

**PERFORMANCE PRODUCTION (PP 271)
BASIC SOUND ENGINEERING
FALL SEMESTER 2011**

Instructor:

Dave Tosti-Lane, Office MCC 407 Phone – 206-726-5044 (office).

Email: dtostilane@cornish.edu (best way to reach me!)

Office Hours: I'm in and out most days, between 9:00am and 4:00pm, but I have a lot of meetings. You can leave me a voice-mail or email (I don't check voicemail as often as email) and I'll get back to you. If you lose the email address, there's a link on the Performance Production page on the Cornish website.

Course Description:

Basic Sound Engineering is a 2 credit 3 hour course that provides a basic understanding of sound, its measurement, and the equipment used to control and produce it. We will explore the technical aspects of sound, elementary acoustics, and the equipment chain from microphone to loudspeaker. As time allows, we will take a brief look at recording technology, with an emphasis on digital recording systems, and a very brief overview of theatrical sound design. On completion of the course, the successful student should have a basic understanding of sound, its measurement, the way it interacts with the performance environment and the equipment used to control and produce it. Class meets M/W 4:30pm to 5:50pm in Annex Room 3. We will meet in the adjacent Raisbeck Performance Hall on some Mondays to do demos in the theater space.

Texts:

Audio science moves at a very fast pace. By the time a textbook is in print, it is frequently out of date! We will use a web-based text written by the instructor for the primary required text. You can view or download chapters of the text, and view related materials on the course website at:

http://web.me.com/dtostilane/PP271/PP271_Basic_Sound_Engineering.html

This text will be updated as the course progresses, so check the site regularly. At the beginning of the semester you can expect to find the first 3-4 chapters on the site to be current, additional chapters will be updated as the semester progresses (links shown in green are current, links in red are from the 2010 edition). Additional material and links will also be available on the site.

Recommended Additional Texts: THESE ARE NOT REQUIRED !!!!

But they are sources that the instructor frequently uses, and are highly recommended to anyone who intends to make their life working with sound.

Modern Recording Techniques (6th Ed.), By David M. Huber & Robert E. Runstein, Howard W. Sams & Co., Indianapolis, Indiana. Lib of Congress # 94-74897 ISBN: 0240804562

Sound Recording Handbook, by John M. Woram, Howard W. Sams & Co., Indianapolis, Indiana. Lib. of Congress # 89-61436. ISBN 0-672-22583-2 (Out of Print)

Sound System Engineering (2nd Ed.), by Don and Carolyn Davis, Howard W. Sams & Co., Indianapolis, Indiana. Lib. of Congress # 85-51026 ISBN 0-672-21857-7

Sound System Engineering (3rd Ed.), by Don Davis and Eugene Patronis, Focal Press. ISBN 0240808304 (new version – very good, but tends to be a little on the technical side – heavy math warning!)

Sound Systems: Design And Optimization, by Bob McCarthy, Focal Press. ISBN 978-0-240-52020-9

Sound Reinforcement Handbook(2nd Ed.), by Gary Davis & Ralph Jones for Yamaha
ISBN 0-88188-900-8

Principles of Digital Audio, (5th Ed.), by Ken C. Pohlmann, McGraw Hill inc., ISBN 0-07-144156-5

The Master Handbook of Acoustics, (4th Ed.), by F. Alton Everest, McGraw Hill Inc., ISBN: 978-0071360975
(5th edition due in May 2009)

The Science of Musical Sound, Revised Edition, by John R. Pierce, W.H. Freeman & Company, ISBN:07167-6005-3

The Microphone Book, by John Eargle, Focal Press, ISBN 0240804457

Other Suggested Reading:

Various current periodicals including such publications as; Journal of the A.E.S., Mix Magazine, Recording magazine, Electronic Musician, Live Sound International, Live Design, Pro Sound News, Tape OP, EQ, etc. Check also numerous online resources noted on the website. *Caution: Read list-serve traffic for several days before posting opinion or questions on an audio list – some of them can be brutal with newbies.*

Expectations and Evaluations:

All students are expected to attend all classes. Grades will be assigned as follows:

