

**California State University, Chico**  
**Communication Science and Disorders Program**  
**CMSD 363: Acoustics and Psychoacoustics of Speech**  
**3 Units, Spring 2018**

**Instructor:** Suzanne Bonneau Miller, Ph.D., CCC-A/SLP  
**Office location:** AJH 130 B  
**Email:** sbmiller@csuchico.edu  
**Office hours:** T : 12:00-1:30  
**Class days/time:** T & Th 2:00-3:15  
**Classroom:** Tehama 106

**COURSE DESCRIPTION**

This lecture course will provide a basic foundation of knowledge of acoustics in three sections: 1) Basic acoustics, 2) Speech acoustics, 3) Psychoacoustics (perception of sound in general, and perception of speech). Although there will be overlap among these three areas, the topics will be made distinguishable and hierarchical for learning purposes.

**COURSE MATERIALS**

**Course Usage of Blackboard Learn**

Copies of the course syllabus and major assignments may be found on Blackboard Learn. You are responsible for regularly checking the online resources, which is accessed through the portal at <http://portal.csuchico.edu>.

**Required Materials**

iClicker is required for Quizzes

**Required texts**

Raphael, L.J., Borden, G.J., Harris, K.S. (2011). *Speech Science Primer*, (6th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

## COURSE OBJECTIVES

Course SLOs	Implementation	Program SLOs	Accreditation Standards		
			CAA	CFCC	CCTC
1) Relate the principles of physics to sound and speech production. 2) Summarize principles of psychoacoustics and speech perception. 3) Describe the impact of cultural and linguistic diversity on speech production and perception. 4) Discuss in basic terms the acoustic characteristics of vowel and consonant production. 5) Describe source and resonant aspects of speech. 6) Discuss in basic terms the nature of the acoustic correlates of disorders in articulation, hearing, processing, voice/resonance.	1) Lab, Assignment, Quizzes, Exam 1  2) Quizzes, Exam 3  3) Quizzes, Exam 2 & 3  4) Quizzes, Exam 2  5) Quizzes, Exam 1 & 2  6) Quizzes, Exam 2 & 3	2) Demonstrate knowledge of normal aspects of communication and culturally linguistic differences across the lifespan	3.1.2B	IV-B	SLP 1

CAA - Council on Academic Accreditation in Audiology and Speech-Language Pathology.

<http://caa.asha.org/wpcontent/uploads/Accreditation-Standards-for-Graduate-Programs.pdf>

CFCC - Council for Clinical Certification in Audiology and Speech-Language Pathology

<https://www.asha.org/Certification/2014-Speech-Language-Pathology-Certification-Standards>

CTCC - California Commission on Teaching Credentialing

[https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/special-education-standards-2013.pdf?sfvrsn=9c98fd69\\_0](https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/special-education-standards-2013.pdf?sfvrsn=9c98fd69_0)

## Course Requirements

**Assigned Readings:** Chapter readings and possibly some supplementary readings will be assigned. Some information contained in your book may not be included in lecture, however, you will be responsible for the content.

**Examinations:** Three examinations will be administered throughout the semester and will include information from readings, lectures, discussions, quizzes, assignments. See assignment schedule for examination dates. Each examination will be worth 100 points.

**Quizzes:** Daily or weekly quizzes will be given without notice using iClicker. These will be worth variable points, approximately 2-8 points each. Please be on time and plan to stay for the full class session as some quiz questions may be asked at the beginning of class and toward the end. **No make-ups on quizzes** will be given, but two of the lowest scores will be dropped. Therefore, if you cannot come to class or have any reason why you cannot utilize the iClicker on a particular day (e.g., battery dead, left it at home, etc.) that can count as one of your lowest scores. **No handwritten quizzes** will be accepted. You cannot borrow another person's iClicker. Total quizzes will make up approximately 30-60 points toward your grade.

**Participation:** You will receive 1 point for participation each time you are asked to use your iClicker as long as ALL questions for that day are answered. It is expected that you will participate in the quizzes, in class discussion, and in small group discussions.

**Assignments/labs:** There may be additional lab work either in groups or individually that will be required throughout the semester. Points will be assigned as appropriate. These may be announced or spontaneous.

## Classroom Protocol

### Attendance & Participation

Attendance for each class period is critical. Should you have to miss a class period it will be your responsibility to obtain the information missed from your class colleagues. No exam make-ups will be offered for unexcused absences. It is expected that you will attending to the lecture and participating in 363 discussions and activities as appropriate. Please contribute to a positive learning environment by saving non- 363 activities and discussion for outside of class time.

### Make-up Policy

It is imperative that you take examinations when they are scheduled. Make-up examinations will only be administered under extraordinary circumstances, when there is a documented reason of a serious and compelling nature. A make-up examination will not be the same as the original examination but will be based on the same body of information.

All assignments must be turned in by their due date. Assignment points will be deducted for each day the assignment is late.

