Indiana University-Purdue University Indianapolis (IUPUI)

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Department of Music and Arts Technology

IUPUI | **DEPARTMENT OF MUSIC AND ARTS TECHNOLOGY**

SCHOOL OF ENGINEERING AND TECHNOLOGY
A Purdue University School
Indianapolis

Undergraduate Handbook
Bachelor of Science in Music Technology
(BSMT)

Last Revision August, 2016

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I. Bachelor of Science in Music Technology Overview

The Bachelor of Science in Music Technology (BSMT) is a four-year degree program instilling students with technical, theoretical, and creative skills required to pursue professional careers in the growing field of music technology. Students enroll in both traditional music studies, (music theory, aural skills, keyboard studies, and applied instrument lessons) as well as our wide-ranging and innovative technology courses of Recording and Production, Creative Music Technology, Digital Signal Processing for Music, and Interface and Instrument Design. The degree culminates with presentation of a capstone project, combining a student's creative, technical, theoretical, and historical knowledge. One hundred and twenty (120) hours of coursework are required with a concentration in an allied field such as computer technology. The degree is designed as a four-year course of study.

The BSMT program covers the following areas of focus:

- Essentials of Music Technology: Concepts include acoustics, psychoacoustics, analog and digital audio, MIDI, and digital notation.

- Recording and Production: Technical competency in industry-standard recording software, techniques, and equipment. Concepts include analog and digital recording, microphone design and placement, studio design and setup, mixing, and mastering.

- Live electronic manipulation and performance: Concepts include hardware and software for live music creation, audio interfaces and live equipment setup, control interfaces for live manipulation of analog and digital instruments, and performance practice.

- Creation and Composition through Music Technology: The use of technology in creating, composing, and making music in both live and studio practices. Concepts include composition and notation software, and the theory and practice of composition with music technology.

- Digital Signal Processing and Synthesis: Software design through the use of a graphic programming environment. Concepts include audio and video digital signal processing, sound synthesis, and interactive and generative media.

- Interface and Instrument Design: The development of new instruments and interfaces using software programming and hardware construction.

II. Admission and Audition to the BSMT Program

1. Application to the BSMT Program
Students who intend to major in Music Technology must submit a departmental application, available from the Music and Arts Technology department (IT352) or online at music.iupui.edu, as well as a university online application at http://enroll.iupui.edu/admissions/apply/. Applicants are required to perform a live audition (see Audition Requirements below) and an interview. Applicants must have either a high school diploma (with a minimum grade point average of 3.0) or a valid GED. TOEFL score are required for international students. Additional information may be requested to document musical skills or experience with technology.

Admission Requirements:
Students pursuing admission to the Bachelor of Science in Music Technology degree must complete the following:

1. Must first be accepted to IUPUI
2. Submission of the Department of Music and Arts Technology application
3. Successful audition and interview session

The audition, Basic skills test and interview will be scheduled during a single audition time slot. Audition times can be found at http://music.iupui.edu/apply/bsmt.shtml. Auditions are good for a calendar year.

2. BSMT Audition Requirements and Expectations

Applicants to the Bachelor of Science in Music Technology are expected to show potential for success in a rigorous collegiate degree program. In addition to formal application documents, a required audition/interview session provides an opportunity for the applicant to demonstrate interests, skills, and experiences in one or more of the following areas:

1) performance capacities on one or more musical instruments or voice
2) knowledge of software or hardware music technologies
3) music composition and/or other creative endeavors related to the arts
4) comprehension of music theory

While an applicant is not required to demonstrate in all areas noted above, the audition committee seeks applicants likely to excel in a degree program balancing music technology course-work with music theory and performance/creative skills.
Upon initial application, the department must be informed of a primary acoustic musical instrument/voice or a contemporary music technology instrument (example: laptop, midi controllers, etc.) to be used in the audition. This designation will be the student's "primary" instrument for their study in the BSMT Program. Beyond demonstrating instrument performance skills, an applicant may bring hard copy materials, or computer-based demonstrations to illuminate skills and experiences in any of the other areas noted above. Please contact the department with questions of audition expectations or how best to present materials in front of the audition committee. If you are interested in auditioning for our degree program, but travel distance from Indianapolis prohibits an in-person audition, you may contact the department to request a remote video audition.

