N355 – Intermediate Sound
Spring Semester 2013
Section 12475, 3 Credit Hours
Room IT 270 Wednesday 12:00pm to 2:40pm
Indiana University School of Informatics and Computing, IUPUI

Instructor: Dr. Mark Pfaff
Office Address: IT 469
Office Phone: 278-4145
Office Hours: Monday 3:00pm-5:00pm, and by appointment.
Email Address: mpfaff@iupui.edu

Course Description
Pre-requisite: N255 or by instructor approval. This course covers the theory and practice of complex sound design in digital media, including how to navigate the issues and decisions facing the sound designer, as well as an understanding of DSP (digital signal processing) and sound effects techniques in designing audio for different types of new media applications. Topics will focus on digital sound techniques, recording original audio content, and arranging complex soundtracks. Other priorities include developing a fine-tuned ear for acoustic detail and implementing good habits regarding organization and documentation if audio resources. In addition, there will be advanced editing techniques discussed. Formats and conversion techniques for new media will also be covered.

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 http://informatics.iupui.edu/technology/equipment/

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. The hours are Monday through Friday 1pm-5pm (but closed 2-3pm on Tuesdays). Equipment can be reserved using the form at http://informatics.iupui.edu/technology/equipment/

Course Objectives/outcomes
At the end of the semester, students should be able to:
- Define and make comprehensible the parameters related to digital signal processing
- Define hardware and software requirements used in digital signal processing
- Demonstrate and perform PC sound recording and editing
- Demonstrate successful implementation of digital signal processing for sound FX and synchronization of audio to video.
- Demonstrate successful implementation of multi-track recording with video, music and foley sound FX for new media applications
- Describe digital post-production and mastering techniques
- Discuss and demonstrate successful sound placement techniques

**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

**Required Textbook:**
- **Title:** The Sound Effects Bible
- **ISBN(10 Digits):** 1932907483
- **Authors:** Ric Viers
- **Publisher:** Michael Wiese Publications
- **Release Date:** 2008
- **Format:** Paperback (available new and used for under $20)

**Optional Textbooks:**
- **Title:** Sound Design: The Expressive Power of Music, Voice, and Sound Effects in Cinema
- **ISBN(10 Digits):** 9780941188265
- **Authors:** David Sonnenschein
- **Publisher:** Michael Wiese Publications
- **Release Date:** 2001
- **Format:** Paperback (available new and used for under $15)

**Weekly Quizzes**
There will be a quiz on the reading and/or video training assignments at the beginning of each class so you can check your comprehension of that material, before we move into discussing it in more depth. **If you miss a quiz, they cannot be made up**, so make sure you arrive to class on time!

**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:
2. Click on “Go To Lynda.com”
3. Authenticate with your IU login
4. On the Software pull-down menu, choose “Avid”
5. Under “Pro Tools” we will use the “Pro Tools 10 Essential Training” and “Pro Tools Mixing and Mastering” courses.

More Valuable Resources:
Those of you who are really serious about sound design should be in the habit of keeping up on the latest news, trends, and technologies in audio. Two good (and free) resources are Post Magazine (a trade magazine for the post-production industry, which has a good audio section every month), and Tape Op Magazine (a recording magazine aimed at the independent market). To get your free subscriptions visit:
- Post Magazine: [http://www.omeda.com/cgi-win/post.cgi?t=student](http://www.omeda.com/cgi-win/post.cgi?t=student)

Required Equipment and Supplies:
- A paper notebook and pens or pencils. An awful lot of sound design work is done with paper and pencil first. I will frequently ask you to get out a piece of paper for an exercise.
- Portable hard drive or USB thumb drive for storing projects (minimum 4-8 GB of free space). Be sure to put your name on your drive so when you leave it in the lab, people know who they’re stealing it from.
- High-quality headphones with a full-ear **closed-back** circumaural design (meaning the big puffy kind that goes completely around your ear). Make sure they have an 1/8” plug (or adapter). Suggested models are below, but equivalent or better headphones are fine.
  - **Acceptable models include:**
    - Yamaha RH2C ($30) or RH3C ($40)
    - AKG K77 ($50)
    - Audio Technica ATH-M20 ($40) or ATH-M40fs ($70)
    - Sennheiser HD202 ($30), HD203 ($50), HD 280 Pro ($100 – this is very popular with our students and are extremely high quality for this price).
    - Shure SRH440 ($100)
  - **What NOT to use:**
    - In-ear MP3-player style headphones
    - Headphones with “enhanced bass response” or any active electronics, such as noise reduction. This includes anything from Bose, Beats by Dr. Dre, or anything that takes a battery (meaning it’s got active electronics processing your audio). You want the cleanest and most accurate audio path to your ears as possible.
    - “Audiophile” headphones designed for music listening, rather than studio monitoring. These tend to be open-back design and often help music sound better, but you don’t want any bias from your headphones at all.
    - Behringer makes budget headphones based almost directly on the designs of good audio equipment, but with cheap parts and poor quality.
    - Sony makes good sounding headphones, but they tend to fall apart faster than most other brands.
- CD-R or DVD-R disks with hard cases (about 5)
- Permanent Marker (i.e. Sharpie or similar). All homework must be turned in with your name, date, project/assignment name, and class.
- **Samples and loops:** The collections of samples and loops are in a new location:
Software Used: The primary recording platform used in this class is Pro Tools version 10. Pro Tools has been and continues to be the industry-standard recording platform which you will find in the vast majority of professional studios (well over 90%). Pro Tools is installed in the studio in IT360 and all of the computers in our classroom (IT270), but this classroom is in high demand during the week for other classes, and you may find it hard to use the software in the classroom at times that fit your schedule. I strongly suggest that you purchase your own copy if your schedule isn’t flexible enough to find time to work in IT270. While Adobe Audition is a great entry-level tool for general audio tasks, it lacks the sophistication and functionality for professional-grade audio production. You will have a hard time achieving the level of quality and control you want in your projects for this class using entry-level tools.