**RIGOROUS LEARNING** (excerpted from CSU statement of Academic Rigor)

Rigorous students are part of the equation of rigorous teaching and learning. A rigorous education is vigorous, difficult, deeply satisfying work, and it requires a lifestyle conducive to achieving excellence. College is not a temporary diversion or a period of entertainment, but a fundamental piece of student character, citizenship, and employment future. A diploma and good grades from a demanding institution count for something. Rigorous students:

- 1) Set high personal standards, develop a strong sense of purpose, come to class well-prepared, and complete assignments on time.
- 2) Develop an effective relationship with the instructor, in and outside of class, and make the most of University advising and other services.
- 3) Treat the instructor, fellow students, and the classroom environment with complete respect. Give each class full attention and participation. Do not miss class, arrive late, or leave early.
- 4) Accept continuing responsibility for learning and for grades earned.
- 5) Approach each class in a professional manner, as if the class was real employment. Treat a full-course load as full-time work and spend no less time on it. Determine exactly what is expected.
- 6) Experiment with all teaching and learning strategies used in classes, and also determine which work best for them.
- 7) Demonstrate complete honesty and integrity.

### **Grading Policy**

Grades will be assigned on the basis of the above listed course requirements. Attendance and class participation will be considered particularly if your final grade lies near the cut-off for the next higher or lower grade.

- Three scheduled examinations, each worth 100 points. Total points **300**
- Additional individual and group assignments and quizzes to be administered throughout the course of the semester, variable points, approximate total **50**

Grades (points).

93-100%=A

90-92% =A-

87-89%=B+

83-86%=B

80-82%=B-

77-79%=C+

73-76%=C

70-72%=C-

60-69%=D

59% & below=F

Here's a conceptual grading guideline that may help you to understand how your assignments and tests are graded: An "A" constitutes outstanding performance, work that is above and beyond expectations; a "B" is very good work, commendable; a "C", acceptable, accurate, and complete work, but not beyond ordinary; "D" is barely passing for university standards, but is unsatisfactory for the profession of speech-language pathology and audiology and will require repeating; and "F" is failing work.

## **University Policies and Campus Resources**

**ACADEMIC CONDUCT:** Although collaboration with other students is required in certain situations, you are expected to do your own work on examinations. If it is apparent, or suspected, that you are turning in work that is not your own, it will be dealt with under the guidelines of the University's policy on academic dishonesty.

**CONFIDENTIALITY AND MANDATORY REPORTING:** As a Chico State instructor, one of my responsibilities is to help create a safe learning environment for Chico State students. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. **However, I am required to share information regarding sexual misconduct with the University.** Students may speak to someone confidentially by contacting the Counseling and Wellness Center (898-6345) or Safe Place (898-3030). Information about campus reporting obligations and other Title IX related resources are available here: [www.csuchico.edu/title-ix](http://www.csuchico.edu/title-ix)

**STUDENTS WITH DISABILITIES:** If you have any disability related needs in terms of taking exams or other accommodations, please contact Disability Support Service (Building E, 898-5959) on campus to obtain the appropriate documentation. Afterwards, come by my office to discuss your needs within the first two weeks of class so that any necessary arrangements can be made. Accessibility Resource Center online:  
<http://www.csuchico.edu/arc/index.shtml>

**ADD/DROP POLICY:** Students may add or drop courses without restriction or penalty and without instructor approval during the first two weeks of the semester using the telephone registration system (TRACS) or, where necessary, by submitting a Change of Program (COP) form. During the third and fourth weeks of classes, COP forms are needed to add and drop and will require the approval signature of the instructor. After the end of the fourth week of the semester, all COP forms to add or drop will require a serious and compelling reason (University Catalog) and require approval signatures of the instructor, department chair, and dean of the college. Do not assume that you will be automatically dropped for not attending class. It is your responsibility to make a commitment to dropping or staying in class by the end of the second week. It is your responsibility to follow the appropriate drop procedure or you risk getting a failing grade for the class.

*CMSD 363: Acoustics and Psychoacoustics of Speech, Spring 2018*  
 (Note: subject to change with notice.)

Week	Topics & Assignments	Readings
	Basic Acoustics: Sound Production	Chpt 1 & 2
	Basic Acoustics: Sound Production /Transmission	
	Basic Acoustics: Sound Transmission	
	Complex Stimuli	
	Complex Stimuli	
	<b>Examination 1: Acoustics</b>	Chpt 3 - 7
	Speech Acoustics: Acoustic Phonetics	
	Speech Acoustics: Acoustic Phonetics; Acoustic Analysis	
	Spring Break	
	Speech Acoustics: Acoustic Phonetics; Acoustic Analysis	
	Speech Acoustics: Acoustic Analysis/Synthesis	
	<b>Examination 2: Speech Acoustics;</b> Begin Psychoacoustics	
	Psychoacoustics	Chpt 9 - 11
	Speech Perception: Acoustic Cues	
	Speech Perception: Acoustic Cues/ Categorical Perception	
	Speech Perception: Theories	
17	<b>FINAL EXAM: Psychoacoustics &amp; Speech Perception</b> <b>12-1:50 pm</b>	