During the audition process the applicant should be prepared to answer the following questions:

- What is your background in music?

- What music software applications have you worked with and how extensively have you worked with each?

- What is your familiarity with audio hardware (mixers, microphones, etc.)?

- What instrument(s) do you play? Have you studied via formal instrumental or vocal lessons, and if so, how long?

- Have you taken music theory courses - if so, briefly describe subjects of study and level of advancement.

Audition Requirements -Instrumentalist or Voice as Primary Instrument
- Perform two contrasting pieces of repertoire for your instrument.

- Perform major scales in 1-2 octaves.

- Site reading examples. (provided at the audition)

Students are encouraged to choose repertoire that best represents their experience, skill level, and artistic range. For questions regarding instrument specific details, make a request to the department for this information and the appropriate instrument area coordinator will contact you.

Audition Requirements -Music Technology as Primary Instrument
The prospective student must supply three different pieces demonstrating a variety of experience and skill with music technologies. These pieces may be submitted in a recorded format for viewing at the audition, in advance (audio or video recordings, as appropriate), or performed live, if applicable. In the audition committee interview the applicant must clearly articulate their role in each submitted piece and by what means they employed music technology. The successful applicant will be able to demonstrate competency with a fully featured DAW (Logic, ProTools, Ableton Live, etc.), understand basic concepts of mixing audio, work methods for digital and analog audio, and be able to articulate standard functions of audio hardware. Experience with one or more acoustic instruments, music theory, composition and/or arranging are also desirable. The student pursuing music technology as a performance medium will take private music technology lessons for the duration of their degree program and serve performance, creative, and/or production roles with appropriate department ensembles.

3. Required Technology for BSMT Students
Upon admission into the BSMT program in the Department of Music and Arts Technology, students are required to purchase a Laptop, Hardware Interface, and suite version of Ableton Live software. For the course MUS-A142, students are required to lease a copy of Pro Tools 12, and purchase a pair of open-ear headphones from the list below. For the MUS-N310 course, students are required to purchase a copy of the Max software.

The Department of Music and Arts Technology deems these purchases vital to the instruction of curriculum, just as textbooks would be in other programs. Below are the specific required brands of equipment to purchase as determined by the Undergraduate Curriculum Committee, Technology Coordinator, and Dr. Doug Bielmeier.

Laptop

Minimum specs (required to run ProTools and Ableton Live):
- Intel® Mac with Mac OS X 10.8.5, 10.9.0 - 10.9.5, 10.10.0 - 10.10.5 or 10.11 - 10.11.1
- Intel® Core i5 processor

- 8GB RAM

- Intel® PC with Windows 7 64-bit (Home Premium, Professional and Ultimate Editions) or Windows 8/8.1 (Standard and Pro Editions)
- Intel® Core i5 processor
- 8GB RAM

Hardware Interface
Suggested models with the minimum specifications required:
Presonus AudioBox
Focusrite Scarlett Solo
Apogee Duet for iPad and Mac

If another model is purchased, 1. it must meet or exceed technical specs of the models above, and 2. contact Dr. Doug Bielmeier to ensure you are meeting the requirement.

Open-Ear Headphones

Sennheiser HD650
Grado 325i
Shure SRH1440

Contact Dr. Bielmeier at Dougbiel@iupui.edu if you have any questions, or seek additional advice.

