Presidential Advisory Committee of Michigan Technological University

Proposal 12-05

(Voting Units: Academic Senators)

Fine Arts Department Degree Proposal
Audio Production and Technology, B.S.

1. Program Description:

A Bachelor of Science degree in Audio Production and Technology is an interdisciplinary program that integrates studies in music and theatre production with comprehensive coursework in engineering technology and computer science. Throughout the entertainment industry, current consumer expectations and technological advances are driving a need for audio production professionals who are educated not only in the fundamentals of music and theatre, but also in specific areas of technology. Acoustics, electro-acoustics, electronics, computer applications, mechanical operations, and other disciplines are at the heart of modern audio production and this degree.

2. Rationale:

The entertainment industry has a specific need for audio production artists who have solid foundations in technology. The modern audio production and technology professional needs training in the fundamentals and traditions of music and theatre, integrated with technological skills gained from studies in engineering, computer science, and media production.

Standards for entry into careers in audio are continually increasing and the necessary technical and artistic expertise is rarely obtainable through apprenticeship/internship opportunities without the addition of a strong undergraduate education. In many cases an undergraduate degree is required for entry into apprenticeship and internship positions.

Currently, there are few baccalaureate degree programs in audio production and technology. It is the intent of the Fine Arts Department to integrate theatrical and musical training with engineering technology to create a comprehensive Audio Production and Technology program. The student will receive a solid education in general sound arts practices, aesthetics, and history as well as knowledge of fundamental engineering technology underlying all aspects of the entertainment industry. The graduate of this program will have marketable skills for a broad range of sound arts professions that includes traditional theatre, concerts, and studios, but goes far beyond.

3. Related Programs:

- **At Michigan Tech**
  Current Fine Arts degrees
  Technical Theatre Minor

Music Technology Minor
Theatre Arts Minor
Art Minor
Music Minor

Other proposed Fine Arts degrees
Theatre and Entertainment Technology, B.A.
Theatre and Entertainment Technology, B.S.
Sound Design, B.A.

- **Other Institutions**

Across the Country:

- These programs are similar to the proposed, however, our program provides a broader engineering technology base and more music and theatre in some cases:
  Columbia College of Chicago, Department of Audio Arts and Acoustics.
  New York City College of Technology.
  Cornish College of the Arts, Washington.

In the Region:

Similar Degrees

University of Michigan, Ann Arbor, School of Music
B.F.A. in Performing Arts Technology with a concentration in either Music or Media Arts.
B.S. in Sound Engineering.

Grand Valley State University
Degree in Electrical Engineering with a music minor.

Benchmark Institutions:

No other benchmark institutions have specific study in sound.
Two institutions have degree programs that touch on this area.

Rensselaer Polytechnic Institute currently offers a degree in electronic media that is visually focused. We expect this will change, at least at the graduate level, with the opening of their new Experimental Media and Performing Arts center.

Carnegie Mellon offers a minor in Music Technology and no other sound specific degrees.

4. Projected Enrollment:

The program is planned to grow modestly. We are confident of an initial enrollment of between three and five students in the major when this program is launched, prospectively in Fall'05. By 2009, total enrollment is expected to grow to twelve to fifteen in the major, and we will graduate our first class.

5. Scheduling Plans:

This degree will be administered as part of the regular course schedule, including alternate-year cycling of certain courses. The proposed teaching schedule is **Attachment A**.

6. Curriculum Design: Audio Production and Technology Major, BS – 125 credits

Major Requirements: 42 credits

Foundation Courses: Take all 33 credits

FA 1701 Backstage Technology (new course)	3
FA 1702 Lighting and Sound Technology (new course)	3
FA 2500 Music Theory I	3
FA 2821 Performance Design Principles (new course)	3
FA 3530 Music Theory II	3
FA 3560 Music History	3
FA 3650 Production Management (new course)	3
FA 3730 Sound Design	3
FA 4740 Transducer Theory (new course)	3
FA 3740 Recording	3
FA 4972 Final Project	3

Practicum: Take all 9 credits

FA 2661 Mainstage: Runcrew	2
FA 2662: Mainstage: Sound Runcrew	3
FA 3662 Mainstage: Sound Management and Design	4

Computer Science/Engineering/Math/Science/Technology Sequence: 40-44 credits

CET 1110 Introduction to CAD	2

Take one of the following concentrations for 38-42 credits

Electrical Engineering Technology: 38-42 credits

EET 1120 Circuits I[1]	4
EET 2120 Circuits II[1]	4
EET 2220 Electronic Devices and Circuit Theory	4
EET 3225 Special Electronic Devices	4
EET 3367 Communication Systems	4
EET 4367 Wireless Communications	4
MAT 1155 or MA 1032[1]	4-5
MAT 1195 or MA 1160 or MA 1161[1]	3-5
MAT 2215 or MA 2160.[1]	3-4
3 credit science class with a separate lab[1]	4

[1]These courses fulfill the General Education Science/Mathematics requirement.

