

COMD 5070 Speech Science

Instructor: Christopher Dromey, PhD

To learn more about me, go to the [Meet Your Instructor](#) module (there's an audiovisual introduction linked from the last paragraph).

You can email me via the Canvas Inbox link. If you want me to see your message, please use this way to get hold of me. If you post a comment in the sidebar of a quiz or project submission, I am unlikely to see it because Canvas does not send these messages to me. Please use email to ask questions you would like me to respond to directly. I don't check Canvas emails on Sundays, but other than that I will get back to you promptly.

Teaching Assistants

Kayla Oaks - contact via the Canvas Inbox link

Cheryl Bly - contact via the Canvas Inbox link

Prerequisites

You must have earned a B- or better in each of the following: COMD 3100 Anatomy and Physiology of Speech; COMD 3400 Acoustics; COMD 3500 Phonetics.

Course Description

The course builds on the knowledge base established in the three prerequisite courses listed above. 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, as well as phonetics. In this class we will bring these themes together by applying acoustic analysis techniques to normal and disordered speech. You will gain some hands-on experience with extracting meaningful measures of speech production from digital recordings using simple software tools. As a communication disorders professional, you will need to know how to use technology in your clinical work. Our 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 the professional literature throughout your career.

Course Goals

By the end of the course, you will be expected to have knowledge and competence in areas reflected in ASHA's CAA standards in the Knowledge and Skills Acquisition (KASA) guidelines:

- Basic principles of speech production, including acoustic and physiological aspects and their measurement (standard III-B)
- 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 (standard III-D)

- The application of principles from the current research literature in measuring speech performance in preparation for participating in evidence-based practice (standard III-F)

COURSE RESOURCES:

Course Technology Requirements

Canvas is the where course content, grades, and communication will reside for this course.

- <http://canvas.usu.edu>
 - Your **username** is your **A#**, and your **password** is your global password (the same one you use for Banner or Aggiemail).
- For [Canvas](#), [Passwords](#), or any other computer-related technical support contact the [IT Service Desk](#).
 - 435 797-4357 (797-HELP)
 - 877 878-8325
 - <http://it.usu.edu>
 - servicedesk@usu.edu
- A Windows or Mac computer. You will be downloading and installing two software programs to complete the projects, and this will not work on an iPad or similar device.
- For this class you will need to make recordings with your computer. Most laptops these days have built-in microphones; if your does not have one, you can purchase a simple microphone for less than \$10 online or at a local store.

Textbook

The text for this class will be Speech and Voice Science by Alison Behrman, second edition, published by Plural Publishing, ISBN-10: 1597564818 | ISBN-13: 978-1597564816.

You may purchase this book at the [USU bookstore](#) or online. Make sure you get the second edition!

Additional Readings

An additional PDF chapter is available to download from Canvas.

Lecture Notes

Next to each lecture link is another that will allow you to download a PDF created from the lecture slides. I strongly recommend that you print out these files and take detailed notes on them as you watch the lectures.

COURSE ACTIVITIES:

Readings & Quizzes

There will be assigned readings for many of the topics. You will be accountable for reading these materials and assessed for comprehension through time-limited, open-book quizzes. There are 7 open-book tests based on the assigned readings. I strongly suggest that you carefully read the material, making notes as you go. Then open the time-limited (60 minute) quiz and answer the

questions, referring back to your notes and the text as needed. Each quiz has 10 multiple choice questions.

You can get to these quizzes via the links on the pages of the weeks they are due. Don't miss the deadlines for these! Notice that they are due on **Saturday evening at 11:59 pm mountain time**. Other courses may have deadlines on different days of the week. You are responsible for abiding by the deadlines for this course. You may not take a quiz late for a reduced grade.

Lectures

The audiovisual lectures are accessible from the links in each weekly module. If you see the slides but do not hear anything, please check your system, because you should hear me speaking in each lecture. If you want to speed up or slow down the lectures, please use the controls below the video to adjust the speed.

Software Project "Labs"

If we were learning together on campus, I'd have you complete a number of hands-on projects to reinforce the lecture material by allowing you to experiment with signal processing on a computer. This course has 8 software projects that are accompanied by detailed how-to videos. I suggest that you have the demo video open in a browser window and pause each time you need to complete a step. Have the project software open on the screen next to your browser so that you can go step by step through the process shown in the video. You will be generating sounds and commenting on their perceptual qualities, analyzing recordings to extract numeric data, and simulating speech perception experiments. The goal of these projects is to apply the principles covered in the lectures that might otherwise remain rather abstract.