III. Curriculum and Degree Requirements

1. BSMT Curriculum

Theory, history, musicianship and technology skills core courses (24 credit hours)

130 Music Theory and History I

131 Musicianship Skills 1

132 Music Technology Lab 1

140 Music Theory and History 2

141 Musicianship Skills 2

142 Music Technology Lab 2

230 Music Theory and History 3

231 Musicianship Skills 3

232 Music Technology Lab 3

240 Music Theory and History 4

241 Musicianship Skills 4

242 Music Technology Lab 4

Advanced studies in music technology core courses (15 credit hours)

N310 Music Technology 1

N320 Music Technology 2

N410 Music Technology 3

N418 Psychology of Music

N450 BSMT Capstone

General education requirements: (30 credit hours)

Analytical Reasoning (6 credits)
Arts, Humanities, Social Science (9 credits)
Core Communications (6 credits)
Life & Physical Science (6 credits)
Cultural Understanding (3 credits)

Additional curriculum requirements

Applied music and technology lessons (8 credit hours)

Music and technology ensembles (8 credit hours)

Music and technology electives (4 credit hours)

*Outside technology concentration (21 credit hours)

*This is a secondary field of study. Possible tracks include: informatics, liberal arts, engineering, computer technology, communications, and education. Concentration courses should begin in the second year of the program.

2. BSMT Plan of Study

(insert plan of study)

3. Applied Lessons

Students enrolled in the Bachelor of Science of Music Technology degree must be enrolled in applied lessons on the instrument in which they auditioned each semester for the first four semesters in the program. This also applies to student's who auditioned on a music technology-based instrument (see section 3: BSMT Audition Expectations) Any student who wishes to change their primary instrument must re-audition on the new instrument after their second year in the program.

4. BSMT Capstone Course

All BSMT students are required to successfully complete the N450 BSMT course before completing the degree. At the end of the semester all students will give a formal presentation of their project for fellow students and a faculty jury. Presentation dates and times (typically in the last week of classes) will be arranged by the Capstone Coordinator and announced at the start of the semester. Failure to present the project during the final capstone presentation will result in an F for the course and a possible delay in graduation.

IV. General Policies

Dean's List

All undergraduate students in the School of Engineering and Technology who complete at least 6 credit hours during a semester, who have a semester grade point average of 3.8 or higher, a cumulative GPA of 2.5 or higher, and who are approved by the program faculty are placed on the Dean's List. These honor students receive certificates from the Dean recognizing their meritorious efforts.

Freshman Drop Policy

All students may only drop one course per semester. Linked lecture-laboratory courses are considered a single course in the application of the policy. Both part-time and full-time students are included. Advisor permission is required for all drop requests. Exceptions will be granted for students facing extenuating circumstances. All exceptions must be approved by the Director of the Advising Center. The policy does not include course adjustments made during the first week of classes nor does it apply to classes in which a student has been administratively withdrawn. Students withdrawing from all classes at the university are exempt from the policy.

Honors Program Requirements

Students interested in the School of Engineering & Technology Honors Program must meet the following requirements:

- Be enrolled full-time at IUPUI and have earned at least 15 IUPUI hours in residence
- Be enrolled in or eligible for a major in the School of Engineering & Technology
- Have completed the freshman credits suggested by my program's plan of study
- Have at least four semesters remaining in my program
- Have a cumulative GPA of 3.5 or above
- Have the endorsement of a full-time faculty member

To remain in the Engineering & Technology Honors Program and to receive the H designation on their transcripts, students must meet the following requirements:

- Maintain a 3.3 cumulative GPA
- Complete 10 hours of service yearly (but can participate in more hours if desired)
- Complete 24 Honors credits with 12 of those Honors credits in the student's major

For further information contact Dr. Wanda Worley, Associate Dean for Academic Affairs and Undergraduate Programs, at wworley@iupui.edu .

Incomplete Courses Grades

A temporary grade of Incomplete (I) on the transcript indicates that the work completed is satisfactory but that the entire course has not been completed. A grade of I may be assigned only if the student is not in attendance during the last 25 percent of a semester of summer session and the instructor has reason to believe that the absence was beyond the student's control. Otherwise, the instructor shall assign a grade of F.

