



McGill

LING 210 Intro to Speech Science

Fall 2024 – TR 11:35-12:55 EST, MAASS 217

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Office hours for students	Thursdays 1-2pm or email for appointment
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Course Overview

The course covers key concepts of speech science, including phonetics (acoustics, speech perception and production), fundamentals in the study of speech processing, speech development, and speech disorders, and introduces some basic methodologies of the field.

Prerequisites

We will cover some of the basic phonetics content of LING 201 and LING 330 in the first few weeks.

Learning Outcomes

- Understanding terminology and concepts used in the phonetic description of speech
- Familiarity with concepts and methods used in the quantitative analysis of speech sounds
- Elementary knowledge about speech perception and communication disorders
- Elementary knowledge of how speech varies across speakers, accents, & emotions

Instructional Method

Lectures and in class-activities with the instructor will be held Tuesdays and Thursdays.

Required Course Materials

There is no textbook for this course. Required readings will be posted on myCourses.

You will also need to download and install the free software Praat for doing phonetic analysis:

<http://www.fon.hum.uva.nl/praat/>

Method of Evaluation

Discussion questions online 10%

Biweekly online quizzes 25%

Homework assignments 30%

Final project 35%

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Discussion questions based on the readings (10%):

- Everyone is asked to submit a question or discussion point about the assigned reading prior to the class it is assigned to, or alternatively respond to someone else's question (by the end of the day before the lecture, e.g. for a reading assigned to a lecture on Tuesday, post something before 11:59pm Monday). Questions or answers should be a couple of sentences long and should be thought-provoking (i.e., not only "good point" or "I agree"). See myCourses for grading rubric. Your lowest grade will be dropped (meaning you can miss one post without penalty).

Biweekly online quizzes (25%):

- Approximately every two weeks (see class schedule below), there will be a short quiz covering the material from the previous two weeks. Quizzes will be online on myCourses, in multiple choice format. They will be open book (you may refer to class materials as needed) and are to be completed individually. Each quiz will be accessible for three days. Once you access a quiz you will have up to two hours to complete it (but it should take much less time than this).

Homework assignments (30%)

- There will be two homework assignments (worth 15% each) that will involve applying your knowledge of some of the concepts and tools covered in class (e.g. speech perception and production, Praat software). Assignments will be submitted through myCourses. See [FAQ for myCourses](#). See below for use of generative AI (e.g. ChatPGT) for these assignments

"Ask an Expert" Final project (35%):

- This will be a short final project, which will require you to submit a 500 word 'expert answer' to a question of your choice and present your answer to the class.
- Presentations will be the last two weeks of class. Written submissions are due December 16.
- You can work in groups of up to three people on the project and present together. You must submit your own version of the write up.
- Your grade will be based on your group presentation and your individual final submission (15% presentation/20% final submission). You may choose to have your grade be 20% presentation/15% final submission by letting me know by November 21 by email.
- See details below about allowed uses of generative AI (e.g. ChatGPT) in this assignment.

Course rules and procedures

Generative AI

For your "Ask and Expert" project, you may use generative AI (e.g. ChatGPT or other) for generating topic ideas, summarizing articles or clarifying your understanding. You may not request that the system write the assignment for you. You may request that it check your grammar or shorten without changing meaning or style. It is also your responsibility to fact

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check anything that the AI system tells you. You must include a statement about your use of such tools when you hand in your assignment. You may not use generative AI for your other assignments or quizzes.

Email

Please use email to contact the instructor and TA and include LING 210 in the subject line. We will normally respond only within regular working hours (i.e. not on weekends or in the evening) and we will try to respond within one or two days. Students often find that the discussions on the MyCourses website helpful for getting questions answered by other students, but this may not be monitored by the instructor.

Late or missed assignments or quizzes

No make-up assignments or quizzes will be given to anyone who does not have a medical excuse or family emergency. The instructor and TA must be notified (by e-mail) within 24 hours of a missed assignment or quiz. Whenever possible, let me know before the deadline. Any problem with grading on an assignment/lab/quiz must be reported within one week of when the assignment or quiz was returned

Copyright: Instructor-generated course materials

Instructor-generated course materials (e.g., slides, handouts, conference materials, assignments, quizzes, exam questions, answer keys, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

McGill Policy Statements

Academic integrity

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the code of student conduct and disciplinary procedures (see www.mcgill.ca/students/srr/honest/ for more information).

