

**Phonetics for Linguists**  
**Linguistics 414**  
**Fall 2007**

I. Syllabus. Linguistics 414: Phonetics for linguists

Lec 1: MWF 1:25-2:15 PM, Machmer W-26

Lab 1: TBA

|              |   |
|--------------|---|
| Instructor   | John Kingston   |
| Office       | South College 319   |
| Lab          | Bartlett 6  |
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|                     |                         |
|---------------------|-------------------------|
| Teaching assistant: | Michael Key             |
| Office              | South College 305       |
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A. Description

This course is about how speakers produce or *articulate* speech sounds and about the acoustic results of these articulations. We will study the full variety of articulations and acoustics found in the speech sounds of the world's languages. Our focus throughout will be on how sounds *contrast* with one another; that is, on the differences that can distinguish one message from another. This focus explores the relationship between phonetics and phonology. Finally, we will study the basic theory underlying the acoustics of speech sounds and their perception by listeners.

B. Your responsibilities

1. Exercises (3 or 6% each, total 33%)

Most weeks, you will take part in an exercise exploring some aspect of speech sounds. Exercises will be passed out on Mondays. Those worth 3% will be due the following Monday; those worth 6% the Monday after that.

2. Transcription (7%)

More or less each Friday, a native speaker of a language other than English will visit the class for part of the session, or we will listen to recordings of such a speaker. The purpose of these sessions is to teach you how to transcribe novel sounds accurately and reliably. At the end of each transcription session, you will turn in your transcriptions of 5-10 words identified during the session, so that we can see how you are progressing in learning to transcribe. We will check over these transcriptions but not grade you on them. Your grade on this activity will instead be determined by your participation during the sessions to working out how best to transcribe the sounds.

### 3. Exams (15% each, total 30%)

Twice during the course, you will write a take-home exam. You will have a week to write each one. There will be no final exam.

### 4. Final project (30%)

You will recruit a native speaker of a language other than English, and by eliciting words from that speaker work out what the phonemes of that language are, and how they vary in their pronunciation with context. If you wish to undertake a different kind of study for your final project, you will need to present a detailed proposal to the instructors and get our permission. All students must meet with one of us no later than the end of September to tell us what you are doing your final project on. By the end of October, you must meet with us again to report your progress. You will turn in a first draft of your final report by the end of November. This draft will be returned with comments within a week. In the last week of class, you will give a 10 minute presentation in class of the highlights of your project's results. The presentation will contribute 5% of the project grade, the paper itself the remaining 25%.

### C. Policy on late work and incompletes

We expect work, on both the experiments and the examinations, to be done on time. None of the exercises should take very much time, so there is little reason not to finish them on time. Of course, if some other unforeseeable problem arises, we'll grant appropriate extensions. Otherwise, one-third the credit will be deducted for each business day that a experiment or exam is late; after three business days have passed, a grade of 0 will be assigned for that piece of work.

### D. Reading

Reading for this course consists of Ladefoged & Maddieson's *Sounds of the World's Languages* (1996), as well as occasional handouts. See the day-by-day schedule below for when particular sections should be read. Aside from this text, all materials for the course will be available on the web, at:

[http://www.people.umass.edu/jkingstn/web\\_page/teaching/ling\\_414/website/414\\_index.html](http://www.people.umass.edu/jkingstn/web_page/teaching/ling_414/website/414_index.html)

where you will find appropriate links to all the material.

### E. Software and hardware

A tool that we will use frequently in class and in carrying out most of the exercises is software package called PRAAT. This software is free and runs on Windows machines, Macs, Linux, and Unix, so there should be no difficulty for any of you in using it. You download PRAAT from [www.praat.org](http://www.praat.org), by clicking on the button corresponding to your operating system and then following the instructions on the resulting screen for downloading and installing the software. PRAAT is primarily a tool for acoustic analysis of sound, but acoustic measurements can, with care, be used to infer a great deal about articulations.

PRRAT can also be used to run simple perceptual experiments, and we will use it for this purpose in carrying out the last exercise. At least two exercises require equipment that can only be found in the Phonetics Laboratory in Bartlett 6, so we provide here some practical guidelines for using the lab (these exercises will be carried out in small groups of 3-5).

