

COMD 421 - Speech Science

Fall 2014

Section 001: 166 MCKB on M W from 1:30 pm - 2:50 pm

Instructor/TA Info

Instructor Information

Name: Christopher Dromey
Office Phone: (801) 422-6461
Office Location: 133 TLRB
Email: dromey@byu.edu
TA Information

Name: Melanie Bruce
Email: melbruce.byu@gmail.com

Course Information

Description

What am I hoping you will learn this semester? The goal is that you will come to understand more about how speech works. You have already learned about the characteristics of sound, and also about anatomy and basic physiology. In this class we will bring these themes together by applying acoustic analysis techniques to normal and disordered speech. You will gain experience with recording speech into a computer and extracting meaningful measures of production from those recordings. As a communication disorders professional, you will need to know how to use technology in your clinical work. The profession's recently increased emphasis on evidence-based practice underlines the need for you to know how to gather your own treatment outcome evidence and evaluate that of others. By the end of this semester you should feel confident in using readily available software tools to document speech performance. You will also learn about the tools used by speech researchers so that you can get more out of the journal articles you read in our professional literature.

Learning Outcomes

Principles of Speech Production

Demonstrate knowledge and competence in basic principles of speech production, including acoustic and physiological aspects and their measurement.


Quantifying Speech Disorders for Treatment Outcomes

Explain principles and methods of quantifying a variety of speech disorders, based on a sound grasp of the physiologic basis of normal function, with a goal of documenting treatment outcomes.

Applying Principles for Practice

Show understanding of the application of principles from the current research literature in measuring speech performance in preparation for participating in evidence-based practice.

Materials

Image	Item	Vendor	Price (new)	Price (used)
	Speech and Voice Science Required by Behrman, Alison Plural Publishing, Inc.; Edition 2 (2012-11-30) ISBN: 9781597564816	BYU Bookstore	72.95	54.75

Prerequisites

A good understanding of the introductory acoustics component of ComD 334 (hearing science) or Physics 167 is essential for you to be able to succeed in this class. We have a strong focus on acoustic phonetics this semester, so if you have not already had ComD 331 (phonetics), you will have problems in this class. It is also helpful if you have already taken ComD 320 (speech anatomy), but this is not essential. If you did not take ComD 334 or Physics 167, please drop this class and take one of these before registering for this course next time. This semester's work will build on the foundation provided by the prerequisite courses and will not involve re-teaching things you should already know.

Grading Scale

Grades	Percent
A	94.5%
A-	91.5%
B+	88.5%
B	85.5%
B-	82.5%
C+	79.5%
C	76.5%
C-	73.5%
D+	69.5%

D	64.5%
D-	59.5%
E	0%

Attendance Policy

The classroom activities will result in projects which you submit for a grade. I will not be taking attendance, but if you miss a class, you will need to be sure to get the information you missed from someone else so that you can submit the projects by the deadline. Most of the projects can be completed in the classroom, with only minimal subsequent editing before online submission.

Classroom Procedures

If you need to arrive late or leave early, please do so quietly. You are adults, and don't need to provide reasons for missing class. I don't take attendance, but you are responsible for turning in all assignments on time. Now and then you may want to share a brilliant speech science insight with the person sitting next to you. That's just fine, but it must be brief. ***People who sit and chat continually through the class will be invited to leave the room, because it is distracting to other students and to me. The same goes for texting, Facebook, etc. Please don't do these in class because they distract others.***

Study Habits

Speech science is a little different from some of the other classes you have taken. Memorizing bullet points from the slides will only take you so far. You need a thorough understanding of the concepts and their application in order to do well on the exams. Please read carefully the study tips in the textbook on pages 5-8. The author gives excellent advice, and I encourage you to review it carefully.

Learning Suite

We will use Learning Suite extensively this semester. The lecture content will all be delivered online, and we will use the class periods for learning activities.

HBLL Course Reserve Readings

HBLL Course Reserve Readings

Password is dro421

If the PDF does not display properly in your browser, please right-click to save it as a file to your computer's hard drive.

Assignments

Assignment Description

reading quiz 1 sound waves (ch 2)

Due: Wednesday, Sep 10 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

project 1 - pitch and loudness

Due: Monday, Sep 15 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

reading quiz 2 digital signals (reserve PDF)

Due: Wednesday, Sep 17 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

project 2 - digital recordings

Due: Monday, Sep 22 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

project 3 - acoustic analysis

Due: Monday, Sep 29 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

reading quiz 3 laryngeal measures (ch 5)

Due: Wednesday, Oct 01 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

project 4 - voicing measures

Due: Monday, Oct 06 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

first midterm exam

Due: Wednesday, Oct 08 at 12:59 am

This is a closed-book, multiple-choice exam in the Testing Center.

extra credit 1: human speech acoustics DVD

Due: Monday, Oct 13 at 11:59 pm

For 0.5 extra percentage points on the course grade, you may watch this DVD in the Lee Library's Media Center (on level 4 at the south end). There will be an online quiz for this DVD. I will provide the questions on Learning Suite (Content area) ahead of time so that you will know what to watch for in the DVD.

