Computer Assisted Recording and Editing (MTEC 446a)
Course Syllabus, Spring 2022

Instructor
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Course Description
Computer Assisted Recording is an introduction to techniques and applications of recording sound on personal computers. Discussions will also include a study of the hardware and software required as well as editing music, dialog, and sound effects for song, commercials and film.

Requirements, Exams and Grading Information
Student evaluation in 446a will consist of practical assignments, quizzes and exams. The assignments include short exercises and a final project. In general, students will be given one week to complete and turn in exercises. Assignments turned in late will be lowered one grade per week and will not be accepted beyond three weeks late. All assignments must carefully follow file management and format guidelines. Instructions for the final project will be available at a later date.

Quizzes will be given weekly via BlackBoard and will cover reading and video assignments, as well as, instructor notes and handouts. The midterm exam will consist of both written and hands-on questions. The final will be a hands-on exam designed to test the practical skills developed during the semester. All exams and quizzes must be taken during the scheduled times and cannot be made up at a later date.

Attendance is taken each class and will count towards your final grade. After two absences your grade will be lowered one-half grade for each additional absence. Because of the importance of hands on experience with this subject, attendance to all classes is the only method of understanding the concepts of this specialized topic.

Grading Summary
1. Participation 10%
2. Quizzes 10%
3. Lab Exercises 25%
4. Midterm Exam 15%
5. Final Exam 20%
6. Final Project 20%

Class Materials
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2. LinkedIn videos available through BlackBoard: Pro Tools 12 Essential Training; Foundations of Audio series: EQs and Filters; Compressions and Dynamic Processing; and Reverb, Delay and Modulation.


4. Instructor handouts and lecture notes (available on BlackBoard under Course Documentation)

5. Reference headphones are required and should be brought to all classes. All assignments will be evaluated using Sony MDR 7506 reference headphones!

6. USB Memory Stick and/or other external storage device

Communication
Please make it a habit to use/check your USC E-mail account. Any E-mail I send to the class will use that account. ***Please add “446a” in the subject header of all email that you send me.*** This will help me to organize all the emails that I receive and enable me to respond to you more quickly. In addition, most course materials, quizzes and class grades will be posted on Blackboard (http://blackboard.usc.edu). For example the course syllabus can be found under Syllabus, instructor handouts and project instructions under the Content tab. All exercise materials and instructions will be posted to the class folder (instructions on how to access this folder will be provided during week 2 and will be posted to Blackboard).

Disabilities
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.-5:00 p.m. Monday through Friday. The phone number for DSP is 213/740-0776.

Academic Integrity
Academic Integrity-Students are expected to adhere to the Academic Integrity Guidelines of USC as outlined in the current edition of SCampus. Work found to contain plagiarized or uncited materials will be referred to the USC Office of Student Conduct for review. Academic Integrity violations will result in a failing grade for submitted material and for the course, and dismissal from Thornton School of Music majors and minors.

***Please be advised anyone found surfing the web will be asked to leave the class. Before you can be readmitted to the class you must meet with the program chair.

Course Schedule (Schedule and Content Subject to Instructor Changes)
Week 1 - Class Introduction and Review
  Native system setup
  PTs Playback Engine and H/W buffer and system latency
  Navigating a PTs session
  Changing zoom level, track height, rulers, Edit window options
  Playback and scrolling options
  Making selections
  PTs file types and management
  Exercise Procedures and Expectations
  Reading: 101 – 1 and 2
  Exercise 1: Navigating the Edit Window

Week 2 - Audio Editing Review
  Importing audio
  Audio clip attributes and management
  Separate, break, heal clip
  Copy/paste, duplicate, repeat, loop, and loop trim clips
  Clip trim, trim to insertion, trim from insertion
  Conform clip to tempo
  Fades: in/out, cross fade, equal power vs. equal gain
  Master Fader Tracks
  Introduction to dither and noise shaping
  Bounce to disk, bounce “rules”
  Reading: 101 – 5, 7 and 8; *Pro Tools 11 Essential Training* chapters 3 and 6
  Exercise 2: Audio Editing Basics

