

N455 – Advanced Sound
Spring 2017
CRN: 24584 3 Credit Hours
Room IT 271 Monday 12:00pm to 2:40pm
Indiana University School of Informatics and Computing, IUPUI

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Course Description

Pre-requisite: N255 and N355, or by instructor approval. This course provides an advanced understanding of sound design for picture and new media, deepening and refining the knowledge and techniques learned in N355. Students will design, record, and edit sound files, apply DSP (digital signal processing) effects, and mix a variety of audio projects using state-of-the-art technology on desktop PCs and a working audio post-production facility. Particular emphasis will be placed on learning advanced practical techniques in creating and manipulating original and hybrid sound assets for integration with other media and delivery to professional broadcast standards. In addition to practical techniques, this course will continue developing the students' understanding of acoustics, studio design and construction, studio equipment, waveforms, microphone selection and characteristics, signal flow and gain staging, DSP, digital audio file formats and professional delivery methods, and dynamics and mix levels for various media as they relate to industry standards. Also examined are the business issues behind sound design and the relationship of sound to visuals in storytelling and interactive experiences.

In-class/Lab Projects

Students will work in the lab and in the studio (IT360) individually and in groups to learn the various roles in recording dialog, sound effects, Foley, music editing, and mixing.

External Assignments

Outside assignments will require access to computers with Pro Tools software and hardware installed. IT270 will be available by card access during normal building hours, anytime a class is not using the room. The IT building is open Monday-Thursday 7am-10pm, Friday 7am-6pm, Saturday 8am-6pm, and Sunday 11am-6pm. Students may also reserve the studio in IT360 for three-hour blocks Mon-Fri 8am-6pm. Room reservations are on the Informatics website under <https://soic.iupui.edu/forms/index.php/lab-reservation>

Audio Equipment Checkout

Audio recording equipment is available for checkout in room IT259. The hours for checkout are limited, so make sure you plan ahead carefully. *Equipment is available on a first-come-first-served basis; all requests will be taken in the order received. Special hours for holidays and school breaks will be posted outside the door of IT 259.*

Equipment can be reserved using the form at <http://informatics.iupui.edu/technology/equipment/>

Course Objectives/outcomes

By the end of the semester, students should be able to:

- Define and make comprehensible the parameters related to professional sound design, including best practices for broadcast-quality delivery of sound materials.
 - Demonstrate proficiency with audio theory and technical implementation – microphones, signal flow, audio equipment/specifications, AC/DC circuits, levels/dynamics, acoustics, frequency spectrum/response, and DSP (digital signal processing).
 - Demonstrate proficiency with Pro Tools and standard studio equipment for audio recording, editing, DSP, and mixing
 - Demonstrate and perform professional quality recording, editing, processing, and mixing of voiceover, dialog/ADR, sound effects, Foley, ambience, and music
 - Discuss and demonstrate music selection and editing techniques
 - Demonstrate creative and successful implementation of sound synchronization to video and animation
 - Demonstrate creative and successful sound design for interactive systems and games
- Discuss and demonstrate the various human roles in the Sound Design Process

Principles of Undergraduate Learning (PUL) – each class should be able to assess learning outcomes in the following areas:

- Oral presentation
- Writing skills
- Critical thinking
- Application of knowledge
- Understanding of society and culture

Additional Online Material:

You will be assigned lessons from the free online course materials available from Lynda.com. You must access this material via the IU portal:

1. Visit: <http://ittraining.iu.edu/lynda/>
2. Click on “Go To Lynda.com”
3. Authenticate with your IU login

	DATE	IN-CLASS ACTIVITIES	DUE
1	1/9	Syllabus and general overview of semester.	BRING YOUR HEADPHONES EVERY WEEK
1	1/16	NO CLASS – MLK, JR. DAY	
3	1/23	Game Workflow	PROJECT PITCH DUE
4	1/30	Unreal Engine/FMOD	
5	2/6	Unreal Engine/FMOD	
6	2/13	Unreal Engine/FMOD	PROJECT PLAN DUE
7	2/20	Pro Tools/Foley	
8	2/27	Pro Tools/Foley	
9	3/5	Pro Tools/Foley	PRE-PRODUCTION DELIVERABLES DUE
	3/12	SPRING BREAK – NO CLASS	
10	3/19	Voiceover/Score	
11	3/26	Voiceover/Score	
12	4/2	Mixing	
13	4/9	Mixing	POST-PRODUCTION DELIVERABLES DUE
14	4/16	FINAL PRESENTATIONS	
15	4/23	FINAL PRESENTATIONS	

Grading and Assessment

Your grades on these projects include (but are not limited to) the following factors: following the project instructions, creative use of audio elements, quality of audio engineering, acceptable and consistent levels, and documentation. The specific grading criteria will be provided in the instructions for each assignment.

Activities	Percentage
Project Pitch	10%
Project Plan	10%
Pre-Production Deliverables	20%
Post-Production Deliverables	20%
Final Presentation	20%
Attendance and Participation	20%

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

EXPECTATIONS, GUIDELINES, AND POLICIES

Attendance:

Class attendance is required for classroom-based courses. It entails being present and attentive for the entire class period. Attendance shall be taken in every class. If you do not provide evidence of attendance while in class, you shall be marked absent. Signing or providing evidence for another student is prohibited. The instructor is required to submit to the Registrar a record of student attendance, and action shall be taken if the record conveys a trend of absenteeism. Illness or a death in the immediate family is usually the only acceptable excuse for absence from class. Absences must be explained to the satisfaction of the instructor, who will decide whether omitted work may be made up. To protect your privacy, doctor's excuses should exclude the nature of the condition and focus instead on how the condition effects on your coursework.

Attendance: Attendance for N355 is required. Since our class meets only one time per week, it is imperative that you make every attempt to attend each class. You will receive 10 points toward your final grade for each class you attend. You are allowed (1) unexcused or excused absence.

Incomplete:

The instructor may assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would result in unjust hardship to you. All unfinished work must be completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year.

<http://registrar.iupui.edu/incomp.html>

CODE OF CONDUCT

All students should aspire to the highest standards of academic integrity. Using another student's work on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program.

All students are responsible for reading, understanding, and applying the *Code of Student Rights, Responsibilities and Conduct* and in particular the section on academic misconduct. Refer to *The Code > Responsibilities > Academic Misconduct* at <http://www.indiana.edu/~code/>. All students must also successfully complete the Indiana University Department of Education "How to Recognize Plagiarism" Tutorial and Test. <https://www.indiana.edu/~istd> You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else's words (e.g., following the *Publication Manual of the American Psychological Association*). To detect plagiarism instructors apply a range of methods, including Turnitin.com. <http://www.ulib.iupui.edu/libinfo/turnitin>

Academic Misconduct:

1. **Cheating:** Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.
 - a. A student must not use external assistance on any "in-class" or "take-home" examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.
 - b. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the instructor to whom the work is being submitted.
 - c. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.

- d. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student's individual work.
 - e. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
 - f. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
 - g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.
 - h. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.
2. **Fabrication:** A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.
 3. **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;
 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
 4. **Interference:** Students must not steal, change, destroy, or impede another student's work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student's grade or the evaluation of academic performance. Impeding another student's work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.
 5. **Violation of Course Rules:** A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.
 6. **Facilitating Academic Dishonesty:** A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.

OTHER POLICIES

1. **IUPUI course policies:** A number of campus policies governing IUPUI courses may be found at the following link: http://registrar.iupui.edu/course_policies.html
2. **Classroom civility:** To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in lectures, discussions, group work, and other classroom exercises. Thus, unnecessary disruptions should be avoided, such as ringing cell phones engagement in private conversations and other unrelated activities. Cell phones, media players, or any noisy devices should be turned off during a class. Texting, surfing the Internet, and posting to Facebook or Twitter during class are generally not permitted. Laptop use may be permitted if it is used for taking notes or conducting class activities. Students should check with the instructor about permissible devices in class. IUPUI nurtures and promotes "a campus climate that seeks, values,

and cultivates diversity in all of its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued” (IUPUI Strategic Initiative 9). IUPUI prohibits “discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or [veteran] status” (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers or other classroom visitors, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.