Computer Science: 41 credits

CS 1121 (Intro. to CS I AND CS 1122 Intro to CS II) OR (CS 1131 Comp Sci I)[1]	4-5
CS 1721 Object Oriented Programming[1]	1
CS 2321 Data Structures[1]	3
CS 2141 Software Development using C++	3
CS 2311 Discrete Structures	3
CS 3141 Team Software Project	3
MA 1032 Data, Functions, & Graphs Plus[1&2]	4
MA 1150, MA 1151, MA 1160, or MA 1161	4-5
MA 2150, MA 2160, or MA 1090	3-4
EET, MET, MA, EE, MEEM, MAT, SAT, CET, CE, or CS elective	6-9
3 credit science class with a separate lab[1]	4

[1]These courses fulfill the General Education Science/Mathematics requirement.

[2]MA 1032 requires proficiency in MA 0099. Credit in MA 0099 does not count towards graduation.

Free Electives: 11-15 credits

General Education Requirements: 28 credits – see course catalog

Co-Curricular Activities: 3 credits

7. New Course Descriptions:

The proposed new courses have been carefully designed to rely on present faculty and facilities. Appropriate restructuring of positions has already taken place. Each of the theatre and entertainment technology faculty (hired in 2000 and 2002) has been charged with developing courses for the minor in technical theatre that was introduced in the 2000-01 academic year and to design the degree proposals currently under consideration. These faculty and their courses serve as a foundation for the proposed degrees.

Some of the new courses are redesigned older courses (r), and several courses will be offered in alternating years (a). There may be a modest reduction in the total number of sections of Speech to avoid faculty overloads.

FA 1701 Backstage Technology (r) An overview of the basic techniques, theories, and terminology of technical theatre. Focus on practical application of stagecraft and rigging for a theatrical production, safety in technical theatre, physical theatre structures, production processes, and theatre organization. *Prerequisites: None. Credits:* 3.0 *Lec-Rec-Lab:* (0-3-0) *Semesters Offered*: Fall.

FA 1702 Lighting and Sound Technology An overview of the basics of theatrical lighting, stage electrics, audio systems, and techniques for theatrical production. Focus on practical application of static and automated lighting for a theatrical production, including instrumentation and control. Introduction to live sound reinforcement, recording, and complex playback. *Prerequisites: None. Credits:* 3.0 *Lec-Rec-Lab:* (0-3-0) *Semesters Offered***:** Spring.

FA 2800 Script Analysis (r) An examination of drama for the purpose of gaining various textual methods of analysis for production: character analysis, thematic analysis, functional analysis, and plot analysis. This class emphasizes learning how to examine and understand a playscript for design production**.** *Prerequisites: None. Credits:* 3.0 *Lec-Rec-Lab*: (0-3-0) *Semesters Offered:* Fall.

FA 2821 Performance Design Principles (r) An introduction to the design principles of the live art and entertainment industry, including design needs, production methods, equipment, and facilities for various venues. Among the applications to be surveyed are theatre, concerts, theme parks, museums, and corporate events. Related career opportunities will be explored. *Prerequisites: None. Credits:* 3.0 *Lec-Rec-Lab:* (0-3-0) *Semesters Offered*: Spring.

FA 3650 Production Management (a) Procedures and skills of effective production management. Authoritative coordination of performers and technicians during rehearsal and performance periods. Maintenance and use of the production prompt book, notation, of ground plan and blocking; scene shifts; cues for lighting, sound, special effects, and performers; opening and calling the show; post-show wrap-up. Practical experience in stage managing. *Prerequisites:* FA 1701, FA 1702 *Credits:* 3.0 *Lec-Rec-Lab:* (0-3-0) *Semesters Offered:* Spring; Offered alternate years, beginning with 2005-06 academic year.

