

**New Course Request**

**Indiana University**

Indianapolis Campus

Check Appropriate Boxes: Undergraduate credit  Graduate credit  Professional credit

1. School/Division Informatics 2. Academic Subject Code NEWM-N  
3. Course Number 255 (must be cleared with University Enrollment Services) 4. Instructor Ricardo Laranja  
5. Course Title Introduction to Digital Sound

Recommended Abbreviation (Optional) \_\_\_\_\_  
(Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall 2010

7. Credit Hours: Fixed at 3 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 role and function of sound in interactive media. Concepts, theory, and practice related to audio, including voice, music, and sound effects. Effective listening skills, and understanding how people listen and comprehend sound. Experience with tools and techniques for recording, editing, and reproduction.

11. Lecture Contact Hours: Fixed at 3 or Variable from \_\_\_\_\_ to \_\_\_\_\_

12. Non-Lecture Contact Hours: Fixed at 0 or Variable from \_\_\_\_\_ to \_\_\_\_\_

13. Estimated enrollment: 25 of which 0 percent are expected to be graduate students.

14. Frequency of scheduling: F/S Will this course be required for majors? \_\_\_\_\_

15. Justification for new course: Redesign of New Media Curriculum

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: M. Pauline Beder Date 6/30/2009  
Department Chairman/Division Director

Approved by: [Signature] Date 1 July 2009  
Dean

\_\_\_\_\_  
Date \_\_\_\_\_  
Dean of Graduate School (when required)

\_\_\_\_\_  
Date \_\_\_\_\_  
Chancellor/Vice-President

\_\_\_\_\_  
Date \_\_\_\_\_  
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.

**N255**  
**Intro to Digital Sound**  
**3 Credit Hours**

**Instructor:** \_\_\_\_\_  
**Office Address:** \_\_\_\_\_  
**Office Phone:** \_\_\_\_\_  
**Office Hours:** \_\_\_\_\_  
**Email Address:** \_\_\_\_\_

**Course Description**

Introduction to role and function of sound in interactive media. Concepts, theory, and practice related to audio, including voice, music, and sound effects. Effective listening skills, and understanding how people listen and comprehend sound. Experience with tools and techniques for recording, editing, and reproduction.

**Prerequisite**

none

**Principles of Undergraduate Learning (PUL) supported in this course:**

- Core communication and quantitative skills
- Writing skills
- Critical thinking
- Integration and application of knowledge
- Understanding of society and culture

**Extended Course Description**

This course will give the student an understanding of the role and function of sound in interactive media by covering a number of fundamental concepts, theories, and practices concerning audio, including voice, music, and sound effects. However, more than anything else, this is a course in learning how to listen. As audio is an important component of many forms of New Media (including video, animation, and games), a successful audio engineer must have strong listening skills, a sensitivity to the overall message of the media, knowledge of how people listen and comprehend sound, and a fundamental understanding of the tools and techniques of audio recording, editing, and reproduction.

In this course, students will develop a critical ear and learn essential audio production skills that will aid them in real world applications. Topics include basic acoustics, the role and history of sound in media, selection of thematically appropriate audio resources, recording and editing digital audio files, digital signal processing (DSP), sound effects, and multi-track audio mixing. All of these skills will be practiced in projects which support digital storytelling in a variety of media. Class sessions will involve lectures, class discussions, and exercises. Students will work individually and in groups on audio projects, many of which will be presented for class discussion. Exams and short papers will also be used to assess students' understanding and ability to creatively discuss the course material.

**Course Objectives/Outcomes**

At the conclusion of this course, students should be able to:

- Explain the roles of voice, music, and sound effects in contemporary media
- Understand the variety of ways people experience audio
- Define the fundamental acoustic characteristics of audio
- Define the components of the signal path for recording and reproducing audio

- Effectively utilize the hardware and software tools used edit and manipulate audio
- Define the technical parameters of digital audio, such as sampling rates, data compression, and file formats
- Understand the production, direction, and casting of voice-over talent, and how to record it effectively
- Demonstrate the ability to plan an audio project thoughtfully and thoroughly, including the considerations for audience and delivery medium
- Demonstrate skillful selection of appropriate audio resources for a media project
- Identify the acoustic features of good and bad audio quality, and demonstrate appropriate strategies for achieving the best audio for the task at hand.
- Demonstrate successful editing and manipulation of digital audio files
- Demonstrate successful multi-track audio mixing, post-production, and mastering
- Demonstrate thoughtful and appropriate arranging of loop-based musical components for media projects
- Demonstrate successful editing and mixing of musical elements
- Demonstrate successful editing of sound materials for thematically appropriate visual storytelling
- Understand interactive concepts for audio in new media