If the score you receive for your project is not as high as you had hoped, you may resubmit a corrected version of the project within one week of receiving your score and feedback from the teaching assistant who graded it. You may do this for more than one project during the semester, but only one resubmission is allowed for any project.

Discussions

There are several discussion topics set up for you to participate in. These will allow you to introduce yourself to your classmates, ask and answer questions about each unit of the course content or the computer projects, or just post things that others might find interesting.

Proctored Exams

There are three multiple choice proctored exams for you to take this semester. We are excited to announce that you will no longer have to pay for proctored exams, proctoring agencies, or the cost and time associated with traveling to proctoring locations. Utah State University has established an agreement with Proctorio, an online proctoring agency that allows students to take proctored exams on computers and at locations of their choice, free of charge. You will have the one-time cost of purchasing a computer microphone and webcam if you do not already have them. You can use them for your proctored exams in each of your future online classes. Your Canvas course homepage has specific information for setting up Proctorio on your computer.

To get started you will need:

- Chrome Browser <https://www.google.com/chrome/browser/>
- Chrome Proctorio Extension <http://getproctorio.com/>

- Web Camera
- Microphone

Once the Proctorio Extension is installed, select your exam or quiz to begin testing.

If you need help with Proctorio contact support@proctorio.com or select the “shield” icon in the upper right corner of the browser window to chat with a technician.

These are closed-book tests and make up the largest part of your grade, so please prepare thoroughly by following the advice in the next section.

Study Tips and Other Suggestions

- **Speech science is hard for some students.** Do not be surprised if you need to study a lot harder for this course than for some others you have previously taken. I want you to succeed in this class and I'm here to help, as are the TAs. Don't be shy about asking for clarification if some of the concepts are difficult for you.
- In many courses, you may be able to memorize items from PowerPoint slides using flash cards, so that you will recognize the important words on an exam. This will not work well for speech science. You need to really **understand and apply the concepts** to do well on the exams. A good way for you to check that you really understand is to try explaining what you have learned to someone outside of this class. If you can confidently explain the concepts covered in the lectures, you will probably do very well on the exams. But if you find yourself struggling to get your mind around a particular idea, please take the time to go over the lecture again as many times as needed, and really think it through carefully. Albert Einstein said “You do not really understand something unless you can explain it to your grandmother.” Please bear this in mind with regard to speech science. Remember, I am here to help. You can email me or the teaching assistants at any time to get additional clarification of the material. The proctored unit exams will be **multiple choice** tests, based entirely on the audiovisual lecture materials and content from the software projects, with no questions drawn solely from the text or other readings. So you don't need to memorize the text and assigned readings but instead you need to re-watch the lectures and go over the lab assignments carefully. These unit exams are all **closed-book, no-notes** tests, so everything you need for the exam must be in your head.
- Extra Credit Assignment - you do not need to complete this project, but if you want to raise your grade slightly (about 2%), you can complete this project to read and answer questions about a research article that I published a few years ago.
- Extra Credit for Course Evaluations: At the end of the semester you will have an opportunity to give us feedback regarding this course. Your comments will be very helpful and we will go through them carefully. As a small incentive, in this COMD 5070 class you will receive 0.5% added to your final semester grade for completing a course evaluation at the end of the semester, IF at least 80% of the class completes the course evaluation. Otherwise, no extra points will be given. You will receive additional information via email from the university as end of the semester approaches.

COURSE GRADING:

Component Points

- Reading Quizzes 700 points

- Software Projects 800 points
- Proctored Exams 3200 points
- Extra Credit +100 points possible

TOTAL POINTS 4700 (plus extra credit)

Final grades are calculated using a percentage scale out of 100%. We will use standard rounding procedures: below .5 rounds down, above .5 rounds up.