Yes, software is expensive, but if you are taking advanced audio courses, you are serious enough about this sort of thing to justify making this investment. Pro Tools 10 is the most recently released version, and is fairly inexpensive at the academic price ($295 - see http://www.sweetwater.com/store/search.php?s=pro+tools+student). It works with almost any audio hardware, including whatever is built in to your computer. It requires an iLok dongle to store your software license (http://www.sweetwater.com/store/detail/iLok2). If you buy the software new, an iLok is included. One iLok can store authorizations for over 500 different pieces of software.

Pro Tools 10 introduced a new file format, which is not backwards compatible with Pro Tools versions 8 and 9. However, if you have an earlier version of Pro Tools, using version 10 you can “Save as…” into the older format so you can open sessions you work on in class on earlier versions of the software. Pro Tools 11 has the same file format, but due to changes in the plugin format, now includes backwards compatibility and a Pro Tools 10 license.

Class Schedule (may be updated at any time)

<table>
<thead>
<tr>
<th>DATE</th>
<th>IN-CLASS ACTIVITIES</th>
<th>ASSIGNED HOMEWORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/15</td>
<td>Syllabus and general overview of semester. What Sound Is and What it Means.</td>
<td>Content Analysis&lt;br&gt;BRING YOUR HEADPHONES EVERY WEEK</td>
</tr>
<tr>
<td>2 1/22</td>
<td>The Process of Sound Design; Review of software and introduction to Pro Tools.</td>
<td>SFX Editing Project</td>
</tr>
<tr>
<td>3 1/29</td>
<td>Fun with Equalization</td>
<td>Equalization Exercises</td>
</tr>
<tr>
<td>4 2/5</td>
<td>Fun with Dynamics</td>
<td>Dynamics Exercises</td>
</tr>
<tr>
<td>5 2/12</td>
<td>Music: How much do you need to know? Welcome to GarageBand</td>
<td>Commercial Soundtrack</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>6</td>
<td>2/19</td>
<td>Thinking Conceptually About Mixing/Commercial Soundtrack work period</td>
</tr>
<tr>
<td>7</td>
<td>2/26</td>
<td>The Art of Foley</td>
</tr>
<tr>
<td>8</td>
<td>3/5</td>
<td>Foley Recording Sessions</td>
</tr>
<tr>
<td>9</td>
<td>3/12</td>
<td>Foley Recording Sessions</td>
</tr>
<tr>
<td></td>
<td>3/19</td>
<td><strong>No Class – Spring Break</strong></td>
</tr>
<tr>
<td>10</td>
<td>3/26</td>
<td>A Serious Look at DSP and mastering.</td>
</tr>
<tr>
<td>11</td>
<td>4/2</td>
<td>Field Recording</td>
</tr>
<tr>
<td>12</td>
<td>4/9</td>
<td>Advanced Mixing Techniques</td>
</tr>
<tr>
<td>13</td>
<td>4/16</td>
<td>Evaluating and improving a mix</td>
</tr>
<tr>
<td>14</td>
<td>4/23</td>
<td>Work Period/Proficiencies</td>
</tr>
<tr>
<td>15</td>
<td>4/30</td>
<td>Final Project Critiques</td>
</tr>
</tbody>
</table>

**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.** Attendance is taken at the beginning of every class. Students should demonstrate professional behavior by attending class and actively participating in class activities. **Missing 3 or more classes without a reasonable excuse will automatically 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. Text messaging, spending time on Facebook, or any of the other common distractions for students sitting in a computer lab will also result in a decreased participation score at the instructors discretion.

**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, web browsing, and playing 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.**

This course only meets 15 times in the semester, so every hour of every class meeting is important. Please make sure you reserve three hours of your life for this class meeting every week, as well as at least 9 hours of your own time outside of class to practice the concepts and techniques you learn.

**Projects:**
- Many assignments will simply be zipped together and uploaded to Oncourse. Larger assignments must be turned in on a CD-R or DVD-R in a protective case such as a hard
shell or slip cover with the following information written in ink on the disk: Name, Date, Project/Assignment name and class (N355).