#### **Required Textbook:**

**Title:** Practical Recording Techniques, 4<sup>th</sup> edition  
**ISBN(10 Digits):** 0240806859  
**Authors:** Bruce Bartlett, Jenny Bartlett  
**Publisher:** Focal Press  
**Release Date:** August 15, 2005  
**Format:** Available **free** online via IU NetLibrary

#### **Equipment Needed:**

- CD-R disks with hard cases (about 20)
- High-quality headphones with a 1/8" plug and ¼" adapter and full-ear closed-back design, such as the Sony MDR-XD200 (\$30), Yamaha RH3C (\$35), Sennheiser eH 150 (\$45), or AKG K77 (\$50). In-ear MP3-player style headphones are not acceptable.
- Permanent Marker (i.e. Sharpie or similar)

**Software Used:** Primarily Sony Sound Forge in addition to other multi-track audio editing platforms.

#### **Class Policies and Expectations:**

***Class Format and Participation.*** The course will be a mixture of demonstration, discussion, critiques, and hands-on experiences. Much of the class time will be spent developing materials and applying concepts individually or in groups. You will share the results of your efforts with the class through project demonstrations and presentations.

***Attendance.*** IUPUI policy is **attendance is mandatory**. I take attendance during every class, so please be sure to sign the attendance sheet. Students should demonstrate professional behavior by attending class and actively participating in class activities. Missing 3 or more classes without a reasonable excuse will reduce your course grade by 10% (that is, your class participation score will be reduced to 0). Being repeatedly late amounts to being not only absent but also disruptive, so this will diminish your participation score as well.

***Participation.*** Students are expected to ask questions and pay attentions during lectures and demonstrations. All work done in the class must pertain to the class objectives. All other work is

prohibited during the class period. **The use of instant messaging, browsing the internet, and/or playing of video games is strictly prohibited during the entire class period.** Students will receive only one warning. **If the student chooses to continue after the first warning, one letter grade will be deducted from the final course grade.**

### **Projects**

Each project contains a blend of theory and practice. All audio projects and assignments must be turned in on a CD-R in a protective case such as a hard shell or slip cover with the following information: Name, Date, Project/Assignment name, class (N265), and section number. Points will be removed for assignments that do not meet all of the technical specifications. All documentation must be word processed and submitted on the CD unless otherwise specified. Projects must be turned in on time! Late work will only be accepted within 24 hours of the due date, and only for half-credit. No Exceptions! The projects are described below.

#### **Project 1: Voiceover Editing**

Students will edit a raw voiceover recording session file to match a written script. Students learn how to produce a clear-sounding and evenly paced voiceover track that meets the thematic objectives of the voiceover. This project covers the basics of the audio production process, the role of voice in media productions, and how to listen for the common flaws found in voiceover recordings. This project is also an introduction to the technical aspects of audio file manipulation, understanding how to “read” audio waveforms, and how to properly make seamless splices in audio files.

#### **Project 2: Working with Music**

Students will learn to edit multiple music clips from different genres together to fit specific time-frames, maintain acoustic consistency, and develop a natural thematic progression from clip to clip. This project is an introduction to the process of arranging music and aims to develop the student’s sensitivity to the meaning, structure, and acoustic properties of music in contemporary media projects.

#### **Project 3: Group Voiceover Production Project**

Students will work in teams to write and produce a 60-second voiceover spot using music, sound effects, and voice. Students are introduced to the range of special effects for illustrating audio stories and employ them to transform original recordings to take on new characteristics. This project focuses on storytelling, production planning processes, and the technical skills for combining sounds in a multi-track environment.

#### **Project 4: Audio Distribution in Contemporary Media**

Students will convert and compress a set of audio files using a range of software technologies currently used for audio in multimedia, and write a paper evaluating the specific variations in sound quality between them. This is an exercise in critical listening and expression of audio characteristics in verbal form.

#### **Project 5: Arranging Original Music**

Students will learn loop construction techniques, including the basics of musical form, and will develop their sensitivity for the most natural-sounding places to edit pre-recorded musical material. These techniques will be practiced by arranging a loop-based song of the student’s design.