FA 3821 Modern Theatre History (a) An examination of American and European theatre history from the late 1700s to modern times. An emphasis on the interrelationships among technology and theatre

space, design and drama, and how culture and society affected style. *Prerequisites:* UN1002 or UN1003. *Credits:* 3.0 *Lec-Rec-Lab*: (0-3-0) *Semesters Offered:* Spring; Offered alternate years, beginning with 2006-07 academic year.

FA 4740 Transducer Theory (a) In depth study of Microphone and Loudspeaker design as it applies to usage in recording and live sound reinforcement with an emphasis on interaction with the acoustical environment. *Prerequisite*: FA 3730 Sound Design. *Credits*: 3.0 *Lec-Rec-Lab*: (0-3-0) *Semesters Offered:* Fall; Offered alternate years, beginning with 2005-06 academic year.

8. Library & Other Learning Resources:

The J. Robert Van Pelt Library offers services and resources to meet the informational and research needs of the University and to support members of the University community in the development of skills to be information literate and lifelong learners. Librarians offer a range of services, including workshops, online tutorials, course-related library seminars, and consultation services for students and faculty.

Students will be directed to active and regular use of the university library. This library has a broad range of print resources available in areas such as theatre architecture, costumes, scenery, stage lighting, and theatrical sound. There is also an extensive collection of play script anthologies and other dramatic literature. There are resources, not specific to theatre, that are relevant to research for students in this degree program. These include but are not limited to books on general history and architecture as well as journals on topics such as audio engineering.

The Fine Arts Department Conference Room offers a collection of classic and recent play scripts, as well as relevant theatre and audio journals. These include:
Theatre Design and Technology: the USITT journal for design, production and technology professionals in the performing arts and entertainment industry, *Stage Directions*: a resource for the non-equity theatre market, *Pro Lights and Staging News, Front of House*: live sound news, *Lighting Dimensions*, and *Entertainment Design*: on the art and technology of show business.

Much information is transitory in this area and current trends in design are important to the student's education. Online resources will be a necessary research tool. The United States Institute for Theatre Technology's website, www.usitt.org, is one such resource.

9. Computing Access Fee:

A computer access fee of $200.00 will be assessed with each semester's tuition. Individual courses may require additional computer fees.

10. Faculty Resumes : See **Attachment B**

11. & 13. Available/Needed Equipment & Space:

In addition to facilities and equipment across the Michigan Tech campus that we encourage students to look at and take part in while here at Michigan Tech, the spaces and equipment dedicated to the needs of theatre include:

- Theatres
  - Rozsa Center for the Performing Arts
    - Proscenium theatre
    - 1100-seat venue
    - State-of-the-art facilities and equipment
    - http://www.aux.mtu.edu/rozsa/

  - McArdle Theatre, Walker Arts and Humanities Center

Black box theatre
Flexible seating up to 265
2004 ETC lighting system

Calumet Theatre
Historic proscenium theatre
Hemp rigging

- Shops, Studios, Laboratories
  Scene shops, 110 Rozsa, 206 Walker
  Costume shop, 204 Walker
  Light lab, 210 Walker
  Recording studio, 214, 215 & 208 Rozsa
  Sound technology lab, 210 Walker
  Computer lab, 213 Rozsa

12. Program Costs:

- **Year 1:** No new funds will be required to launch this program. The basic resources have been put in place in a systemic manner throughout the past several years. These include facilities in Walker and Rozsa as well as faculty and staff positions in theatre and entertainment technology. In order to provide majors with hands-on opportunities to study various aspects of the Audio Production and Technology major, the increase in production budgets will be met from Department funds, including gifts from alumni, friends, and newly-developed corporate sponsors.

- **Years 2 & 3:** With the anticipated success of the Audio Production and Technology major, the Department is planning "internal" restructuring of faculty and staff, to be accomplished through attrition. No requests for new faculty or staff positions are planned during the first three years of this program.

14. Policies, Regulations, & Rules:

The program will be administered by the Fine Arts Department in accordance with standard Michigan Tech policies governing baccalaureate degrees. The chair of the Department of Fine Arts will appoint a faculty member to direct the Audio Production and Technology degree program.

During the first two years in the program, an Audio Production and Technology major will be assigned to a faculty advisor. In the third year, the student will choose an area of emphasis and may choose another advisor with expertise in the emphasis area.