It is the instructor's responsibility to specify the work to be done to remove the Incomplete and the period of time allowed for completion. If the Incomplete is not removed within one calendar year of the date of recording the incomplete grade, the Registrar will automatically change the I to an F grade. The instructor may, however, require the Incomplete to be removed after a period that is less than one year.

It is the student's responsibility to make sure that he or she meets the requirement for removing the Incomplete. Upon satisfactory completion of the work within the time allowed, the Incomplete will be removed and the earned grade recorded. In special circumstances, the dean may authorize that a grade of I be changed to a grade of W (Withdrawn). Students may not re-enroll in a course in which they have a grade of I.

Lockers for Student Use
Students have the option of using storage lockers found on the lower level of the building. To use the lockers, student's are required to provide their own locks and sign a locker permission form (see Lana Burt). Lockers are for use at the student's own risk. The department is not responsible for theft of or vandalism to the locker contents. Locks must be removed at the end of May each academic year. After this date, the department will remove locks and dispose of any contents.

Minimum Course Grade Requirement and Course Continuance Policy
Students are required achieve a minimum course grade of C in all BSMT music and outside concentration courses in order to count toward completion of the degree. This may impact courses that designed to be taken in sequence (Ex: A130: Theory and History I and A140: Theory and History II). A student who fails to meet the minimum course grade requirement must retake the course before proceeding to the next course in the sequence. See the section 5: BSMT plan of study for details on sequenced coursers.

Maximum Semester Credit-Hour Load
A typical academic load for full-time students is 12 to 15 credit hours. A student expecting to carry more than 18 credit hours during a regular semester or 7 credit hours in a summer session must have a minimum cumulative grade point average of 3.0 (B) or have earned a 3.0 (B) grade point average in the previous full semester and have the approval of their advisor.

Plagiarism
Plagiarism is defined as presenting someone else's work, including the work of other students, as one's own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered "common knowledge" may differ from course to course.
   a.) A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
   b.) A student must give credit to the originality of others and acknowledge indebtedness whenever:

   1. Directly quoting another person's actual words, whether oral or written;
   2. Using another person's ideas, opinions, or theories;
   3. Paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;

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4. Borrowing facts, statistics, or illustrative material; or
5. Offering materials assembled or collected by others in the form of projects or collections without acknowledgment.

Students are expected to abide by the IUPUI Student Code of Conduct. Consistent with school and university procedures, instances of academic dishonesty will be documented by the instructor and discussed with the student. Depending on the severity of the offense, an academic penalty may be imposed (ranging from a deduction of points on an assignment for a minor infraction, to dismissal from the program for severe or repeated offences). A diagram summarizing these procedures can be viewed here: http://www.iupui.edu/code/misconduct_diagram.pdf

V. Graduation Requirements

Credit Hours, GPA Requirements and Completion Deadline

A minimum of 120 credit hours must be successfully completed in courses meeting the various requirements stated in this bulletin to earn the Bachelor of Science in Music Technology degree. A minimum cumulative GPA of 2.0 (C) is required for graduation, overall, and in music technology courses. In addition, students must achieve a 2.0 (C) average in their major requirements in order to graduate in that major. Students with outstanding cumulative GPA's may graduate with honors. **All course work, except work from the current semester, must be completed and recorded on the degree candidate's transcript at least one month prior to the date of graduation.**

Degree Applications

Candidates for the Bachelor of Science in Music Technology degree must file the Intent to Graduate form with the Music Technology office IT 352. Application deadlines are as follows: September 25 May graduation. Failure to submit the form by the deadline could result in the student not graduating on the intended graduation date. IUPUI has only one commencement ceremony. Students who complete degree requirements during the current academic year (December, May, June, August) are eligible to participate in the May ceremonies.