GRADE PERCENTAGE RANGE POINTS

- **A** 100% - 93%
- **A-** < 93% - 90%
- **B+** < 90% - 87%
- **B** < 87% - 83%
- **B-** < 83% - 80%
- **C+** < 80% - 77%
- **C** < 77% - 73%
- **C-** < 73% - 70%
- **D** < 70% - 60%
- **F** < 60 %

COURSE POLICIES:

Deadlines

Deadlines for quiz, assignment, and exam submission will be located in your weekly course content page and under the *Syllabus* link on the left of the home page. Make sure to check your calendar weekly so you don't miss a deadline. I have set all deadlines to **11:59pm on the Saturday** of the week content is covered. Please allow yourself plenty of time to deal with any computer problems or unforeseen difficulties – running up against a deadline puts you at risk, so don't wait until the last minute! Remember that the deadlines are Mountain Time. Midnight in Utah is 2 am on the east coast but 11 pm on the west coast.

Since this is not a course that is tied to actual live class lectures spread over a semester, you have ultimate flexibility in completing the work on your own schedule. If you have a planned trip, a scheduled surgery, anticipate the birth of a child, etc. you are able to complete work as soon as you like, well ahead of the deadlines provided. ***All course requirements may be completed ahead of deadlines – but no deadlines will be extended.*** I have enabled all assignments, quizzes, and exams to open from the first day of class. I will not change deadlines for any one student – it would not be fair to the rest of the class. Please plan accordingly. Do not email me to explain how you wrote down the deadlines incorrectly in your calendar, had a busy week and forgot, etc. **You may not take quizzes late, even for partial credit.** Software projects submitted late will be assessed a penalty of 10% per day beyond the deadline (including weekends).

If there are conflicts that make it impossible to complete the assignment by the due date, please email the instructor your own short description, the date of the conflict, and a signed letter from the professional who will be directing your conflicting activity, such as physician, religious leader, etc. The instructor will accommodate your request, if it is reasonable. Please limit such requests and **plan ahead** to have them pre-approved. Otherwise, they will not be supported. As you look ahead and foresee multiple conflicts between your life schedule and this class schedule in the

upcoming semester, you will do much better in this class if you adjust your schedule and take the class another semester.

Prerequisite Policy

Students will be expected to have learned the information from the prerequisite courses prior to enrolling in subsequent courses. Completing the prerequisite courses assures that students will have a strong foundation upon which to build. Students will not be able to continue in a class if it becomes obvious to the professor that the prerequisite information needed for the class is missing. In such an event, the student will be told to drop the course and no additional grading for that student will take place during the semester. If, at the end of the semester, the student has not dropped he/she will receive an "F" grade for the course.

COMD GPA Policy

Even though all students majoring in communicative disorders at Utah State are required to maintain a cumulative GPA of 3.0 or higher, students must be aware that many universities require a much higher GPA for admission into their graduate programs. Because a competitive GPA is so important, the Communicative Disorders & Deaf Education (COMDDE) department strictly enforces the 3.0 minimum GPA requirement. If a student's GPA drops below 3.0 the COMDDE department reserves the right to remove the student from any and all COMD coursework the following semester **without warning**. These classes may be dropped even if the semester has begun and the courses are in progress. The COMDDE department will **not** be responsible for the cost of textbooks purchased for dropped courses nor will the department be held responsible for any financial aid repayments resulting from dropped courses. Students are encouraged to delay securing financial aid or purchasing textbooks if they are at risk of failing to maintain a 3.0 GPA or higher. Students who are at risk of earning an unacceptable GPA must contact their academic advisor prior to registering for courses, purchasing textbooks, or accepting financial aid. Non degree-seeking students are exempt from this policy.

Graduation:

All students who desire a degree must have a graduation application filled out and submitted to the graduation office at USU during the first part of the semester PRIOR to the semester of graduation. Students can fill out an online application for graduation at

<http://www.usu.edu/registrar/htm/graduation/apply-online>

Upon receipt of the graduation packet, students should sign and mail it to:

*Dee Child
Utah State University
Dept of COMDDE
1000 Old Main Hill
Logan, UT 84322-1000*

Dee Child will review your application and get the remaining signatures needed and submit it for you. A graduation fee of \$10 is required. Students can pay graduation fees online in their Access account. Please see <http://www.comd.usu.edu/htm/online-programs/graduation-online-programs> for more details.

Communication

All communication will be disseminated from Canvas. I will use Announcements in Canvas to communicate high priority and timely information. You must set your notification preferences in Canvas to receive Announcements and Conversation Messages to ASAP by and email, cell phone for text messages, or other social networking services of your choice.