extra credit 2: human speech source filter DVD

Due: Wednesday, Oct 15 at 11:59 pm

For 0.5 extra percentage points on the course grade, you may watch this DVD in the Lee Library's Media Center (on level 4 at the south end). There will be an online quiz for this DVD. I will provide the questions on Learning Suite (Content area) ahead of time so that you will know what to watch for in the DVD.

project 5 - vowels and diphthongs

Due: Monday, Oct 27 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

reading quiz 4 vowels (ch 6)

Due: Wednesday, Oct 29 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

project 6 - consonant articulation

Due: Monday, Nov 03 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

reading quiz 5 consonants (ch 7)

Due: Wednesday, Nov 05 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

project 7 - suprasegmentals

Due: Monday, Nov 10 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

second midterm exam

Due: Wednesday, Nov 19 at 10:59 pm

reading quiz 6 speech production theories (ch 8)

Due: Wednesday, Dec 03 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

project 8 - speech perception

Due: Monday, Dec 08 at 11:59 pm

Please download the template from the project page, type in your answers, and upload it for grading.

reading quiz 7 speech perception (ch 9)

Due: Wednesday, Dec 10 at 11:59 pm

This is an open book quiz. You may refer to the text and your notes as you answer the questions. The time limit is 90 minutes.

online lecture log

Due: Wednesday, Dec 10 at 11:59 pm

Please report here that you have watched the lectures assigned for the week by Saturday evening at midnight.

Cumulative Final Exam

Due: Friday, Dec 19 at 2:00 pm

Schedule

Date	Online Lecture	Reading	Classroom Activity	Assessments
T Sep 02 Tuesday				extra credit 1: human speech acoustics DVD Opens extra credit 2: human speech source filter DVD Opens reading quiz 1 sound waves (ch 2) Opens reading quiz 2 digital signals (reserve PDF) Opens

				<p>reading quiz 3 laryngeal measures (ch 5) Opens online lecture log Opens reading quiz 4 vowels (ch 6) Opens reading quiz 5 consonants (ch 7) Opens reading quiz 6 speech production theories (ch 8) Opens reading quiz 7 speech perception (ch 9) Opens</p>
W Sep 03 Wednesday	none	Ch 1	intro to speech science	
M Sep 08 Monday	frequency and pitch	Ch 2	project 1: pitch and loudness	
W Sep 10 Wednesday	intensity and loudness 1, 2	Ch 2	content review	reading quiz 1 sound waves (ch 2) Closes
M Sep 15 Monday	digital systems 1, 2	Rosen and Howell chapter - follow the link from the online syllabus to the eReserve at the	project 2: digital recordings	project 1 - pitch and loudness

		library		
W Sep 17 Wednesda y	acoustic analysis 1, 2	Ch 2	content review	reading quiz 2 digital signals (reserve PDF) Closes
M Sep 22 Monday	acoustic analysis 3	Ch 2	project 3: acoustic analysis	project 2 - digital recordings
W Sep 24 Wednesda y	measuring laryngeal function 1, 2	Ch 5	content review	
M Sep 29 Monday	measuring laryngeal function 3, 4	Ch 5	project 4: voicing measures	project 3 - acoustic analysis
W Oct 01 Wednesda y	speech aerodynamics 1, 2	Ch 5	content review	reading quiz 3 laryngeal measures (ch 5) Closes
M Oct 06 Monday	speech aerodynamics 3	Ch 5	exam 1 prep, Q&A	project 4 - voicing measures
W Oct 08 Wednesda y			no class meeting	exam 1 opens in the testing center and ends Saturday the 11th
M Oct 13 Monday	fundamental frequency 1, 2	Ch 5	review exam 1 answers	extra credit 1: human speech acoustics DVD Closes
W Oct 15 Wednesda y	fundamental frequency 3	Ch 5	no class meeting	extra credit 2: human speech source filter DVD Closes
M Oct 20 Monday	source-filter theory 1	Ch 6	project 5: vowels and diphthongs	
W Oct 22 Wednesda	source-filter theory 2	Ch 6	content review	

y				
M Oct 27 Monday	vowels and diphthongs 1	Ch 6	project 6: consonant articulation	project 5 - vowels and diphthongs
W Oct 29 Wednesda y	vowels and diphthongs 2	Ch 6	content review	reading quiz 4 vowels (ch 6) Closes
M Nov 03 Monday	consonants 1, 2	Ch 7	project 7 suprasegmental s	project 6 - consonant articulation
W Nov 05 Wednesda y	consonants 3, 4	Ch 7	content review	reading quiz 5 consonants (ch 7) Closes
M Nov 10 Monday	suprasegmental s velopharyngeal function		no class meeting	project 7 - suprasegmental s
W Nov 12 Wednesda y	speech movements 1	Ch 7	content review	
M Nov 17 Monday	speech movements 2		exam 2 prep, Q&A	
W Nov 19 Wednesda y			no class meeting	exam 2 opens in the testing center and ends Saturday the 22nd
M Nov 24 Monday	speech movements 3	Ch 7	review exam 2 answers	
T Nov 25 Tuesday	Friday Instruction			
W Nov 26 Wednesda y	No Classes		Happy Thanksgiving!	
M Dec 01 Monday	speech production theories 1, 2	Ch 8	project 8: speech perception	

