

Notes:

Indiana University
School of Music Program at IUPUI

Master of Science in Music Technology



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Master of Science in Music Technology

The Master of Science in Music Technology (MSMT) curriculum provides post-baccalaureate education in areas of computer-based music technology, multimedia and interactive design and multimedia production techniques.



The primary objective of the program is to bring new and emerging digital arts technologies to students as they relate to a new discipline defined as music technology. The curriculum establishes the creative application of multimedia technology to video, audio and graphic production of arts and educational materials. Included in this field are foundations, methods and theoretical courses which underpin the development of production skills required in using technology in a creative environment.

Coursework for this degree includes required core courses and elective courses within a cognate field. Elective courses allow students to explore business applications common to music, industry and arts education. Students may select courses to fulfill the cognate field area from an approved courselist in the areas of business, communications, computer science, education, fine arts, law or others with the approval of the department and advisor. The degree program does not include technical training in sound engineering, preparation in engineering or scientific areas of computer science or electrical engineering.

The MSMT Program On-Line

The MSMT is offered as a traditionally delivered, on-campus degree program. **Students can also opt to take the entire program over the Internet.** This means that the MSMT is available to students regardless of geographical location. Students from Europe, Asia, South America and around the U.S. attend classes through live videostreaming with on-campus students. All academic requirements are the same, but cognates and electives are limited to specific courses that can be delivered at a distance. For more information, contact the Head of Graduate Studies (see page 16 of this brochure).

Resources and Facilities

The Indiana University School of Music Program at IUPUI features educational resources that support the Master of Science in Music Technology program. These resources include multimedia equipment and laboratories in the School of Music, general campus resources and University system-wide resources. Important IUPUI resources which support the music technology degree program include:

- School of Music technology facilities: the three multimedia music technology laboratories, multimedia-equipped music classrooms, the digital piano laboratory and campus-wide electronic class rooms which utilize Multimedia Instructional Presentation Systems (MIPS),
- IUPUI Library, which is electronically-linked to the State library system, the IU Bloomington digital music library system and research databases through the Internet and the World Wide Web,
- Multimedia Design and Development Center housed in the IUPUI library which features six digital production and demonstration studios for creating video and audio components for multimedia instruction and presentation,
- IUPUI Distance-Learning Broadcast Studio with satellite uplink capabilities,
- library of videodisc and CD-ROM software to support teaching music technology at the undergraduate and graduate levels, with on-going funding established to support the acquisition of new materials,
- Internet2-based high-bandwidth Abilene network (10 Gbps), and
- largest networked library of music and arts software in the country.

Career Opportunities

Graduates of the MSMT program will be equipped to work in education or industry as members of computer-based training, computer-based education, multimedia design and/or interactive technology teams. Participants develop skills in designing software, in using authoring tools and languages, in applying multimedia concepts, and in managing technology facilities and projects. Elective courses in business, communications, education, fine arts and law expand the degree recipients' opportunities in a number of individualized areas of employment. The music industry and the arts education professions are logical career areas for MSMT graduates. Music teachers, both private and public, can use the MSMT degree to strengthen their knowledge and use of educational technology. Multimedia specialists have employment options in the business sector in personnel training, multimedia development firms, publishing, electronic communications and entertainment businesses.

Admission Requisites

- Bachelor's degree (with demonstrated musical skills)
- Minimum Grade Point Average: 3.0 (4.0 point scale)
- Admission Interview: The interview may be used to assess the applicant's musical literacy, computer literacy, personal skills and professional experience
- Portfolio: A recorded or live performance audition, original composition, and/or computer software program to document applicant skills and experience
- Letters of Recommendation: Three letters to support the application of admission
- Official academic transcripts

Degree Requirements

30 hours for degree

- 18 credit hours of required courses in Music Technology
- 6 credit hours in Cognate courses (at the 400 level or above) to be selected from Music, Business, Education, Communications, Computer Science, Fine Arts or Law
- 6 hours of approved electives (at the 400 level or above) from the cognate field or other fields with approval of the head of graduate studies

Minimum grade point average:

- 3.0 to continue,
- no grades lower than a “B” in core courses and no grades lower than a “C” in electives will be counted toward the degree,



Core Courses

The following courses, eighteen hours (18), are required of all students enrolled in the MSMT program:

Class	
N512	Foundations of Music Production.....3
N513	Principles of Multimedia Technology.....3
N514	Music Technology Methods.....3
N515	Multimedia Design Applications in the Arts.....3
N516	Advanced Interactive Design Applications In the Arts.....3
N517	Internship in Arts Technology.....3
OR	
N518	ArtsTechnology Development Project.....3
Total Hours 18	

Cognate Field Courses

Six (6) credit hours are required in an approved cognate field within or outside the School of Music. Students may choose to complete the remaining six (6) hours with emphasis in one of the following areas: music, business, communications, computer science, education, fine arts, law or others with the approval of the department.

Internship and Technology Project Opportunities

Students may elect to enroll in an internship (N517) or to develop a multimedia project (N518) as the summative experience in the program. Either option is supervised by the student’s academic advisor and requires a final report. These courses are part of the core listed above. Students participating in the internship will be placed in an academic technology or industry setting for one semester of experience working with technology and multimedia experts. No thesis is required for the degree.