- [How to set up notification preferences in Canvas](#)
- [How to use the Inbox for Conversations in Canvas](#)

Instructor Feedback/Communication

The teaching assistants will provide assignment feedback through comments and personal conversations through Canvas. I will be reading the Discussion Boards and replying to messages occasionally. You will receive specific feedback on your Assignments in the form of text comments appended to your electronic submissions.

Student Feedback/Communication

I welcome all feedback on the course. My preferred method of communication with individual students is via Canvas Inbox/Conversations. I will respond to email **within one week day** (Monday – Friday). If you experience a legitimate medical emergency that will prevent you from completing required coursework on time, I expect you to communicate with me at the earliest reasonable opportunity. Canvas will track communication between students and teachers providing date and time stamps. Please state the nature of the emergency, and when you expect to turn in the assignment.

Submitting Electronic Files

All electronic files must be submitted in word (.doc, .docx), PDF, or rich text file (.rtf) format, unless otherwise stated. Please name your file in the using the following convention: *Assignmentname_Yourname.doc*.

Files in formats other than doc, docx, rtf and/or without the proper naming convention (or at least a reasonable attempt) will be returned to the student and additional handling charges (lost points) may apply.

Late Work

Late work due to procrastination will not be accepted. Late work due to legitimate, documented medical emergency may be accepted. The due date and time associated with each quiz, exam, and assignment are stated clearly in Canvas. Any software projects turned in late without documentation will be subject to a 10% per day grade reduction.

UNIVERSITY POLICIES & PROCEDURES

Academic Freedom and Professional Responsibilities

Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations

imposed by professional responsibility. [Faculty Code Policy #403](#) further defines academic freedom and professional responsibilities.

Academic Integrity – "The Honor System"

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

[The Honor Pledge](#): To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge:

"I pledge, on my honor, to conduct myself with the foremost level of academic integrity."

A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

Academic Dishonesty

The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined in the University's Student Code. Acts of academic dishonesty include but are not limited to:

- **Cheating:** using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity. Unauthorized assistance includes:
 - Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done "individually;"
 - Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
 - Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
 - Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
 - Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
 - Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.
- **Falsification:** altering or fabricating any information or citation in an academic exercise or activity.
- **Plagiarism:** representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

Sexual Harassment

Sexual harassment is defined by the Affirmative Action/Equal Employment Opportunity Commission as any "unwelcome sexual advances, requests for sexual favors, and other verbal or physical

conduct of a sexual nature." If you feel you are a victim of sexual harassment, you may talk to or file a complaint with the Affirmative Action/Equal Employment Opportunity Office located in Old Main, Room 161, or call the AA/EEO Office at (435) 797-1266.

Withdrawal Policy and "I" Grade Policy

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term 'extenuating' circumstances includes: (1) incapacitating illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family, (3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor.

Students with Disabilities

Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Disability Resource Center (DRC). Please contact the DRC prior to or as early in the semester as possible. Alternate formats for course content are available with advanced notice.

Contacting the Disability Resource Center (DRC):

- On Campus: Room 101 of the University Inn
- Phone: 435-797-2444
- Website: <http://www.usu.edu/drc/>

Disability related resources for current students:

- [DRC Student Handbook](#)
- [Deaf and Hard of Hearing Student Handbook](#)
- [Disability Related Scholarships](#)
- [Campus Resources](#)
- [Documentation Guidelines](#)
- [Online Resources for Students with Disabilities](#)

Diversity Statement

Regardless of intent, careless or ill-informed remarks can be offensive and hurtful to others and detract from the learning climate. If you feel uncomfortable in a classroom due to offensive language or actions by an instructor or student(s) regarding ethnicity, gender, or sexual orientation, contact:

- Student Services: <http://www.usu.edu/student-services/>, 435.797.1712, studentservices@usu.edu, TSC 220
- Student Advocates: <http://www.usu.edu/ususa/legal/>, 435.797.2912, TSC 340,
- Access and Diversity: <http://www.usu.edu/accesscenter/>, 435.797.1728, <mailto:access@usu.edu>; TSC 315
- Multicultural Programs: <http://www.usu.edu/accesscenter/multiculture/>, 435-797-1728, TSC 315

- LGBTQA Programs: <http://www.usu.edu/accesscenter/lgbtqa/>, 435-797-GAYS, TSC 314
- Provost's Office Diversity Resources: <http://www.usu.edu/provost/faculty/diversity/>, (435) 797-8176

You can learn about your student rights by visiting:
The Code of Policies and Procedures for Students at Utah State University: <http://www.usu.edu/student-services/student-code/>

Grievance Process

Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: [Article VII. Grievances](#).