L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site www.mcgill.ca/students/srr/honest/).

Right to submit in French

In accord with McGill University's Charter of Students Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue).

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Tentative Course Schedule (subject to change):

Date	Lecture topic	Reading	Assignments
Introduction and Praat tutorial			
Aug 29	Speech Science and Cognitive Science		
Sep 3	Basic acoustics and Praat Tutorial	Reading 1	<i>*BRING LAPTOP WITH PRAAT TO CLASS*</i>
Sep 5	Sources, filters and Praat Tutorial		<i>*BRING LAPTOP WITH PRAAT TO CLASS*</i>
The production of speech			
Sep 10	Articulating consonants, transcription		
Sep 12	Voicing and VOT		Quiz 1 (opens Sep 13, closes Sep 16)
Sep 17	Articulating vowels		
Sep 19	TBD	Reading 2	
Hearing and the perception of sounds			
Sep 24	Hearing		Homework 1 released
Sep 26	Acoustics vs. perception		Quiz 2 (opens Sep 27, closes Sep 30)
Oct 1	Contrast and categorical perception		
Oct 3	Shifting boundaries	Reading 3	
Oct 8	TBD		
Oct 10	Final project brainstorming		Homework 1 due
Fall break			
Oct 22	Final project group work		
Finding words: speech segmentation and lexical access			
Oct 24	Speech Segmentation		Quiz 3 (opens Oct 25, closes Oct 28)
Oct 29	Lexical Access	Reading 4	
Oct 31	Lexical Access		Homework 2 released
Neuro and reading			
Nov 5	Aphasia	Reading 5	Homework 2 Part 1 due
Nov 7	Reading and dyslexia		Quiz 4 (opens Nov 8, closes Nov 11)
Nov 12	TBD		
Emotion and prosody in speech			

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Date	Lecture topic	Reading	Assignments
Nov 14	Speech prosody	Reading 6	
Nov 19	Emotion and prosody		Homework 2 Part 2 due
Nov 21	TBD & final project prep		Quiz 5 (opens Nov 22, closes Nov 25)
Final project presentations			
Nov 26	In-class presentations		
Nov 28	In-class presentations		
Dec 3	In-class presentations		
Dec 16	<i>None (classes finished)</i>		Final project writeup due

	READINGS for discussion posts	due 11:59
1	Smith, Neil (2001) How to be the centre of the Universe. In <i>Language, bananas and bonobos</i> . Blackwell Publishers. OR The Ling Space Topic #33: Linguistics as a Science https://www.youtube.com/watch?v=25I2Nja6mek	Sep 2
2	Haye, Bruce (2009) Ch1 in <i>Introductory Phonology</i> , Willey Blackwell.	Sep 18
3	Johnson, Keith (2010) <i>Acoustic and Auditory Phonetics</i> , 3rd Edition 118-134 OR The Ling Space Topic #38: Phonological Illusions https://www.youtube.com/watch?v=Czvgf-Xc-A4	Oct 2
4	Fernández, Eva M., & Cairns, Hellen. S. (2010). <i>Fundamentals of psycholinguistics</i> . John Wiley & Sons. 188-197 OR The Ling Space Topic #45: Priming https://www.youtube.com/watch?v=NGrxUp0pvVo	Oct 28
5	Hudson, Roxanne F., High, Leslie, & Otaiba, Stephanie A. (2007). Dyslexia and the brain: What does current research tell us?. <i>The Reading Teacher</i> , 60(6), 506-515. OR Edwards, Susan., & Salis, Cristos (2016). Aphasia from a Neurolinguistic Perspective. In <i>Oxford Research Encyclopedia of Linguistics</i> . PAGES 1-5	Nov 4
6	Ferreira, Fernanda (2000). Prosody in <i>Encyclopedia of Cognitive Science</i> , McMillan	Nov 13