- **Put your last name at the beginning of ALL file names** (e.g. “Smith_Foley-Assignment.ptx” and “Smith_Production-Notes.docx”)
- Most projects require detailed production notes (see example at the end of the syllabus). Unless otherwise specified, all documentation must be included in electronic form.
- **Projects must be turned in on time! Assignments turned in after the deadline automatically lose one letter grade, and continue losing 1 letter grade every 24 hours it is late. No Exceptions!**

The main projects are described below. Depending on the needs or interests of the class, these may be revised, combined, or broken into smaller sub-projects.

**Content Analysis Paper:**
Students will then analyze and report all sounds from a supplied video clip in terms of listening modes, meaning, Gestalt principles, and space.

**SFX Editing Project:**
Students are introduced to Pro Tools through a series of exercises to edit and transform original music and voiceover recordings to sound like they are coming from an old skipping record or rickety film projector.

**Drills on EQ, Compression, and Mastering:**
Students will complete a series of focused exercises designed to train the ear to discern different frequencies, hear the way the different parameters of a compressor alter the dynamics of a sound, and learn to make subtle adjustments to both EQ and compression to balance out differences between multiple songs.

**Commercial Soundtrack:**
Students will arrange and mix a loop-based song to support the action and storyline of a one-minute TV commercial.

**Serious Foley Project:**
Students will work in groups to record complex foley actions and ADR for an animated movie clip. Each student will edit and mix a finished version individually.

**Final Project:**
Students will recreate all sounds for one of a selection of video clips. Detailed foley recording for all scenes will be planned and recorded. The sounds recorded will then be synchronized to the video, mixed and mastered. Students will work in groups on the recording phase of the project, but will mix and master their projects individually. The final CD will include all of the student’s projects completed during the semester, mastered to fit together in terms of overall volume and acoustic character.
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.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFX Editing Project</td>
<td>5%</td>
</tr>
<tr>
<td>Content Analysis Paper</td>
<td>10%</td>
</tr>
<tr>
<td>Commercial Soundtrack</td>
<td>10%</td>
</tr>
<tr>
<td>Serious Foley Project</td>
<td>15%</td>
</tr>
<tr>
<td>Skill Drills (3 at 5% each)</td>
<td>15%</td>
</tr>
<tr>
<td>Weekly Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Studio Proficiency</td>
<td>5%</td>
</tr>
<tr>
<td>Final Audio Project</td>
<td>20%</td>
</tr>
<tr>
<td>Attendance and participation</td>
<td>10%</td>
</tr>
</tbody>
</table>

Grades are based on points as indicated below:

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Grade</th>
<th>Points Range</th>
<th>Grade</th>
<th>Points Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100 Pts.</td>
<td>A</td>
<td>73-76 Pts.</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90-92 Pts.</td>
<td>A-</td>
<td>70-72 Pts.</td>
<td>C-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87-89 Pts.</td>
<td>B+</td>
<td>67-69 Pts.</td>
<td>D+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>83-86 Pts.</td>
<td>B</td>
<td>63-66 Pts.</td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80-82 Pts.</td>
<td>B-</td>
<td>60-62 Pts.</td>
<td>D-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77-79 Pts.</td>
<td>C+</td>
<td>59 and below</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Suggestions for Success in this Course:
1. **Attend all classes** and come to class prepared and on time.
2. **Do the readings and watch the videos** before the class when we’ll discuss and practice that material. Not doing this makes it harder for you to master these concepts and techniques, and slows down the class for everyone else.
3. **Participate in class discussions.** Talking about this stuff reinforces and deepens your understanding of the material. You will not master this material just by going through the motions.
4. Do not leave early unless excused by the instructor.
5. Execute all assignments to the best of your ability.
6. Hand in your assignments **on time**
7. Read and **follow the directions** of the assignments
8. **Ask questions** if you are unclear about anything. There are no secrets in this class. I WANT you to understand this material well and be awesome audio engineers.
9. Check OnCourse for email and communications
10. **Read and follow the directions for the assignments** (I repeat this because students lose more points for not following the instructions than anything else.)

Class Courtesy:
- Come to class on time and be prepared.
- NEVER do homework, answer emails, play games, or otherwise ignore what’s going on in this class or you will be asked to leave. If you are typing, it should be the notes you are taking. Other students will get annoyed with you quickly when everything has to be explained to you twice because you weren’t paying attention the first time.
- Turn off your cell phones and other noisy devices. Please wait until after class to take care of your text messages.
- 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.

Please note that this syllabus may be updated at any time. The latest version will always be posted on OnCourse.

University Expectations/Guidelines/Policies

The Mission of IUPUI is to provide for its constituents excellence in
- Teaching and Learning
- Research, Scholarship, and Creative Activity
- 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.

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 beginning 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. Students in violation of this policy will, at minimum, receive a zero score for the assignment. Depending on the nature of the violation, and at the instructor’s discretion, further penalties may be applied.

**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.”

There are a number of campus-wide policies governing the conduct of courses at IUPUI. These can be found at http://registrar.iupui.edu/course_policies.html