#### **Project 6: Introduction to Sound Design for Video**

Students will arrange and mix sound effects for a brief video scene. This project provides an introduction to the process of planning the soundscape for a visual story and editing sounds to synchronize with video.

#### **Final Project:**

Student will plan, gather sounds, arrange, and mix pre-recorded music and sound effects to illustrate and support a complex video scene. This project brings together all of the skills and concepts developed during the class.

### Grading and Assessment

Your grade will be determined by the following:

Activities	Percentage
Audio Projects	65%
Final project	15%
Midterm Exam	10%
Attendance and participation	10%

Grades are based on points as indicated below:			
93-100 Pts.	A	73-76 Pts.	C
90-92 Pts.	A-	70-72 Pts.	C-
87-89 Pts.	B+	67-69 Pts.	D+
83-86 Pts.	B	63-66 Pts.	D
80-82 Pts.	B-	60-62 Pts.	D-
77-79 Pts.	C+	59 and below	F

WEEK	CLASS TOPICS	ASSIGNMENT FOR NEXT WEEK	WHAT IS DUE TODAY
1	Syllabus, expectations, assignments, grading and general lecture/overview of semester. Introduction to Sound Forge.	Read pp. 19-25 and 33-40 in textbook.	BRING YOUR HEADPHONES EVERY WEEK!!
2	Applications of Audio in New Media; Fundamentals of acoustics: Introduction to the waveform.	Project 1: Voiceover Editing; Read Chapter 2 (The Recording Chain), plus pp. 164-170 and 489-490.	
3	Recording and reproducing audio; Working with the human voice	Read Chapter 13 (Computer Recording)	
4	Working with music: Selecting appropriate music, editing, and mixing	Project 2: Working with music; Read Chapter 10 (Effects and Signal Processors) plus pp. 267-276.	Project 1 Due

5	Digital signal processing (DSP) and introduction to multi-track mixing; Visit to recording studio	Project 3: Group Voiceover Production Project; Read Chapter 15 (Session Procedures);	Project 2 Due
6	More multi-track recording and mixing; Recording session in studio	Review for midterm exam	
7	MIDTERM EXAM; Work period	Read Chapter 20 (Putting Your Music On the Web)	
8	Group project presentations; Audio file formats and file compression; Online audio delivery	Project 4: Audio File Compression; Read Chapter 14 (Judging Sound Quality)	Project 3 Due
9	Arranging music from pre-recorded loops; Introduction to MIDI and GarageBand	Project 5: Arranging Original Music	Project 4 Due
10	Interactive audio applications		
11	Sound design for video: The basics	Project 6: Intro to Sound Design for Video	Project 5 Due
12	Combining music, voice, and sound effects for visual storytelling	Final Project	Project 6 Due
13	Automation, bussing and other mixing techniques; in-class work time	Read pp. 183-186, 462-470.	
14	Digital audio media: CDs, DVDs, and beyond; Audio free-for-all, last chance for questions and demos		
15	Final Project Critiques; Course wrap-up		Final Project Due
<p><i>*This schedule is subject to change by the instructor at any time, and readings or assignments may be altered to best suit the needs and timeline of the course.</i></p>			

***Suggestions for Success in this Course:***

1. **Attend all classes** and come to class prepared and on time.
2. Read any assignments **prior** to the lecture of the week and **participate in class discussions**.
3. Do not leave early unless excused by the instructor.
4. Execute all assignments to the best of your ability.
5. Hand in your assignments **on time**
6. Read and **follow the directions** of the assignments
7. **Plan** for things to go wrong and budget for them in your timeline.
8. **Ask questions** if you are unclear about anything.
9. Check OnCourse for email and communications
10. **Do your best**

### ***Class Courtesy:***

- Come to class on time and be prepared.
- NEVER do homework or answer EMAIL in this class or you will be asked to leave. If you are typing, it should be the notes you are taking.
- Turn off your cell phones and other noisy devices
- Pay attention to your classmates when they are presenting/talking/demonstrating.
- All students are responsible for reading the Code of Student Rights, Responsibilities, and Conduct of Indiana University Purdue University Indianapolis.
- Children are NEVER permitted to attend class with parents, guardians, or childcare providers.