Graduation with Distinction

By awarding degrees "With Distinction" or "With Highest Distinction" the School of Engineering and Technology recognizes the outstanding scholastic achievement of selected associate and bachelor's degree candidates. Distinction at graduation is awarded on the basis of all course work taken for letter grades. Individuals must complete all the requirements for their field of study and meet the following conditions:

- A candidate for the bachelor's degree with distinction must have earned at least 65 hours of credit in the Purdue University or Indiana University system. A candidate for an associate degree with distinction must have earned at least 35 hours of credit in the Purdue University or Indiana University system.
- Honors are awarded according to the following cumulative semester grade point averages:
  - Top 10 percent—With Distinction
  - Top 30 percent of the top 10 percent—With Highest Distinction

Note: For the purpose of determining graduation honors, the calculated cumulative semester grade point average includes all courses taken for a grade in either the Purdue or the Indiana University system, regardless of when the courses were taken. Students who are awarded their degrees with distinction receive corresponding diplomas and are given special recognition during the annual Commencement exercise.

Residency Requirement
Students who expect to receive the Bachelor of Science in Music Technology degree from the Indiana University-Purdue University Indianapolis must complete at least two semesters of resident study on the Indianapolis campus and must complete at least 32 credit hours of appropriate course work, 12 of which must be completed in the major at the junior level or higher. Students are generally expected to complete the senior year in residence; however with the approval of the Dean, students who have had at least four semesters of resident study may complete a maximum of 20 credit hours of the senior year in another approved college or university. For the purpose of this rule, two summer sessions are considered equivalent to one semester.

Statute of Limitations
Candidates for the Bachelor of Science in Music Technology degree have the right to complete the degree requirements specified by the bulletin as long as the required courses are available and no more than eight calendar years (with continuous completion of classes [has not set out more than 2 years]) have elapsed since the date of admission or readmission. In the event that the required courses are not available or more than eight years have elapsed, students are required to meet the degree requirements currently in effect. Students who are unclear about this requirement should see a Bachelor of Science in Music Technology advisor.

VI. Academic Warning Probation, Dismissal, and Readmission

1. Academic Standing
Those students who consistently maintain a minimum grade point average of 2.0 (C) or above, in both their cumulative and semester records are considered in good standing.

2. Academic Warning
A student whose semester grade point average (GPA) falls below a 2.0, but whose cumulative GPA is a 2.0 or higher, will be placed on academic warning. Students on academic warning will be required to meet with their academic advisor before being able to register for classes. A student will be advised of academic warning status by the Office of the Associate Dean for Academic Affairs and Undergraduate Programs.

3. Dismissal
A student on probation who has completed a minimum of 12 IUPUI grade point average (GPA) hours is subject to dismissal from the School if the student fails to attain a GPA of at least 2.0 in any two consecutive IUPUI semester (fall and spring), including the semester that the student was first placed on probation.
A student can also be dismissed from the School when, in the opinion of the Associate Dean for Academic Affairs and Undergraduate Programs in consultation with the student's major department, the student has ceased making progress in the degree program. Examples of lack of progress may include, but are not limited to, average GPA in courses in the major below 2.0, multiple semesters with semester GPA below 2.0, and repeated failures in core courses in the curriculum. Students in danger of dismissal due to failure to make academic progress will be required to meet with their academic advisor. A student will be notified of dismissal by the Office of the Associate Dean for Academic Affairs and Undergraduate Programs.

4. Readmission
A student dismissed for the first time from the Purdue School of Engineering and Technology or another Purdue School must remain out of school at least one regular (fall or spring) semester. During the semester out of school, the student may petition the School of Engineering and Technology for readmission. A student dismissed for the second time must remain out of school at least two regular semesters (fall and spring), but may petition for readmission during the second semester out of school. Readmission after a second dismissal is extremely rare.