W Dec 03 Wednesda y	speech perception 1, 2	Ch 9	content review	reading quiz 6 speech production theories (ch 8) Closes
M Dec 08 Monday	speech perception 3, 4	Ch 9	semester wrap- up: in-class lecture and discussion	project 8 - speech perception
W Dec 10 Wednesda y			in class review for final	online lecture log Closes reading quiz 7 speech perception (ch 9) Closes
F Dec 19 Friday	Final Exam 11:00 to 2:00 in 166 MCKB.			

University Policies

Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Sexual Harassment

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education and pertains to admissions, academic and athletic programs, and university-sponsored activities. Title IX also prohibits sexual harassment of students by university employees, other students, and visitors to campus. If you encounter sexual harassment or gender-based discrimination, please talk to your

professor or contact one of the following: the Title IX Coordinator at 801-422-2130; the Honor Code Office at 801-422-2847; the Equal Employment Office at 801-422-5895; or Ethics Point at <http://www.ethicspoint.com>, or 1-888-238-1062 (24-hours).

Student Disability

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

Academic Honesty

The first injunction of the Honor Code is the call to "be honest." Students come to the university not only to improve their minds, gain knowledge, and develop skills that will assist them in their life's work, but also to build character. "President David O. McKay taught that character is the highest aim of education" (The Aims of a BYU Education, p.6). It is the purpose of the BYU Academic Honesty Policy to assist in fulfilling that aim. BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including but not limited to plagiarism, fabrication or falsification, cheating, and other academic misconduct.

Plagiarism

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor. Inadvertent plagiarism, which may not be a violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community. Plagiarism of any kind is completely contrary to the established practices of higher education where all members of the university are expected to acknowledge the original intellectual work of others that is included in their own work. In some cases, plagiarism may also involve violations of copyright law. Intentional Plagiarism-Intentional plagiarism is the deliberate act of representing the words, ideas, or

data of another as one's own without providing proper attribution to the author through quotation, reference, or footnote. Inadvertent Plagiarism-Inadvertent plagiarism involves the inappropriate, but non-deliberate, use of another's words, ideas, or data without proper attribution. Inadvertent plagiarism usually results from an ignorant failure to follow established rules for documenting sources or from simply not being sufficiently careful in research and writing. Although not a violation of the Honor Code, inadvertent plagiarism is a form of academic misconduct for which an instructor can impose appropriate academic sanctions. Students who are in doubt as to whether they are providing proper attribution have the responsibility to consult with their instructor and obtain guidance. Examples of plagiarism include: Direct Plagiarism-The verbatim copying of an original source without acknowledging the source. Paraphrased Plagiarism-The paraphrasing, without acknowledgement, of ideas from another that the reader might mistake for the author's own. Plagiarism Mosaic-The borrowing of words, ideas, or data from an original source and blending this original material with one's own without acknowledging the source. Insufficient Acknowledgement-The partial or incomplete attribution of words, ideas, or data from an original source. Plagiarism may occur with respect to unpublished as well as published material. Copying another student's work and submitting it as one's own individual work without proper attribution is a serious form of plagiarism.

Inappropriate Use Of Course Materials

All course materials (e.g., outlines, handouts, syllabi, exams, quizzes, PowerPoint presentations, lectures, audio and video recordings, etc.) are proprietary. Students are prohibited from posting or selling any such course materials without the express written permission of the professor teaching this course. To do so is a violation of the Brigham Young University Honor Code.

Respectful Environment

"Sadly, from time to time, we do hear reports of those who are at best insensitive and at worst insulting in their comments to and about others... We hear derogatory and sometimes even defamatory comments about those with different political, athletic, or ethnic views or experiences. Such behavior is completely out of place at BYU, and I enlist the aid of all to monitor carefully and, if necessary, correct any such that might occur here, however inadvertent or unintentional. "I worry particularly about demeaning comments made about the career or major choices of women or men either directly or about members of the BYU community generally. We must remember that personal agency is a fundamental principle and that none of us has the right or option to criticize the lawful choices of another." President Cecil O. Samuelson, Annual University Conference, August 24, 2010 "Occasionally, we ... hear reports that our female faculty feel disrespected, especially by students, for choosing to work at BYU, even though each one has been approved by the BYU Board of Trustees.

Brothers and sisters, these things ought not to be. Not here. Not at a university that shares a constitution with the School of the Prophets." Vice President John S. Tanner, Annual University Conference, August 24, 2010