

# Course syllabus

## Laboratory Phonology

LING 331, Spring 2014, Reed College

**Instructor:** Sameer ud Dowla Khan  
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**Phone:** ext. 4018 (off-campus: 503-517-4018)  
**Time & place:** Mon/Wed 3:10–4:30PM, in ETC 211, articulatory labs held in Eliot 408  
**Office hours:** Mon 12:00–1:30PM, Fri 11:00–12:30, and by appointment, in Eliot 101C

### Introduction

This course examines the phonetics–phonology interface, i.e. the connection between phonetic detail in articulation and perception and phonological units and patterns in the grammar. We will cover the areas where phonetics helps shape phonology, to answer questions about how the sound systems of the world's languages are arranged. For example, why are vowel inventories dispersed the way they are? Why do certain contrasts tend to neutralize in certain positions? What determines how far a phonetic feature can spread across a word? Why and how are tone and voice quality interrelated? Can fine phonetic details of articulation reveal aspects of prosodic structure and other phonological theories? In this course, we will gain and practice a fair amount of skills in laboratory phonetic work, while testing aspects of current phonological theory.

### Requirements and grading breakdown

- Prerequisites:** Introduction to Linguistic Analysis (LING 211)  
Phonetics (LING 320) or Phonology (LING 321) or Advanced Phonology (LING 312)
- Textbooks:** Hayes, Kirchner, & Steriade (2008). *Phonetically based phonology*. (**req., on reserve**)  
Ladefoged (2003). *Phonetic data analysis*. (**req., on reserve**)  
Johnson (2012). *Acoustic and Auditory Phonetics*. (**supplementary**)
- Labs (70%):** Once a week, we will focus on lab skills, acoustic and articulatory. Lab assignments, which will test these practical skills to better answer a theoretical question, will often require working with classmates or other ad hoc language subjects. Your lowest lab score will be dropped.
- Presentations (15%):** Each student will participate in articulatory demos, and also present a hypothetical experiment to the class, in collaboration with his/her classmates, showcasing the skills learned for that particular methodology applied to a phonological question.
- Project (15%):** Each student will conduct laboratory research on a phonological topic of his/her choice. The project may be an extension of one of the lab assignments, or it may be a separate laboratory phonological topic. Students will turn in a final paper and present their findings in a short conference-style talk during finals week.

### Policies

Please note that I generally **do not accept late work**. I am willing to offer partial credit to students who have shown sincere effort and have an extenuating excuse, although this will be the exception rather than the rule.

I have **zero tolerance for plagiarism**. Each student must abide by the Reed Honor Principle. While students are very much encouraged to work with one another, each student's submitted work must be his/her own.

If you have a documented disability and will need accommodations for this class, it is **your responsibility to contact** Disability Support Services at (503) 517-7921 or [disability-services@reed.edu](mailto:disability-services@reed.edu) as soon as possible.

## Class schedule

**L:** lab assignment due, **R:** reading due, **P:** project update due

**Authors:** A08 = Anderson 2008; BAVR01 = Basset, Amelot, Vaissière, & Roubeau 2001; BK06 = Baković & Kilpatrick 2006; C93 = Cohn 1993; CG10 = Carlson & Granström 2010; D12 = DiCanio 2012; HKS04 = Hayes, Kirchner, & Steriade 2004 (chapter authors in parentheses: BG = Blevins & Garrett; C = Crosswhite; F = Flemming; G02 = Gick 2002; J = Jun; Wr = Wright); J12 = Johnson 2012; KCFH03 = Keating, Cho, Fougeron, & Hsu 2003; K07 = Khatiwada 2007; KSKM12 = Kochetov, Sreedevi, Kasim, & Manjula 2012; KSKM13 = Kochetov, Sreedevi, Kasim, & Manjula 2013; Kv14 = Kharlamov 2014; Ku14 = Kuang 2014; L03 = Ladefoged 2003; S01 = Steriade 2001; T98 = Thisted 1998; W06 = Wilson 2006

Week	Day	Date	Lecture/lab topics	Due before class
1	Mon	27 Jan	Introduction, basic speech acoustics	<b>R:</b> J12 §1-§2
	Wed	29 Jan	<b>Lab:</b> Recording, measuring, data analysis	<b>R:</b> L03 §1, §6.1, T98
2	Mon	3 Feb	Vowelspaces, dispersion theory	<b>R:</b> HKS04 §7 (C), §8 (F)
	Wed	5 Feb	<b>Lab:</b> Vowel acoustics, formant plots	<b>R:</b> L03 §5 <b>L:</b> VOT, t-tests (Fri)
3	Mon	10 Feb	Approximant acoustics, perturbation theory, metathesis, vowel harmony	<b>R:</b> HKS04 §5 (BG)
	Wed	12 Feb	<b>Lab:</b> Approximant acoustics	<b>R:</b> L03 §6.2 <b>L:</b> Vowel acoustics, plots (Fri)
4	Mon	17 Feb	Obstruent acoustics, palatalization, phonetic naturalness	<b>R:</b> W06
	Wed	19 Feb	<b>Lab:</b> Burst acoustics	<b>R:</b> L03 §6.3-6.6 <b>L:</b> Approximant acoustics (Fri)
5	Mon	24 Feb	Nasal place assimilation	<b>R:</b> HKS04 §3 (J)
	Wed	26 Feb	<b>Lab:</b> Nasal acoustics, acoustic editing	<b>R:</b> J12 §9 <b>L:</b> Obstruent acoustics (Fri)
6	Mon	3 Mar	Prosodic licensing	<b>R:</b> HKS04 §2 (Wr)
	Wed	5 Mar	Retroflexes, p-map <b>Lab:</b> Forced-choice experiment	<b>R:</b> S01
7	Mon	10 Mar	Phonologization	
	Wed	12 Mar	Speech synthesis <b>Lab:</b> Pitch and duration manipulation	<b>R:</b> CG10 <b>L:</b> Nasal place experiment (Fri)
Break	Mon	17 Mar	<b>NO CLASS:</b> Spring Break	
	Wed	19 Mar		
8	Mon	24 Mar	<b>Lab:</b> Static palatography	<b>R:</b> L03 §2, A08
	Wed	26 Mar	Coronal minor places	<b>R:</b> K07, BK06
9	Mon	31 Mar	<b>Presentation:</b> Static palatography	<b>L:</b> Static palatography
	Wed	2 Apr	<b>Lab:</b> Airflow masks	<b>R:</b> L03 §3.1-3.4
10	Mon	7 Apr	Nasalization, prenasalization	<b>R:</b> C93, Kv14, BAVR01
	Wed	9 Apr	<b>Presentation:</b> Airflow masks	<b>L:</b> Airflow masks
11	Mon	14 Apr	<b>Lab:</b> Electroglottography (EGG)	<b>R:</b> L03 §3.4-3.7, §7
	Wed	16 Apr	Voice quality	<b>R:</b> D12, Ku14
12	Mon	21 Apr	<b>Presentation:</b> Electroglottography (EGG)	<b>L:</b> Electroglottography
	Wed	23 Apr	Electropalatography (EPG), prosodic hierarchy	<b>R:</b> L03 §2.4, KCFH03
13	Mon	28 Apr	Electromagnetic articulography (EMA), noncanonical labial articulations	<b>R:</b> M93
	Wed	30 Apr	Ultrasound, retroflexion reprised	<b>R:</b> G02, KSKM12, KSKM13
Exam	Tue	13 May	<b>Final presentations</b>	
	Wed	14 May	<b>Final papers due</b>	