# San José State University
## Linguistics and Language Development
## LING 123, Sound and Communication, Sec. 02, Fall, 2018

**Course and Contact Information**

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|---|---|
| **Instructor:** | Hahn Koo |
| **Office Location:** | Clark Hall 485 |
| **Telephone:** | (408) 924-7093 |
| **Email:** | hahn.koo@sjsu.edu |
| **Office Hours:** | MTWR 1330 – 1400 |
| **Class Days/Time:** | MW 1030 – 1145 |
| **Classroom:** | Clark Hall 242 |
| **Prerequisites:** | Satisfaction of Writing Skills Test (WST), completion of core GE, and completion of or co-registration in 100W |
| **GE/SJSU Studies Category:** | Area R: Earth and Environment (Note that courses to meet Area R, S, and V of SJSU studies must be taken from three different departments or distinct academic units) |

**Course Format**

**Faculty Web Page and MYSJSU Messaging**

Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found at http://linguistics.sjsu.edu/~hkoo/teaching/ling123/index.html . You are responsible for regularly checking the class website for announcements.

**Course Description**

Basic acoustics and nature of sound as applied to the study of vocal communication by humans and animals. Voice communication as transmission of a speech code via sound.

**Course Goals**

In this class, we will explore questions like the following:

- What is communication? What is language?
- What are the physical properties of communicative sounds? How can these properties be quantified and measured?
- How do humans and other animals produce their vocalizations? What organs of the body are involved in vocalization, and what do they do?
- How does human language differ from animal 'language'? Is human language a learned skill (like chess), or an instinct (like laughing), or something in between?

LING 123 is a strongly multidisciplinary course. Our lectures and readings will jump eclectically among multiple scientific fields, most notably the following three:

1. Acoustics, the science of sound;
2. Linguistics, the science of human language; and
3. Ethology, the science of animal behavior, encompassing both proximate and evolutionary explanations

Within these fields we will encounter many different (and sometimes conflicting) scientific perspectives on communication. In order to appreciate this theoretical diversity you will need to be able to think critically and skeptically.

**GE Learning Outcomes (GELO)**

Upon successful completion of this course, students will be able to:

1. A student should be able to demonstrate an understanding of the methods and limits of scientific investigation.
2. A student should be able to distinguish science from pseudo-science.
3. A student should be able to apply a scientific approach to answer questions about the earth and environment.

**Course Learning Outcomes (CLO)**

Upon successful completion of this course, students will be able to:

1. Understand sound as a physical phenomenon, and be able to solve simple problems in acoustics, such as calculating a sound's wavelength, frequency spectrum, and distance from source.
2. Analyze recorded human speech and other acoustic data on a computer, and to draw conclusions from that data.
3. Understand the biological mechanisms that allow humans and certain other animals to produce and process vocalized signals.
4. Understand how to analyze animal communication systems in terms of the four explanatory principles of ethology: adaptation, mechanism, ontogeny, and phylogeny.
5. List the essential design features of human language, and to explain how our language differs from the communication systems of other animal species.

**Required Texts/Readings**

There is no required textbook for the course. Relevant materials will be handed out in class or posted on the class website.

**Course Requirements and Assignments**

Your final grade will be based on your performance on the assignments below. But before I describe them in detail note that "Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus."

(i) Computer lab assignment2 (10 points × 2 = 20 points)

There will be two computer laboratory sessions in which we will use a program called *Praat* to analyze sounds of various sorts including animal calls and human speech. This assignments pertain to learning objectives CLO1, CLO2, CLO3, GELO1, and GELO3.

(ii) Exams (20 points × 2 = 40 points)

There will be two in-class exams. The exams will be closed-book and closed-note. The first exam will be on animal communication and the second exam will be on human languages. This assignment pertains to learning objectives CLO1~5 and GELO1~3.

(iii) Presentation (20 points)

During the last six sessions or so, you will give a 10-15 minute in-class presentation on topics such as (1) difference between a language you know and English in terms of sound patterns, word structure or phrase structure (2) communicative systems of non-human animals that we have not already covered in class. You are welcome to explore and discuss any other topics that you find interesting and relevant to the course, but talk to me in advance to ensure that your topic is indeed relevant.

You are also expected to participate in evaluating your classmates' presentations. For each presentation, you will (1) rate its overall quality on a 5-point scale and (2) describe what you liked about it or make suggestions for improvement.

