter: Enhancing Student Learning and Success," Annual Report.

Washington Higher Education Coordinating Board (2005). "State and Regional Needs Assessment."