4 Take Home Quizzes	25%
Midterm Exam	25%
Final Exam (comprehensive)	40%
Attendance & Participation	10%

Date	Location	Topic
Wed. 9/07	Annex 3	Introduction, The Nature of Sound & Hearing (Ch 1)
Mon. 9/12	Raisbeck	Room Acoustics & Measurement (Ch 2)
Wed. 9/14	Annex 3	Acoustics continued: The Space we Work In
Mon. 9/19	Raisbeck	Gozintas and Gozoutas – Cables & Connectors (Ch 3)
Wed. 9/21	Annex 3	Digital Audio Basics (Ch 4)
Mon. 9/26(Q1!)	Annex 3	(Quiz 1 Due) Microphones: Types and Functions (Ch 5a)
Wed. 9/28	Annex 3	Microphones: Wireless – (and what’s the fuss?) (Ch 5b)
Mon. 10/03	Raisbeck	Microphones: Listening, Comparing, Measuring
Wed. 10/05	Annex 3	Mixers: The Analog Mixer Demystified (Ch 6a)
Mon. 10/10	Annex 3	Mixers: All the detail stuff. (Ch 6b)
Wed. 10/12	Annex 3	Mixers: Digital changes everything
Mon. 10/17 (Q2!)	Annex 3	(Quiz 2 Due) Digital Audio Networks (Ch 7)
Wed. 10/19	Annex 3	Review & Recap
Mon. 10/24	Annex 3	Review & Recap
Wed. 10/26	Annex 3	Midterm Exam
Mon. 10/31	Raisbeck?	Processing: Eq & Dynamics (Ch 8)
Wed. 11/02	Annex 3	Processing: Eq & Dynamics
Mon. 11/07	Annex 3	Loudspeakers & Amplifiers Tour Pride & Prejudice Sound (Ch 9)
Wed. 11/09	Annex 3	Loudspeakers: Types and Dispersion Patterns (Ch 9a)
Mon. 11/14	Raisbeck	Loudspeakers: Practical Comparisons + Eq & Dynamics Listening
Wed. 11/16	Annex 3	Class Cancelled
Mon. 11/21 (Q3!)	Annex 3	(Quiz 3 Due) Speaker Deployment in real space, Simple Line Arrays
Wed. 11/23	NO CLASS	Thanksgiving Break!
Mon. 11/28	Annex 3	Arrays continued;
Wed. 11/30	Annex 3	Systems Integration; Understanding Gain Structure, Acoustical Modeling (Ch 10)
Mon. 12/05 (Q4!)	Raisbeck	(Quiz 4 Due) Acoustical Modeling: Prediction vs Measurement
Wed. 12/07	Annex 3	Review & Recap OR Digital Editors – A cursory Overview
Mon. 12/12	Annex 3	Review & Recap
Wed. 12/14	Annex 3	(Take Home Final Due start of class) In Class Final Exam

Requirements:

Reading listed by each date is to be completed prior to that class period.

There will be two exams, a Midterm and a Final. The Final exam will be comprehensive. There will be 4 take-home quizzes, which will be available on the website in advance. Take-home quizzes are open-book, open-resource, but must be turned in on time at the start of class on the listed dates. Late Quizzes will not be accepted, however the instructor will accept emailed copies of completed quizzes submitted by 6:00pm on the listed date in the syllabus.

Please see Performance Production Policy regarding Absence (below).

Students arriving more than 10 minutes late to class will be considered absent.

Please also note policy regarding accomodation for students with Disabilities.

Performance Production Departmental Syllabus Addendum

Special Accommodations Statement

If you have a psychological, physical, or learning disability, and you require special accommodations, you must schedule an appointment with the Counselor (726-5027) as soon as possible. No special accommodations can be made without a written request from the Counselor's office.

Attendance Policy for ALL In-Major Classes

THE INEVITABLE CONSEQUENCES OF BEING ABSENT

Two (2) absences allowed per semester:

- 1) **Three** absences and your final grade drops by **one half letter** (e.g. "A" becomes "A-")
- 2) **Each** successive absence causes final grade to drop **another 1/2** letter grade.
- 3) **Missed assignments and tests will be graded as "F" work**, and will be counted in the final class grade determination.
- 4) You **can FAIL** a class due to repeated absences, at which point **you will no longer be allowed to attend that class.**

In the event of serious illness, injury, or other genuinely difficult circumstances in your life, the above *may* be amended on a case by case basis. See your instructor, or call the Performance Production Department Chair (726-5044).

Performance Production faculty may have some variations on the above policy. Check your syllabus for details. The department considers it the students' responsibility to know and understand the specific policies for each class, **ignorance of policy does not excuse failure to comply.**

Responsibilities of the Student When Absent

- 1) As a courtesy to your instructors and your classmates, please call the Performance Production Office at 726-5044 as soon as you know you will be absent.
- 2) Communicate immediately with your instructor upon your return, or in advance if you know you will be absent.
- 3) Communicate with classmates to secure notes and materials pertinent to the missed classes.

Take active responsibility for your own circumstances, and communicate with your instructors.