The Minor in Technical Theatre, the Minor in Music Technology, and the Minor in Theatre Arts are not available to an Audio Production and Technology major.

15. Accreditation Requirements:

Accreditation through organizations such as the National Association of Schools of Theatre (NAST) or the National Association of Schools of Music (NASM) is being explored for relevance to the university and these programs.

16. Internal Status of Proposal:

Progression	Date Submitted for Review	Date Approved

1. Department/School 09.28.04 09.28.04
2. Dean of Sciences & Arts 10.04.04 10.11.04
3. Provost 10.26.04
    a. University Support Units
    b. University Senate
    c. Academic Affairs Off. Comm.
    d. Board of Control
    e. Provost Final Decision
4. Vice Provost for Instruction
5. Campus Implementation

17. Planned Implementation Date:

Fall 2005

Attachment A
Fine Arts Proposed Teaching Schedules

Richard Blanning

Fall	*Spring*
FA 2330 Art Appreciation FA 2821 Live Art and Entertainment Design *Alternate years beginning 2006-07* FA 3333 Sculpture *Alternate years beginning 2005-06* FA 4300 Advanced Sculpture	FA 2660 Mainstage Theatre: Acting *Alternate years beginning 2006-07* FA 3330 Art History I FA 3150 Life Drawing *Alternate years beginning 2005-06*: FA 3340 Art History II FA 3300 3-D Design

Debra Bruch

Fall	*Spring*
FA 2800 Script Analysis FA 2090 Speech UN 1001 Perspectives	UN 1002 World Cultures *Alternate years beginning 2006-07* FA 3780 Directing for Theatre

	FA 3821 Modern Theatre History *Alternate years beginning 2005-06*: FA 2660 Mainstage Theatre: Acting FA 3810 Ancient Theatre History

Mary Carol Friedrich

Fall FA 1701 Backstage Technology FA 2661 Mainstage Theatre: Crew 3 Sections *Alternate years beginning 2006-07* FA 4750 Advanced Lighting Design *Alternate years beginning 2005-06* FA 3760 Costume Design	*Spring* FA 1702 Stage Electrics and Sound Technology FA 2661 Mainstage Theatre: Crew 2 Sections *Alternate years beginning 2006-07* FA 3700 Scenic Design *Alternate years beginning 2005-06* FA 3750 Lighting Design

Christopher Plummer

Fall FA 2661 Mainstage Theatre: Crew 3 Sections FA 3730 Sound Design *Alternate years beginning 2006-07* FA 4730 Advanced Sound Design *Alternate years beginning 2005-06* FA 4740 Transducer Theory	*Spring* FA 1702 Stage Electrics and Sound Technology FA 2661 Mainstage Theatre: Crew 2 Sections *Alternate years beginning 2006-07* FA 3740 Recording *Alternate years beginning 2005-06*: FA 3650 Production Management FA 2660 Mainstage Theatre: Acting

Suzanne Stephens

Fall FA 3670 Acting Ensemble FA 2660 Mainstage Directing FA 2600 Technique of Acting	*Spring* FA 3670 Acting Ensemble FA 2090 Speech 2 Sections

Attachment B

Michigan Tech Department of Fine Arts Faculty

All CVs available upon request

Mary Ann Beckwith - NWS

Professor of Art

B.A., Art and English; Marygrove College, Detroit, Michigan (1967)

Professional Activities:

Professor Beckwith teaches drawing and watermedia. She is a signature member of the National Watercolor Society, and is a signature member and a Nautilus Fellow of the International Society of Experimental Artists. She is a member of Allied Artists of America, American Watercolor Society, Transparent Watercolor Society of America, and the Society of Layerists in Multimedia. She has had numerous national exhibitions, conducts workshops around the country, and has published two books on watercolor.

Richard Blanning

Associate Professor of Theatre and Art

M.F.A., Playwriting, Acting, and Management; University of Iowa, Iowa City, Iowa (1972)

Professional Activities:

Professor Blanning directs theatre productions and teaches theatre appreciation, art appreciation, art history, live art and entertainment design, three-dimensional design, and advanced sculpture courses. Many of his original plays have been produced, and he has professional experience in directing, theatre management, scenic art, stage carpentry, and acting. He is a member of the Association for Theatre in Higher Education. Professor Blanning has been on panels for and presented many papers on creativity and the arts.