3. **Right to revise:** The instructor reserves the right to make changes to this syllabus as necessary and, in such an event, will notify students of the changes immediately.
4. **Bringing children to class:** To ensure an effective learning environment, children are not permitted to attend class with their parents, guardians, or childcare providers.
5. **Disabilities Policy:** In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to reasonable accommodations. Please notify the instructor during the first week of class of accommodations needed for the course. Students requiring accommodations because of a disability must register with Adaptive Educational Services (AES) and complete the appropriate AES-issued before receiving accommodations. The AES office is located at UC 100, Taylor Hall (Email: aes@iupui.edu, Tel. 317 274-3241). Visit <http://aes.iupui.edu> for more information.
6. **Administrative Withdrawal:** A basic requirement of this course is that students participate in all class discussions and conscientiously complete all required course activities and/or assignments. If a student is unable to attend, participate in, or complete an assignment on time, it is the student’s responsibility to inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and a student who has been administratively withdrawn from a course is ineligible for a tuition refund. Contact the instructor with questions concerning administrative withdrawal.
7. **Emergency Preparedness:** Safety on campus is everyone’s responsibility. Know what to do in an emergency so that you can protect yourself and others. For specific information, visit the emergency management website. <http://protect.iu.edu/emergency>

MISSION STATEMENT

The Mission of IUPUI is to provide for its constituents excellence in

- Teaching and Learning;
- Research, Scholarship, and Creative Activity; and
- Civic Engagement.

With each of these core activities characterized by

- Collaboration within and across disciplines and with the community;
- A commitment to ensuring diversity; and
- Pursuit of best practices.

IUPUI’s mission is derived from and aligned with the principal components—Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices—of Indiana University’s Strategic Directions Charter.

STATEMENT OF VALUES

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its

location in Indiana's capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community, both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

Student Learning Outcomes

Upon completion of this course:	Revised Bloom's Taxonomy	Principle(s) of Undergraduate Learning	Assessment
Define and make comprehensible the parameters related to professional sound design, including best practices for broadcast-quality delivery of sound materials.	1,2,3	PUL 1,2,3,4	Post-Production Deliverables
Demonstrate proficiency with audio theory and technical implementation – microphones, signal flow, audio equipment/specifications, AC/DC circuits, levels/dynamics, acoustics, frequency spectrum/response, and DSP (digital signal processing).	1,2,3	PUL 1,2,3,4	Post-Production Deliverables Final Presentation
Demonstrate proficiency with Pro Tools and standard studio equipment for audio recording, editing, DSP, and mixing	4,5,6	PUL 1,2,3,4	Post-Production Deliverables Final Presentation
Demonstrate and perform professional quality recording, editing, processing, and mixing of voiceover, dialog/ADR, sound effects, Foley, ambience, and music	4,5,6	PUL 1,2,3,4	Post-Production Deliverables Final Presentation

Discuss and demonstrate music selection and editing techniques	4,5,6	PUL 1,2,3,4,5,6	Pre-Production Deliverables Post-Production Deliverables Final Presentation
Demonstrate creative and successful implementation of sound synchronization to video and animation	3	PUL 1,2,3,4	Pre-Production Deliverables Post-Production Deliverables Final Presentation
Demonstrate creative and successful sound design for interactive systems and games	3,4,5,6	PUL 1,2,3,4	Pre-Production Deliverables Post-Production Deliverables Final Presentation
Discuss and demonstrate the various human roles in the Sound Design Process	3,4,5,6	PUL 1,2,3,4	Project Pitch Project Plan Pre-Production Deliverables Post-Production Deliverables Final Presentation