Course Sequence and Schedule

Students may complete the degree during the academic year with the following recommended schedule:

Fall

N512.....	3 Hours
N514.....	3 Hours
N515.....	3 Hours
Cognate/Elective	3 Hours
Cognate/Elective	3 Hours

Spring

N513.....	3 Hours
N516.....	3 Hours
N517 or 518	3 Hours
Cognate/Elective	3 Hours
Cognate/Elective	3 Hours

Summer Offerings

Students may start any summer and complete the degree in three summers with the following courses being offered. In addition to the core field courses, students must schedule cognate courses as available for the other disciplines. A sample program of study is shown below.

First Summer	Second Summer	Third Summer
N512	N513	N517/N518
N514	N516	Cognate
N515	Cognate Elective	Elective

Core Course Descriptions

N512 Foundations of Music Production (3 credits)

Examines foundations and principles of music production. Topics include: publishing, print media, music compositions, methods, textbooks, multimedia, computer and electronic transmission of computer imaging, sound and video. Other aspects covered are broadcast media, televideo graphics, background audio, script credit approval, clearances, recording, CD audio, sampling and reproduction of sound and images, multimedia and computer applications including network and broadband transmission of media. Business affairs, arts management, live performance and legal aspects of the commercial music industry will be assessed.

N513 Principles of Multimedia Technology (3 credits)

Examines theories and research in the use of computer technology with special focus on curriculum design and implementation of technology in the classroom: learning and training theory paradigms applied to technology; technology selection and assessment for learner-centered, individualized instruction and training; implementation and resource allocation; assessment designs for specific instructional models; technology and assessment database manipulation; curriculum design and media-optimized instruction; training curriculum models and multimedia motivation.

N514 Music Technology Methods (3 credits)

An in-depth study of sequencing and music notation technology. This course also explores the history of *Music Instrument Digital Interface* (MIDI) development and related uses of MIDI with multimedia including history and development of music, computer graphics and video technology; multimedia methods and techniques applied to training and instruction; music applications of sound-based stimuli in methods; graphic design applications for visual stimuli; video graphics and storyboard methods. Current and emerging digital arts technologies will be assessed.

N515 Multimedia Design Applications in the Arts (3 credits)

Presents the principles and fundamentals of instructional design and design technique using authoring tools on PC, Macintosh and emerging computer platforms. Included are storyboarding, planning and organization of scripts; use of current technology, computers, video and digital arts equipment; computer-assisted design and project planner software tools and management of design team concepts. Also includes design parameters for CD-ROM and videodisc production.

N516 Advanced Interactive Design Applications in the Arts (3 credits)

Incorporates extensive analysis and use of computer and multimedia authoring tools intended for specific educational applications. Project management and programming team organization; media management and selection criteria for digital arts media development; task analysis and instructional sequencing applied to training and instruction; assessment modeling and feedback schedules for intrinsic motivation of students and trainees are examined.

N517 Internship in Arts Technology (3 credits)

An internship program for students to work with and learn from experts in arts technology fields who are developing and using new applications in commercial and educational settings. Requirements for interns include the development of a technology project proposal; Interview resume and project presentation; on-site intern residency; project report; oral and media presentation of project outcomes.

N518 Arts Technology Development Project (3 credits)

Students create and orally present a multimedia teaching/training project which combines one or more of several elements of music technology including CD-ROM, videodisc, digital audio and video and MIDI. Requirements include technology project proposal development; oral presentation of proposal; research and development of project; project final report; and oral and media presentation of project.

The School of Music also offers the following cognates during the academic year.

Cognate Course Descriptions

N519 Digital Sound Design for Multimedia I (3 credits)

This class will introduce the music composition and multimedia applications of MIDI systems and Digital Audio Workstations. Analog, digital, and software-based synthesis, as well as multi-track MIDI and digital recording systems, will be examined and employed for use in musical and multimedia-based settings.

N520 Digital Sound Design for Multimedia II (3 credits)

The role of sound design, originally for film production, is moving into the realm of multimedia. Furthermore, the continuously evolving tools available over the Internet that were either software-based on CDs or in hardware a few years ago are enabling professional musicians to work more efficiently. This course will address, on an ongoing basis, new developments in sound design and music production with the resources now increasingly available over the Internet.

N521 Research Methods in Multimedia (3 credits)

This course will serve as an introduction to the underlying principles and concepts of technology-based studies in the arts. Emphasis is on techniques of educational research, including integration of scientific methodology, descriptive and inferential methods, and multimedia instrumentation in project development.

N522 Techniques for Music Performance, Teaching, and Production at a Distance (3 credits)

This course will introduce students to multimedia and distance learning tools for live musical performance, teaching, composition, and recording over the internet. It will include using techniques for collaborative production that enables students to generate and share musical data regardless of time or place.



