New Course Request

Indiana University

Check Appropriate Boxes: Undergraduate credit [ ] Graduate credit [ ] Professional credit [ ]

1. School/Division: School of the Arts
2. Academic Subject Code: MUS

3. Course Number: 4101 (must be cleared with University Enrollment Services)
4. Instructor: Nunier, J.

5. Course Title: Introduction to Audio Technology
Recommended Abbreviation (Optional): Intro to Audio Tech
(Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall, 2004

7. Credit Hours: Fixed at [ ] or Variable from [ ] to [ ]

8. Is this course to be graded S-F (only)? Yes [ ] No [ ]

9. Is variable title approval being requested? Yes [ ] No [ ]

10. Course description (not to exceed 50 words) for Bulletin publication: Introduction to the equipment and techniques employed in audio recording and sound reinforcement

11. Lecture Contact Hours: Fixed at [ ] or Variable from [ ] to [ ]

12. Non-Lecture Contact Hours: Fixed at [ ] or Variable from [ ] to [ ]

13. Estimated enrollment: 12 of which 0 percent are expected to be graduate students.

14. Frequency of scheduling: Every Fall Will this course be required for majors? Yes [ ]

15. Justification for new course: Required first semester course in Music Technology

16. Are the necessary reading materials currently available in the appropriate library? Yes [ ]

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by: [Signature] Date: 2/16/04
Department Chairman/Division Director

Approved by: [Signature] Date: 3/16/04
Dean

Chancellor/Vice-President

University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.
A101 Introduction to Audio Technology
Preliminary Course Design

Week One: Basic Acoustic Principles
• Sounds and Signals
• The components of an Acoustic Signal

Week Two: Basic Acoustic Principles, continued
• Frequency & Intensity
• Timing and phase

Week Three: Basic Acoustic Principles, continued
• Spectrum and Filters
• Resonance

Week Four: Behavior of Resonant Systems
• Turbulence and transients
• Standing waves and resonance

Week Five: Analog Modeling of Sound
• Mechanical modeling
• Electrical modeling

Week Six: Digital Modeling of Sound
• Sampling Theory
• ADC and DAC

Week Seven: Overview of Audio Processes
• Transducers: microphones and loudspeakers
• Amplifiers and effects

Week Eight: Overview, continued
• Recording, storage, and retrieval
• Sound, signals, and cognition

Week Nine: Room Acoustics
• Reflection, diffusion, absorption
• Reverberation

Week Ten: Microphones and Loudspeakers

Week Eleven: Audio Mixing I
• Level control
• Equalization

Week Twelve: Audio Mixing II
• Compression
• Audio Effects

Week Thirteen: Recording

Week Fourteen: Sound Reinforcement
Academic Courses—
Recording Arts and Audio Technology and Church Music

Recording Arts and Audio Technology

Church Music

Return to Academic Courses

Recording Arts and Audio Technology

A101 Introduction to Audio Technology (3 cr.) Introduction to the equipment and techniques employed in audio recording and sound reinforcement.

A102 Audio Techniques I (3 cr.) P: A101 Introduction to Audio Technology. Introduction to studio equipment and recording procedures including microphone use, basic studio techniques, editing concepts, and recording and signal processing equipment.

A111 Basic Electricity (3 cr.) P: two years high school algebra, MATH M025 Pre-Calculus Mathematics, or equivalent. Fundamental principles of electricity and magnetism, with review of necessary algebra.

A112 Electronics I (3 cr.) P: A111 Basic Electricity. AC theory and introduction to circuit elements and active devices.

A150 Introductory Seminar in Recording Arts (1 cr.) P: A101 Introduction to Audio Technology. An introduction to critical listening for recording engineers and producers, with an emphasis on technical evaluation and aesthetic principles within the context of musical style.

A201 Audio Techniques II (3 cr.) P: A102 Audio Techniques I, and A150 introductory Seminar in Recording Arts. Intermediate studio and recording procedures including signal processing, digital audio theory, and basic digital audio workstation techniques.

A202 Audio Techniques III (3 cr.) P: A201 Audio Techniques II. Advanced digital audio theory including media production, audio for Internet, and advanced digital audio workstation techniques.

A211 Electronics II (3 cr.) P: A112 Electronics I. System design and operation applied to audio, both analog and digital.