### **University Expectations/Guidelines/Policies**

#### **Attendance**

University Regulations state: "Students are expected to be present for every meeting of the classes in which they are enrolled." Only the instructor can excuse a student from classes or course responsibilities. There are always legitimate reasons for missing class. Personal illness, accident, a death or serious illness in the immediate family, athletic trips, scheduled interviews, plant visits, and field trips, or other circumstances may make your class attendance impossible. Each of these situations will be evaluated on an individual basis. Students should make direct contact with his/her instructor preferably before a class. If the instructor cannot be reached in person, by e-mail, or by telephone, the student should leave a message in the instructor's department mailbox. Students can only make up work from an authorized absence and permission from the instructor.

Students will be expected at all times to maintain the university's standards of academic honesty and integrity. All students are responsible for reading the Code of Student Rights, Responsibilities and Conduct of IUPUI. Plagiarism will be considered to have occurred when a student presents as original, in either written or oral form, any idea that the student has acquired from an outside source. Because of the rapidly evolving nature of new media concepts, and the very wide range of cross-referenced possible sources, and to the extent that good ideas are often "in the air," so to speak, it is acknowledged that ideas may form independently in students' minds when clear sources or even nearly identical iterations of those ideas may be available in external sources. To that extent, and to the extent that innovation in new media is often judged by the slightest variation, and to the extent the instructor does not wish to inhibit the often spontaneous processes by which ideas grow and flower in an individual's mind while the seed of that idea may be forgotten in the rush of development, plagiarism will be judged by degree and intent rather than a strict letter of the law. If it is determined, however, that plagiarism has occurred, it will be considered grounds for dismissal from class and other sanctions as stated in the Code of Student Rights, Responsibilities and Conduct of IUPUI. Work may be turned in any time prior to the due date. Work will be considered late if not turned in by the end of the class on the date expected.

#### **Incompletes**

The IUPUI Campus Bulletin presents the campus policy on incompletes, noting that a grade of incomplete may be assigned by an instructor when exceptional circumstances, such as illness, prevent students from finishing all works required in a course. The grade of I will be awarded only if the work is mostly complete, generally 75 to 80 percent, and of passing quality.

The key decision in deciding whether or not to give an incomplete involves assessing whether or not the student has completed, at a passing level, enough of the course and whether "exceptional circumstances" apply. Exceptional circumstances can include the serious illness of the student, spouse or partner, child, or parent; or a fire or accident that interrupts the end of the semester. Note that an incomplete is never warranted as a remedy for procrastination.

### **Academic Honesty**

All students in New Media should aspire to high standards of academic honesty. This class encourages cooperation and the exchange of ideas. However, students are expected to do their own work.

### **Plagiarism** (adapted from the definition by the School of Liberal Arts)

Plagiarism is the use of the work of others without properly crediting the actual source of the ideas, words, sentences, paragraphs, entire articles, music or pictures. Using other students' work (with or without their permission) is still plagiarism if you don't indicate who initially did the work. Plagiarism, a form of cheating, is a serious offense and will be severely punished. When an instructor suspects plagiarism, he/she will inform the student of the charge; the student has the right to respond to the allegations. Students whose work appears to be plagiarized may be asked to produce earlier drafts of the work. Students should, for this reason and as a protection in cases of lost papers, diskettes, retain rough drafts, notes and other work products for 2 or 3 weeks after the end of each semester. The penalties for plagiarism include reprimands, being failed for a particular exam, paper, project or the entire course, disciplinary probation, or dismissal. Faculty, after consulting with their chair and or the dean must notify students in writing of their decision.

Students have the right to appeal such decisions by the submitting a petition.

All students are responsible for reading the Code of Student Rights, Responsibilities, and Conduct of Indiana University Purdue University Indianapolis.

### **Liability Warning**

Your student ID and password are private! Under no circumstance are you to give them out to anyone. If another person uses your ID or password you will be held personally responsible for any and all activity on your computer account. If plagiarism is involved you run the risk of being dismissed from the school. If a computer or software is damaged you are responsible for repair and replacement. Loaning out your ID or password involves too much risk.

"A student must not violate course rules as contained in a course syllabus, which are rationally related to the content of the course or to the enhancement of the learning process in the course." [Code of Student Rights, Responsibilities, and Conduct, page 29]

"Children are not permitted to attend class with parents, guardians, or childcare providers. This conduct has the effect of unreasonably interfering with an individual's work or academic performance creating an offensive learning environment."