1. There are separate signup sheets for:
  - a. The recording booth and equipment in Bartlett 8,
  - b. The aerodynamic equipment in Bartlett 6,
  - c. The camera and palatography supplies in Bartlett 6.

Make sure to sign up for the specific space or machine you want to use. If you don't sign up, don't expect to be able to use the machine.

2. There are MANY people using the lab, so:
  - a. If you sign up for an interval of time, make sure you come in and use that time, so it isn't wasted. Alternatively, make sure to unsignup ASAP.
  - b. Don't sign up for more time than you really plan to use, and in any case don't sign up for more than 2 hours during prime time in any day, nor more than 3 such 2-hour prime-time slots in any week. Prime time is defined as 9-5 MF. Expect that sometimes you'll have to work in the evening or even at night.
  - c. AS SOON AS YOU ARE DONE USING THE LAB, RETURN THE KEYS TO THE DEPARTMENT OFFICE, OR GIVE THEM DIRECTLY TO THE PEOPLE SIGNED UP AFTER YOU (ONLY DO THIS IF THERE'S NO GAP BETWEEN YOUR TIME AND THEIRS). IT IS **NOT OK** TO WAIT TO RETURN THE KEYS UNTIL AFTER YOUR NEXT CLASS, AFTER LUNCH, OR THE NEXT MORNING. DO IT IMMEDIATELY, AND YOU'LL KEEP THE LOVE AND RESPECT OF YOUR CLASSMATES. **DO NOT FAIL TO RETURN THE KEYS IMMEDIATELY AS SOON AS YOU'RE DONE WITH THEM!**
  - d. Include your phone number in your signup, so that people can get in touch with you.

## II. In class activities

A great deal of time in class will be spent analyzing samples of speech using PRAAT. Accordingly, if you have a laptop, you should bring it with you to class.

## III. Outline of the Course

- A. Place of articulation
- B. Stops
- C. Fricatives
- D. Vowels
- E. Speech acoustics
- F. Nasals
- G. Multiple articulations
- H. Laterals
- I. Rhotics
- J. Clicks
- K. Speech Perception
- L. Presentations

## IV. Academic calendar for Fall 2007. Important dates are in bold face.

|   |                 |                     |
|---|-----------------|---------------------|
| First Day of classes                          | Tuesday         | 4 September         |
| <b>Last day to Add or Drop Undergraduate</b>  | <b>Monday</b>   | <b>17 September</b> |
| Holiday - Columbus Day                        | Monday          | 8 October           |
| Monday class schedule will be followed        | Tuesday         | 9 October           |
| Last day to Drop with "DR" - Graduate         | Monday          | 15 October          |
| <b>Mid-Semester Last day to drop with "W"</b> | <b>Monday</b>   | <b>29 October</b>   |
| Registration begins for Spring 2008           | Wednesday       | 7 November          |
| Holiday - Veterans Day                        | Monday          | 12 November         |
| Monday class schedule will be followed        | Wednesday       | 14 November         |
| Thanksgiving recess begins after last class   | Wednesday       | 21 November         |
| Classes resume                                | Monday          | 26 November         |
| <b>Last day of classes</b>                    | <b>Friday</b>   | <b>14 December</b>  |
| Reading Period begins                         | Saturday        | 15 December         |
| Reading Period ends                           | Sunday          | 16 December         |
| Final examinations begin                      | Monday          | 17 December         |
| <b>Last day of final examinations</b>         | <b>Saturday</b> | <b>22 December</b>  |
| Snow day for Dec. 22 exams, semester ends     | Monday          | 24 December         |
| Holiday – New Year’s Day Observed             | Tuesday         | 1 January           |
| Final grades due 12:00 noon                   | Wednesday       | 2 January           |

## V. Schedule

On the next three pages is the day-by-day schedule for this course (L&M # refer to the chapter in Ladefoged & Maddieson that is to be read for that day). On the right are listed the days when exercises and examinations are passed out and when they are due. Important dates related to the final project are highlighted in bold italics. The final project is due on the last day of final examinations, 21 Dec.