Dr. Debra Bruch

Associate Professor of Theatre

Ph.D., Theory & Criticism and Theatre History; University of Missouri-Columbia, Columbia, Missouri (1987)

Professional Activities:

Dr. Bruch is a director, scenic designer, and actor. She teaches directing, script analysis, theatre history, speech and World Cultures courses. She has published articles and book chapters on acting/directing methods and Australian drama. Many of her original plays have been published and produced. Dr. Bruch is a member of the Association for Theatre in Higher Education where she is the past chair and representative for the Religion and Theatre Focus Group for ATHE. She has chaired panels and presented papers on religious theatre and Australian theatre and is the editor for *The Journal of Religion and Theatre.*

Mary Carol Friedrich

Assistant Professor of Theatre

M.F.A., Design and Technical Theatre, Temple University, Philadelphia, Pennsylvania (1984)

Professional Activities:

Professor Friedrich teaches technical theatre, lighting design, costume design, and scene design. She designs in these areas and manages the costume shop. She has published articles on costuming research and techniques and has been a panel member and presented papers in the areas of color science and costume archaeology. She conducts workshops on color science for theatre design. She has worked professionally as a technical director, master electrician, and scene painter. Professor Friedrich is a member of the United States Institute for Theatre Technology and is affiliated with the Kennedy Center/American College Theatre Festival as an adjudicator and clinician.

Michael J. Irish

Associate Professor of Music
M.M.E., Jazz Studies, University of Wisconsin – Stephens Point, Wisconsin (1982)
Professional Activities:
Professor Irish teaches music theory and is the director of jazz studies. He has composed and arranged many jazz compositions that have been performed on campus and across the country. He has performed nationally and internationally at numerous jazz festivals and concerts. Professor Irish is a member of the International Association of Jazz Educators. His publications include compositions, instructional materials, and articles on guitarists and jazz. He was the recipient of the first National Band Association Award for Outstanding Achievement in Jazz Education.

Dr. Milton L. Olsson
Professor of Music
D.M.A., Literature and Performance of Choral Music, University of Colorado, Boulder, Colorado (1975)
Professional Activities:
Dr. Olsson chairs the Department of Fine Arts where he conducts the Concert Choir and the Keweenaw Symphony Orchestra. His choirs have performed nationally and internationally, and his choral compositions are available through National Music Publishers (NMP). He is affiliated with the American Choral Directors Association and the Michigan School Vocal Music Association (MSVMA), and is a choral adjudicator and clinician.

Christopher Plummer
Assistant Professor of Theatre
M.F.A., Sound Design, University of Illinois at Urbana-Champaign, Urbana-Champaign, Illinois (2002)
Professional Activities:
Professor Plummer is a sound designer, director, and recording engineer. He teaches sound design, transducer theory, recording, production management and is director of the recording studio. He has designed sound professionally in New York. Professor Plummer is a member of the United States Institute for Theatre Technology and is active in the Kennedy Center/American College Theatre Festival. He has chaired panels and presented papers on theatrical sound and conducts workshops on visualizing sound.

Dr. Suzanne A. Stephens
Associate Professor of Fine Arts
Ph.D., English/Contemporary American Drama, Miami University, Oxford, Ohio (1972)
Professional Activities:
Dr. Stephens teaches theatre appreciation, improvisation, and acting. She directs mainstage productions and The Troupe, Michigan Tech's improvisational comedy ensemble. She has taught workshops on creative dramatics and has taken children's shows on regional tours. Dr. Stephens is active in the Kennedy Center/American College Theatre Festival. She has acted professionally and is a Certified Kripalu Yoga Instructor.

Attachment C
Michigan Tech Department of Fine Arts Degree Overview

The graphic below represents how the four proposed degrees fit into Michigan Tech's current offerings. The degrees have been designed to provide students specific choices in aural and visual study relevant to their particular post graduation goals. Degrees on the left have a strong engineering focus for students interested in designing and building specific pieces of equipment. Degrees on the right focus on

artistic background and are for students interested in working as artists on productions. Degrees in the middle provide a balance of artistic and engineering background for students interested in entering into consulting or other support positions not directly involved with either designing and building equipment or producing productions but needing experience in both areas.

Adopted by the PAC (formerly Senate): 9 February 2005
Approved by President Mroz: 21 February 2005
Approved by BOC: 5 May 2005