Your score will be determined by (1) average ratings from your peers (25%), (2) your extent of participation in peer evaluation (25%), and (3) my own assessment of the overall quality of your presentation (50%).

This exercise pertains to learning objective CLO5 as it allows you to appreciate the diversity and complexity of the human language in comparison with the animal communication systems discussed in class.

**Final paper**

Your final paper should discuss similarities and differences between the human language and animal communication systems. You should compare and contrast the two systems in one or more of the following aspects:

- Mechanism – how individuals produce and perceive communicative signals
- Ontogeny – how individuals learn and become mature communicators
- Function – how properties of the communicative system affect the individuals' chance of survival and reproduction
- Phylogeny – how properties of the communicative system have evolved over time
- Complexity – how complex the communicative signals can be

Your final paper should be around 2,000 words. As for formatting, I recommend 12 point font, double spaced, 1 inch margin all around. As for citation, if you incorporate materials from class (e.g. PowerPoint slides, lecture notes), you do not have to cite your source. But direct quotes from class materials are prohibited. You should explain or describe them in your own words. If you incorporate materials from elsewhere, you must cite your

sources properly. You can choose any citation style (e.g. APA, MLA, IEEE) as long as you are consistent throughout the paper.

Your paper should be submitted electronically by the end of the day of the final exam.

I will grade your paper according to the following rubrics:

- Ideas and Content: whether your paper contained insightful theses supported by relevant, accurate, and specific evidence from appropriate sources
- Organization: whether your paper followed a clear and logical train of thought
- Originality: whether the ideas are expressed in your own words
- Conventions: whether you used correct grammar, spelling, punctuation, citation (if any)

This assignment pertains to learning objectives CLO4, CLO5, and GELO2.

## Grading Information

Based on the total score you earned by the end of semester, your letter grade will be determined using the following table:

| Score(s) | Letter Grade | Score(s) | Letter Grade |
|---|---|---|---|
| 100 | A+ | 64 – 69 | C+ |
| 94 – 99 | A | 58 – 63 | C |
| 88 – 93 | A- | 52 – 57 | C- |
| 82 – 87 | B+ | 46 – 51 | D+ |
| 76 – 81 | B | 40 – 45 | D |
| 70 – 75 | B- | 34 – 39 | D- |
| | | 0 – 33 | F |

Note that students are strongly encouraged to take courses to satisfy GE Areas R, S, and V from departments other than their major department. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), and completion of Core General education are prerequisite to all SJSU Studies courses. Completion of, or co-registration in, 100W is strongly recommended. A minimum aggregate GPA of 2.0 in GE Areas R, S, & V shall be required of all students.

## Classroom Protocol

Do not disrupt the class. Limit your activities to those pertinent to class. Be courteous to everyone in class.

## University Policies

See the relevant policies such as those on academic integrity, accommodations, etc. at
http://www.sjsu.edu/gup/syllabusinfo/

# LING 123 Sound and Communication, Fall 2018 Course Schedule

*The schedule is subject to change with fair notice via announcements in class.*

**Course Schedule**

| Week | Date | Topics, Readings, Assignments, Deadlines |
|---|---|---|
| 1 | 8/22 | Introduction |
| 2 | 8/27 | Basic acoustics I |
| 2 | 8/29 | Basic acoustics II |
| 3 | 9/5 | Sound production |
| 4 | 9/10 | Sound perception |
| 4 | 9/12 | Lab I |
| 5 | 9/17 | Mating signals I |
| 5 | 9/19 | Mating signals II |
| 6 | 9/24 | Other calls and signals |
| 6 | 9/26 | Ontogeny of animal communication |
| 7 | 10/1 | Evolution of animal communication |
| 7 | 10/3 | Review for Exam I |
| 8 | 10/8 | Exam I |
| 8 | 10/10 | Sound patterns of English I |
| 9 | 10/15 | Sound patterns of English II |
| 9 | 10/17 | Sound patterns of other languages |
| 10 | 10/22 | Lab II |
| 10 | 10/24 | Words and phrases |
| 11 | 10/29 | Language acquisition |
| 11 | 10/31 | Language and brain |
| 12 | 11/5 | Language evolution |
| 12 | 11/7 | Animals and human language |
| 13 | 11/14 | Review for Exam II |
| 14 | 11/19 | Exam II |
| 15-17 | 11/26 – 12/10 | Student presentations |
| Final | 12/18 (Tue) | Email me your final essay by **11:59 PM** |