Week 3 - Recording Audio
  Creating PTs sessions: file types, sample rates, bit depth, I/O considerations
  Creating and naming tracks, track I/O, phantom power
  Setting record levels/gain structure
  PTs signal path, recording with a “pre-disk” aux track
  Click tracks, countoffs, tempo and meter
  Punch record and pre/post roll
  Monitoring options, Input Monitoring
  Introduction to volume editing/automation
  Reading: 101 – 3 and 4; *Pro Tools 11 Essential Training* chapter 4
  Exercise 3: Voice Over Recording and Editing

Week 4 - Working with Playlists and Alternate Takes
  Playlist overview
Create, duplicate and delete playlist
Switching playlists
Playlist use and strategy
Playlist view, comping tracks from multiple takes
Crossfade use, issues and solutions
Clip consolidation
Track freeze
Reading: Instructor handout
Exercise 4: Playlist Comping Exercise

Week 5 - Plug-ins
Adding and removing plug-ins
Copying settings
Recalling and saving presets
Copying plug-ins
Bypassing and inactivating plug-ins
Multi channel and multi mono plugs
Plug-in formats (AAX, RTAS, AU, VST, etc.)
AudioSuite plug-ins
Reading: Instructor handout; *Pro Tools 11 Essential Training* chapter 12
Exercise 5: Using AudioSuite plugins

Week 6 - The Mix Window: Inserts, Sends and Groups
Mix window overview
Track signal path and routing
Track inserts (series processing)
Bus effects and sends (parallel processing)
Creating headphone cues
Prefader sends, using mono vs. stereo sends
Solo safe
Master fader track signal path and use
Creating and using submixes
Reading: 101 – 9
Exercise 6: Insert, Sends, Bus Effects, and Submixing

Week 7 - Mid-Term Exam

Week 8 - Drum Sound Replacement and Enhancement
Old school sound replacement
Sample replacement with Sound Replacer
Sample enhancement with Slate Trigger
Strip Silence
Audio editing to enhance groove ("Pocketing")
Reading: Instructor Handout
Exercise 7: Drum Sound Replacement and Enhancement

Week 9 - Organizing the Mix
Relinking source files
Marker and none type memory locations
Color coding tracks and markers
Track groups
VCA Faders
Setting levels and pans
*Term Project Explanation*
Reading: Instructor handout

Week 10 - Drum Editing and Processing
Timbre and the "magic frequencies"
Filter shapes, parameters and use
Parametric EQ parameters and use
Basic applications of audio filters and equalization
Compression overview
Compression parameters: threshold, ratio, attack/release, makeup gain
Basic pop/rock applications of compression
Other dynamic processors: limiters and noise gates
Reading: Instructor handout; Lynda.com *Foundations of Audio: EQ and Filters* chapters 2-3

Week 11 - Bass and Guitar Editing and Processing
Bass and Guitar EQ, filters and compression
Track duplication
Intro to groove editing
Reading: Lecture Notes; Lynda.com *Foundations of Audio: Compression and Dynamic Processing* chapter 2

Week 12 - Vocal Processing; Delay and Reverb Processing
De-essers: parameters and use
Vocal EQ and Compression
Reverb: setup, parameters and application
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Creating a session tempo map, adding tempo markers
Delay: setup, parameters and application
Lynda.com Foundations of Audio: Reverb chapter 3, Delay and Modulation
     chapter 1, Pro Tools 11 Essential Training chapter 11

Week 13 - Introduction to Automation
Real-time automation
Graphic automation basics
Automation breakpoints, tools
Create, edit, copy, paste and nudge automation
Override automation
Reading: Instructor handout, 101 – 09

Week 14 - Final Project progress check

Final project due 8pm in the course server drop box by last day of USC “Study Days” semester schedule. No direct emails with attachments will be accepted.

Final Exam – Date and Time published online via USC Finals Schedule