A student readmitted will be informed by the Office of the Associate Dean for Academic Affairs and Undergraduate Programs. The notification will specify any conditions and restrictions affecting readmission and continuance in the degree program. Readmitted students will be placed on probation. Readmitted students must earn a GPA of at least 2.0 each semester while on probation or they will be dismissed again. Readmitted student will be removed from probation when their cumulative GPA is raised to 2.0. Students must contact the School of Engineering and Technology for a Petition for Readmission. Deadlines for submitting the petition is June 1 for fall and October 1 for spring.

VII. Music and Arts Technology Faculty and Staff

Faculty

Albright, Bruce Randall, *Lecturer of Music; B.A., 1992, Indiana University Bloomington; M.S.M.T., 2002, Indiana University-Purdue University Indianapolis*

Alvarado, John, *Lecturer of Music; B.M. in Classical Guitar Performance, 1998, DePaul University; M.M. in Performance, 2000, Arizona State University*

Bailey, Darrell, *Professor of Music; B.M. in Organ Performance, 1974, B.A. in Music, 1975, M.M.T., 1976, Oberlin College; Ed.D. University of Illinois at Urbana-Champaign*

Bielmeier, Doug, *Assistant Professor, Department of Music and Arts Technology; B.M in Sound Recording, 2003, The Hartt School of Music, M.M. in Music Composition, Bowling Green State University; Ed.D. in Instructional Leadership, 2013, Argosy University.*

Burns, Debra, S. *Professor of Music Therapy and Chair, Department of Music and Arts Technology; B.A. in Music Education, 1987, Glenville State College; M.M. in Music Therapy, Illinois State University; Ph.D. in Music Education and Music Therapy, 1999, University of Kansas*

Cox, Robin, *Assistant Professor of Music Technology (2013); B.M. University of Texas at Austin, 1989; M.M. Music Composition, University of Michigan, 1991; D.M.A. Music Composition, University of Miami, 1994*

Deal, W. Scott, *Professor of Music Technology; B.A., 1980, Cameron University; M.M. in Percussion Performance, 1982, University of Cincinnati-College-Conservatory of Music; D.M.A., 1994, University of Miami*

Drews, Michael, *Associate Professor of Music Technology, Coordinator of Undergraduate Programs; B.A., 1994, Kent State University; M.A. in Composition, 1998, Cleveland State University; D.M.A., 2006, University of Illinois at Urbana-Champaign*

Laranja, Ricardo, *Lecturer in Music, B.M., 2000, Acquinas College; M.S. Media Arts and Science, 2003, IUPUI*

Mannell, David, *Lecturer of Music, Director, IUPUI Choral Program; B.M.E. in Teaching Music, 1980, Emporia Kansas State University; M.S.M.T., 2002, Indiana University-Purdue University Indianapolis*

Meng, Chuiyuan, *Lecturer of Music; Bachelor of Literature in Musicology and Music Education, 2006, Capital Normal University, China; M.S.M.T., 2008, Indiana University-Purdue University Indianapolis*

Munson, Jordan, *Senior Lecturer of Music; B.M. in Music Performance, 2007, University of Kentucky; M.S.M.T., 2008, Indiana University-Purdue University Indianapolis*

Rees, Fred J., *Professor of Music; B.M., Performer's Certificate in Double Bass, 1971, SUNY Potsdam; D.M.A. in Music Education, 1977, University of Southern California*

Smith, Benjamin, *Assistant Professor of Music Technology (2013); B.A. Music Composition, Ithaca College, 2002; M.A. Music Composition, University of Illinois at Urbana Champaign, 2007; D.M. Music Composition, University of Illinois at Urban-Champaign, 2011*

*Need information for new faculty (M. Masco and new piano guy)

Staff
Batrich, Adam. M.S.M.T. *(Indiana University-Purdue University Indianapolis), Technology Coordinator*

Burt, Lana.

Everts, Tina. *Assistant to the Chair*

Grey, Yvonne. *Senior Administrative Secretary and Assistant to the Director of the IUPIU Music Academy*

Wynn, Julie, M.M. *(Indiana University, 1986), Academic Advisor*