

Current Topics in Architectural Acoustics – Syllabus

Architectural Engineering Program, University of Nebraska
AE 9300, Spring 2009, 3 credits

INSTRUCTOR:

Dr. Lily Wang
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Office hours: Thursdays 3:00 – 5:00 PM, and by appointment

MEETING TIMES AND LOCATION:

MW 9:00 – 10:15 AM, PKI 270

OBJECTIVES:

The objective of this class is to learn more about current topics in architectural acoustics by reviewing recent articles (peer-reviewed and/or trade journals) in our field. The course aims at improving the following skills:

- Ability to read articles and glean important new information
- Ability to integrate new information and creatively develop ideas for taking these topics further
- Ability to communicate clearly and concisely (orally and through written means)

CLASS FORMAT:

This class will study a sequence of current topics in architectural acoustics. Each topic will focus on certain articles. All students are expected to read the selections thoroughly. One student will act as a topic leader. It is expected that each student will do this two times throughout the semester.

Each topic will be discussed in three class sessions. The organization for each topic is expected to be roughly as follows:

Session I: Introduction to the Topic

- All students skim the assigned text by Session I.
- The topic leader prepares a lecture, introducing the class to the subject.
- The topic leader hands out a ‘Study Guide’ of in-depth questions on areas in the paper that can be investigated or clarified further (typically 5-7 questions).

Session II: Discussions

- Students continue to review assigned text, and should have made initial attempts to work through the ‘Study Guide’ questions.
- The topic leader continues lecturing on the topic, and begins leading the class through the ‘Study Guide’ questions and student responses.

Session III: Integration and Brainstorming

- Discussion continues on the ‘Study Guide’ questions, as needed.
- All students except for the topic leader submit their ‘Study Guide’ responses to the instructor. Also, students should prepare a paragraph on what key concepts from the topic they have integrated into their knowledge of acoustics, and ideas on how the topic could be extended with further research.
- Finally during this session, the topic leader conducts a ‘closed-book’ review quiz about the topic. This review quiz should focus on what the topic leader

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considers the important concepts that have come out of the topic presentation, and may help conclude discussion on the topic.

CLASS DELIVERABLES AND ASSESSMENT:

For each topic, the instructor will evaluate the leader on (a) lectures, (b) study guide preparation, and (c) review quiz preparation, and the other students on (a) class participation, (b) effort on study guide questions, and (c) review quiz results.

Please note that the participants' assignment referred to as a 'Study Guide' will not be graded in the same manner as typical homework in other classes; that is, students are not graded in terms of how much is done correctly or that all of it is necessarily completed. Rather, the assessment is based on the evidence that the student has taken the time and considered the study guide questions carefully.

In the middle of the semester, after all students have completed one turn as topic leader, each student will have the opportunity to evaluate the others in terms of their topic leadership. The instructor will then meet with each student individually and review the instructor's and peers' constructive comments to help each student improve their topic leadership skills. Also, an assessment of the student's participation to date will be discussed. Another peer evaluation will be conducted at the end of the semester.

There will also be two tests. Test 1 will cover material from Topics 1-4, and Test 2 will cover material from Topics 5-8.

TIME MANAGEMENT:

Instructors often use the following guideline in determining a fair course load: for each 1-credit graduate class hour, a student should spend approximately 3 hours outside of class on that coursework. So for this 3-credit class, students should expect to spend an average of 9 hours a week. Please budget this time accordingly, managing it efficiently between reviewing the selected articles, working through the study guides, and integrating the knowledge.

GRADING:

The grade for the class will be based on the following:

30%	Class participation and leadership (1 st half of semester)
40%	Class participation and leadership (2 nd half of semester)
30%	Tests (equally weighted)

Final letter grades are assigned based on the system shown below.

98-100	A+
94-97	A
91-93	A-
88-90	B+
84-87	B
81-83	B-
78-80	C+
74-77	C
71-73	C-
68-70	D+
64-67	D
61-63	D-
0-60	F

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POTENTIAL TOPICS:

The following are titles of papers on potential topics, published in JASA during 2008:

- Logistic prediction model for individual allowable noise levels
- On the acoustics of ancient Greek and Roman theaters
- Nature of orchestral noise
- Reliability of estimating room volume from a single room impulse response
- Monaural room acoustic parameters from music and speech
- The effect of visual and auditory cues on seat preference in an opera theater
- Evaluating airborne sound insulation in terms of speech intelligibility
- Effects of social, demographical and behavioral factors on the sound level evaluation in urban open spaces
- Characterizing noise and perceived work environment in a neurological intensive care unit
- Effect of room absorption on human vocal output in multitalker situations

POLICY ON ACADEMIC DISHONESTY:

Academic dishonesty, such as in the form of cheating or plagiarism, is not acceptable and will be dealt with according to the rules and regulations set forth in the UNO Student Handbook. Please feel free to study and discuss class concepts with your other classmates, but **do not claim someone else's work as your own, including using another person's calculations, spreadsheets, computer programs, homework solutions, or ideas.** Any incident of academic dishonesty associated with this course will result in the student receiving an automatic grade of 'F' for the course. Please read Section II of the UNO Student Code of Conduct for additional details.