Full details for USU Academic Policies and Procedures can be found at:

- [Student Conduct](#)
- [Student Code](#)
- [Academic Integrity](#)
- [USU Selected Academic Policies and Procedures](#)
- [USU Academic Policies and Procedures](#)
- [Academic Freedom and Professional Responsibility Policy](#)

Emergency Procedures

In the case of a drill or real emergency, classes will be notified to evacuate the building by the sound of the fire/emergency alarm system or by a building representative. In the event of a disaster that may interfere with either notification, evacuate as the situation dictates (i.e., in an earthquake when shaking ceases or immediately when a fire is discovered). Turn off computers and take any personal items with you. Elevators should not be used; instead, use the closest stairs.

Course Summary:

Date	Details	
Mon Jan 9, 2017	Week 1	12am
Mon Jan 16, 2017	Week 2	12am
Sat Jan 21, 2017	Project 1 - Pitch, loudness, harmonics	due by 11:59pm
	Quiz 1 Behrman Chapter 2	due by 11:59pm
	Quiz 2 Rosen and Howell PDF Digital Quiz	due by 11:59pm
Mon Jan 23, 2017	Week 3	12am

Date	Details	
Sat Jan 28, 2017	Project 2 - Digital Recordings	due by 11:59pm
Mon Jan 30, 2017	Week 4	12am
Sat Feb 4, 2017	Project 3 - Acoustic Analysis	due by 11:59pm
	Quiz 3 Behrman Chapter 5	due by 11:59pm
Mon Feb 6, 2017	Week 5	12am
Sat Feb 11, 2017	Unit 1 Proctored Exam (Remotely Proctored)	due by 11:59pm
Mon Feb 13, 2017	Week 6	12am
Mon Feb 20, 2017	Week 7	12am
Sat Feb 25, 2017	Project 4 - Voicing Measures	due by 11:59pm
Mon Feb 27, 2017	Week 8	12am
Sat Mar 4, 2017	Project 5 - Vowel Formants	due by 11:59pm
	Quiz 4 Behrman Chapter 6	due by 11:59pm
Mon Mar 6, 2017	USU Spring Break	12am
Mon Mar 13, 2017	Week 9	12am
Sat Mar 18, 2017	Project 6 - Consonants and Coarticulation	due by 11:59pm
	Quiz 5 Behrman Chapter 7	due by 11:59pm
Mon Mar 20, 2017	Week 10	12am

Date	Details	
Sat Mar 25, 2017	Unit 2 Proctored Exam (Remotely Proctored)	due by 11:59pm
Mon Mar 27, 2017	Week 11	12am
Sat Apr 1, 2017	Extra Credit	due by 11:59pm
	Project 7 - Suprasegmentals	due by 11:59pm
Mon Apr 3, 2017	Week 12	12am
Sat Apr 8, 2017	Quiz 6 Behrman Chapter 8	due by 11:59pm
Mon Apr 10, 2017	Week 13	12am
Sat Apr 15, 2017	Quiz 7 Behrman Chapter 9	due by 11:59pm
Mon Apr 17, 2017	Week 14	12am
Sat Apr 22, 2017	Project 8 - Speech Perception	due by 11:59pm
Mon Apr 24, 2017	Week 15	12am
	Course Eval Extra points	due by 11:59pm
Mon May 1, 2017	Finals Week	12am
	Unit 3 and Comprehensive Proctored Exam (Remotely Proctored)	due by 11:59pm
Fri May 5, 2017	Practice Quiz (Remotely Proctored) (Sp17 COMD-5070-NO1)	due by 11:59pm
	Practice Quiz (Remotely Proctored) (Sp17 COMD-5070-EO1)	due by 11:59pm
	Practice Quiz (Remotely Proctored) (Sp17 COMD-5070-LO1)	due by 11:59pm

Date

Details

	Practice Quiz (Remotely Proctored)	due by 11:59pm
	Acknowledgement	
	Check Your Understanding	
	Practice Exam	