G. David Peters, Director, Indiana University School of Music Program at IUPUI: is a recognized leader in the field of computer-based training. Peters holds an MS and an EdD from the University of Illinois and was the first to receive a degree from Illinois which concentrated on computer-based music instruction. Peters was a founding member and Past President of the National Consortium for Computer Development of Computer Instruction Systems (ADCIS) and served as author and software designer for the prestigious PLATO system at the University of Illinois. In 1981 he co-founded Electronic Couseware Systems, Inc. which develops and publishes educational and multimedia software. He has published numerous articles and has co-authored two books related to music learning and computer instruction and authored a book on computer-based arts assessment research.

Fred Rees, Professor of Music and Head of the Graduate Music Program: Dr. Rees is a leader in the development of distance learning in music. He established a graduate degree program at the University of Northern Iowa using Iowa's statewide interactive television system which allowed students to attend classes without coming to campus. His background includes teaching undergraduates and graduate students at the University of Queensland (Australia) and New York University.



Jack Gilfoy, Director of Music Business and Jazz Studies: was the featured drummer for Henry Mancini's concerts and TV shows for 30 years (1964 - 1994). Jack taught jazz drumming and general percussion at the IU School of Music in Bloomington for 5 years. He currently teaches classes in the History of Jazz, History of American Popular Music, Music of the Beatles and the Business of Music for the IU School of Music Program at IUPUI, Indianapolis. Gilfoy's background includes recording engineering and producing. He was the owner of Gilfoy Sound, Inc. , a recording studio in Bloomington,

Indiana, that was nominated for 5 Grammy Awards in 1976. Jack was a pioneer in audio education with his recording studio seminars in the 70's. Gilfoy is a past member of the Audio Engineering Society and the National Academy of Recording Arts and Sciences. Jack has a BM (Percussion) and MS in Education degrees from Indiana University. He is the author of Basic Rhythms and Styles for the Working Drummer, published by Houston Publications (1995) as well as producer/author of The Jazz State of Indiana, a CD/booklet from Naptown Jazz Records (1996).



Rachel Nardo, Associate Professor and Assistant Director of the Tavel Research Center: earned her doctorate (DMA), emphasizing music education, educational psychology, and electro-acoustics from the University of Southern California. Dr. Nardo teaches courses in music education methods, music technology, and general education. An experienced researcher, Dr. Nardo has been

awarded five competitive research grants related to instructional technology. She also serves as senior consultant to the Creative Kids Educational Foundation in Los Angeles, the Santa Fe Chamber Music Festival Community Outreach program, and the San Francisco Phil Harmonia Baroque Orchestra public schools outreach program.

Answers to Some Frequently Asked Questions

- Q.** *If I am accepted to the program for the summer session, can I only go in the summer?*
- A.** No. If your schedule permits, you may continue classes into the fall and spring semesters as well.
- Q.** *Do I have to follow the recommended schedule given in this brochure?*
- A.** There is a specific sequence for some of the core courses, but the cognates and electives may be taken in any order, as available.
- Q.** *What is the first required class?*
- A.** You may choose to take your cognates or electives anytime, but the first CORE COURSE you must take is either **N512** or **N513**. These classes are the prerequisites for all of the core courses that follow.
- Q.** *If I have accumulated graduate hours, will they transfer to the degree?*
- A.** Transfer hours will be evaluated individually by the Head of the Graduate Program after admission to the program.
- Q.** *Who should I contact about housing accommodations?*
- A.** The IUPUI Housing Office will be happy to assist you. Their phone number is (317) 274-7200. They can send you a packet with information on residence halls, university apartments, graduate townhouses, and a list of area apartment complexes.
- Q.** *How many hours are required to be considered a full time graduate student?*
- A.** Full time students must take twelve hours during the Fall and Spring semesters, and three hours for one summer session. There are slight differences for those students with teaching assistantships.

- Q.** *How will I be notified of my acceptance to the program?*
- A.** An acceptance letter will be mailed to you shortly after the admissions committee reviews your materials.
- Q.** *Do I need to submit a Graduate Record Examination (GRE) score with my application?*
- A.** NO! The GRE is not required for application to the MSMT program.
- Q.** *How do I apply to the program as an International student?*
- A.** You must apply to both the Indiana University School of Music Program at IUPUI (see address on page 16 of this brochure) **AND** IUPUI Office of International Affairs, listed below, through the University's online application process.

Office of International Affairs
IUPUI
902 W. New York St., Room 2126
Indianapolis, IN 46202-5167
USA
Tel: (317) 274-7294
Fax: (317) 278-2213
Website: www.iupui.edu/home/international.html

Financial Support

Graduate students may apply for financial assistance at IUPUI to defray tuition expenses. A limited number of stipends are available to qualified graduate students through teaching and research assistantships.

Application Procedures

Call or write the Indiana University School of Music Program at IUPUI for a graduate application for the MSMT degree program. Complete application instructions will be forwarded to you immediately.

Write: Head, Graduate Studies
 Indiana University
 School of Music Program at IUPUI
 535 W. Michigan Street
 Indianapolis, IN 46202

Call: (317) 274-4610
Fax: (317) 278-2590

E-mail: frees@iupui.edu
Website: www.music.iupui.edu

