Instructor
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Office Hours: TBA - On campus days M-T-W

Course Description
As the rolls of musicians, engineers, producers, and music business professionals continue to become more intertwined, it is crucial that music professionals communicate intelligently about what they are hearing. Critical Listening, MTEC 176, is designed to help students develop a comprehensive understanding of audio quality and the musical aspects of audio production. Through selected listening examples, the course will develop the students’ listening and problem identification skills, as well as, the specialized vocabulary necessary to offer useful audio critique.

Objectives
Students in Critical Listening will learn how room setup and psychoacoustics impact the way humans perceive sound. Additionally, they will learn to recognize elements of a recording by frequency, amplitude and spatial position; by audio production style and technique; and then effectively combine those skills with an analysis of musical form, instrumentation, arrangement, dynamics, style and other musical characteristics.

Requirements, Exams and Grading Information
Student evaluation will consist of take-home listening exercises, in-class listening quizzes, a midterm exam and final exam. Concise instructions for take-home exercises will be available at a later date. Take-home exercises are due one week after assignment.

Exams will contain both written and listening sections. Please note that the final exam is cumulative. Tests must be taken during the scheduled times and cannot be made up at a later date. The final exam will be given during the university scheduled final exam time for the class.

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.
Critical Listening (MTEC 176)
Syllabus Spring 2017 2 hours per week (2-unit)

Recommended Textbooks - wait till first meeting discussion before any purchases
Huber, David Miles and Runstein, Robert E. Modern Recording Techniques 8th Edition.
Focal Press (2013)
Thompson, Daniel M. Understanding Audio: Getting the Most Out of Your Project or Professional Recording Studio. Berklee Press (2005.)

Grading
1. Participation (in-class and online)  10%
2. Exercises, Labs and Project        20%
3. Module Quizzes                    20%
4. Midterm Exam                     20%
5. Final Exam                        30%

GRADING SCALE

<table>
<thead>
<tr>
<th>Score</th>
<th>Grade</th>
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<tbody>
<tr>
<td>100-94</td>
<td>A</td>
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<tr>
<td>93-90</td>
<td>A-</td>
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<tr>
<td>89-87</td>
<td>B+</td>
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<td>86-83</td>
<td>B</td>
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<tr>
<td>82-80</td>
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<td>79-77</td>
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Blackboard and Communication
Course materials, assignments, documentation and grades will be posted on Blackboard at https://blackboard.usc.edu/. Please make it a habit to use/check your USC E-mail account. Any E-mails sent to the class will only use your USC E-mail account.
Statement on Academic Conduct and Support Systems

Academic Conduct
Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards [https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/]. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [http://policy.usc.edu/scientific-misconduct/].

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity [http://equity.usc.edu/] or to the Department of Public Safety [http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us]. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men [http://www.usc.edu/student-affairs/cwm/] provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems
A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute [http://dornsife.usc.edu/ali], which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs [http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html] provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information [http://emergency.usc.edu/] will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.
Class Schedule – *(Subject to Instructor Changes)*

Module 1 – *Course Introduction:*

*How Sound Works*
- Frequency
- Levels
- Time
- Harmonics
- Pitch vs. Frequency

*Reading: Modern Recording Techniques Ch. 2*

Module 2 - *Hearing*

- The Ear
- Perception
- Objective and Subjective

*Reading: Modern Recording Techniques Ch. 2*

Module 3 - *Spectral Balance*

- Equalization
- Ranges
- Identifying boost or cut
- Filter Types

*Reading: Audio Production and Critical Listening Ch. 2*

Module 4 - *Audio Dynamics*

- Levels
- Noise
- Distortion
- Compression

*Reading: Audio Production and Critical Listening Ch. 4*

Module 5 - *Audio Imaging*

- Mono
- Stereo
- Surround

*Reading: Audio Production and Critical Listening Ch. 3*

Module 6 - *Room Acoustics*

- Basic Design
- Testing
- Treatment
- Correction

*Reading: Modern Recording Techniques Ch. 3*
Module 7 - Sound and Reflections
   Delay
   Phase
   Reverb
   Creating depth
   Reading: Audio Production and Critical Listening Ch. 3

Module 8 - Midterm Exam

Module 9 - Monitoring
   Passive Monitors and Amps
   Active Monitors
   Control
   Headphones
   Reading: Modern Recording Techniques Ch. 17

Module 10 - Judging Audio Quality
   Distortion Problems
   Stereo Problems
   Playback issues
   Editing Issues
   Reading: Audio Production and Critical Listening Ch. 5

Module 11 - Instrument Identification I
   Drum Set
   Percussion
   Electrics and Acoustic Bass
   Guitars
   Keyboards
   Reading: Audio Production and Critical Listening Ch. 7

Module 12 - Instrument Identification II
   Percussion
   String
   Brass
   Woodwinds
   Reading: Audio Production and Critical Listening Ch. 7

Module 13 - Song Analysis I
   Instrumentation
   Form
   Levels
   Position
   Dynamics
   Dimension
   Quality
   Reading: Audio Production and Critical Listening Ch. 7
Module 14 - *Song Analysis II: Contemporary Sound Techniques*
- Layering
- Frequency stratification
- Side-chain processing
- Envelope modulation
- Filter modulation
- Arpeggiators

Reading: Audio Production and Critical Listening Ch. 7

Module 15 - Review

**Finals Week:** Final exam day and time TBA per published USC Final Schedule for Spring 2017.