| Week | Date          | Topic  | Readings | Exercises                                   | Exams          |
|------|---------------|--|----------|---|----------------|
| 1    | 5 Sep         | Introduction   |          |   |                |
|      | 7 Sep         | Transcription  |          |   |                |
| 2    | 10 Sep        | Place of articulation  | L&M 2    | Palatography (3%)<br>Due: 17 Sep            |                |
|      | 12 Sep        | Place cont.  |          |   |                |
|      | 14 Sep        | Transcription  |          |   |                |
| 3    | 17 Sep        | Stops  | L&M 3    | Cutting up a damp skunk (3%)<br>Due: 24 Sep |                |
|      | 19 Sep        | Stops cont.  |          |   |                |
|      | 21 Sep        | Transcription  |          |   |                |
| 4    | 24 Sep        | Fricatives   | L&M 5    | Intrusive stops (3%)<br>Due: 1 Oct          |                |
|      | 26 Sep        | Fricatives cont.   |          |   |                |
|      | 28 Sep        | Transcription  |          |   | First exam     |
|      | <b>28 Sep</b> | <b><i>Meetings to discuss topic for final project must be held by this date.</i></b> |          |   |                |
| 5    | 1 Oct         | Vowels 1   | L&M 9    | Measuring formants (6%)<br>Due: 15 Oct      |                |
|      | 3 Oct         | Vowels 1 cont.   |          |   |                |
|      | 5 Oct         | Transcription  |          |   | First exam due |
| 6    | 8 Oct         | Columbus Day. No class.  |          |   |                |
|      | 9 Oct         | Monday schedule: Vowels 2  | Handout  |   |                |
|      | 10 Oct        | Vowels 2 cont.   |          |   |                |
|      | 12 Oct        | Transcription  |          |   |                |

| Week | Date         | Topic  | Reading | Experiments                                 | Exams           |
|------|--------------|--|---------|---|-----------------|
| 7    | 15 Oct       | Speech acoustics   | Handout | Modeling articulations (3%)<br>Due: 22 Oct  |                 |
|      | 17 Oct       | Speech acoustics cont.   |         |   |                 |
|      | 19 Oct       | Transcription  |         |   |                 |
| 8    | 22 Oct       | Nasals   | L&M 4   | Measuring nasal air flow (6%)<br>Due: 5 Nov |                 |
|      | 24 Oct       | Nasal cont.  |         |   |                 |
|      | 26 Oct       | Transcription  |         |   |                 |
| 9    | 29 Oct       | Multiple articulations   | L&M 10  |   |                 |
|      | 31 Oct       | Multiple articulations cont.   |         |   |                 |
|      | 2 Nov        | Transcription  |         |   |                 |
|      | <b>2 Nov</b> | <b><i>Meetings to discuss progress on final project must be held by this date.</i></b> |         |   | Second exam     |
| 0    | 5 Nov        | Laterals   | L&M 6   | Positional variation (3%)<br>Due: 14 Nov    |                 |
|      | 7 Nov        | Laterals cont.   |         |   |                 |
|      | 9 Nov        | Transcription  |         |   | Second exam due |
| 11   | 12 Nov       | Veteran's Day. No class.   |         |   |                 |
|      | 14 Nov       | Monday schedule. Rhotics   | L&M 7   |   |                 |
|      | 16 Nov       | Transcription  |         |   |                 |
| 12   | 19 Nov       | Rhotics cont.  |         |   |                 |
|      | 21 Nov       | ?  |         |   |                 |
|      | 23 Nov       | Thanksgiving. No class.  |         |   |                 |

| Week | Date          | Topic   | Reading | Experiments                               | Exams             |
|------|---------------|---|---------|---|-------------------|
| 13   | 26 Nov        | Clicks  | L&M 8   |   |                   |
|      | 28 Nov        | Clicks cont.                                    |         |   |                   |
|      | 30 Nov        | Transcription                                   |         |   |                   |
|      | <b>30 Nov</b> | <b><i>First draft of final project due.</i></b> |         |   |                   |
| 14   | 3 Dec         | Speech perception                               | Handout | Perception of voicing (6%)<br>Due: 14 Dec |                   |
|      | 5 Dec         | Speech perception cont.                         |         |   |                   |
|      | 7 Dec         | Transcription                                   |         |   |                   |
| 15   | 10 Dec        | Presentations                                   |         |   |                   |
|      | 12 Dec        | Presentations cont.                             |         |   |                   |
|      | 14 Dec        | Presentations cont.                             |         |   |                   |
|      | 21 Dec        |   |         |   | Final project due |