

# San José State University

## Linguistics and Language Development L123, Sound and Communication, Section 01, Fall, 2018

### Course and Contact Information

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|----------------------------------|--|
| <b>Instructor:</b>               | Julia Swan   |
| <b>Office Location:</b>          | Clark 477  |
| <b>Telephone:</b>                | (408) (924-4444)   |
| <b>Email:</b>                    | Julia.Swan@sjsu.edu  |
| <b>Office Hours:</b>             | Tuesdays (9:15am-10:15am) and Thursdays (1:30pm-2:30pm)  |
| <b>Class Days/Time:</b>          | Tuesdays and Thursdays (10:30am-11:45am)   |
| <b>Classroom:</b>                | Clark Hall 216   |
| <b>Prerequisites:</b>            | Strongly recommended to have completed the Writing Skills Test (WST), core GE, and 100W  |
| <b>GE/SJSU Studies Category:</b> | 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

Our course adopts a hybrid delivery format. Students must have Internet connectivity and regular access to a computer in order to participate in class activities and submit assignments.

### Canvas and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignments and so on can be found on [Canvas Learning Management System](http://sjsu.instructure.com) at <http://sjsu.instructure.com>. You are responsible for regularly checking with the messaging system through [MySJSU](http://my.sjsu.edu) at <http://my.sjsu.edu> to learn of any updates.

### 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 (CELO)**

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.

### **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."

The course requirements and learning activities for this course are listed below, plus their alignment to course goals and assignment weights used in assessment. Students will be expected to be active participants in their own learning. This means consulting with instructors and/or other campus academic resources if needed. Students are also expected to work independently on these assignments, unless otherwise noted. For the due dates, please consult the calendar provided at the end of this document.

Also see notes about University Attendance and Participation policy under “Other Course Policies” later in this document.

### Criteria for Student Assessment (Grading)

20% Computer lab assignments

20% Exam I

20% Exam II

20% Presentation

20% Final Paper

### **Explanation about each assignment** (More complete directions will be given when each item is assigned.)

#### (i) Computer lab assignments

There will be one computer laboratory session in which we will use a program called *Praat* to analyze sound. You will analyze recordings of animal calls and human speech. This assignment pertains to learning objectives CLO1, CLO2, CLO3, GELO1, and GELO3.

#### (ii) Exams

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

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. Class materials should be explained or described 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.

## 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.

## Other technology requirements / equipment / material

Some assignments may require the use of specific software such as Microsoft Word, PowerPoint, PRAAT (or compatible programs). Both are available through campus computers. Microsoft Software are also available for download on student-owned computers at no cost to SJSU students. For more information, see the [University's Information Technology](http://its.sjsu.edu/services/software/microsoft-students/index.html) page at <http://its.sjsu.edu/services/software/microsoft-students/index.html>.

## Library Liaison

**Toby Matoush**

[Toby.Matoush@sjsu.edu](mailto:Toby.Matoush@sjsu.edu)

[Online tutorials for Linguistic Resources at the Library](http://libguides.sjsu.edu/LLD): <http://libguides.sjsu.edu/LLD>

## Determination of Grades

- Late assignments will not be accepted.
- Assume that assignments should be submitted electronically via Canvas unless otherwise specified.
- Check due dates (and **times**) carefully to ensure that work can be submitted before the deadline.
- Extra credit is not available.
- I will not give incompletes except in the event of a serious emergency.

|            |          |           |
|------------|----------|-----------|
| A+ 97-100% | A 93-96% | A- 90-92% |
| B+ 87-89%  | B 83-86% | B- 80-82% |
| C+ 77-79%  | C 73-76% | C- 70-72% |
| D+ 67-69%  | D 63-66% | D- 60-62% |
| F <60%     |          |           |

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

### Cell Phone Use:

Cell phones use is not permitted in class. Your phone should be placed inside your bag or stored out of sight.

### Notetaking:

I prefer that you take notes using a pen/pencil and paper. If you use a laptop or iPad for notetaking, and this becomes a source of distraction for you or your classmates, I will request that you take notes on paper. You will have access to lecture slides, handouts or other materials on Canvas so do not need to take photos of them as they are displayed in class. Taking notes on paper provides an opportunity reinforce your knowledge and understanding of concepts kinetically. This can have a very positive impact on your memory.

### Academic Integrity:

Your academic integrity is vital to our learning experience. I am required to report all instances of academic misconduct. Cheating and plagiarism are two of the most obvious types of academic misconduct.

“San José State University defines **cheating** as the act of obtaining credit, attempting to obtain credit, or assisting others to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means... San José State University defines **plagiarism** as the act of representing the work of another as one’s own without giving appropriate credit, regardless of how that work was obtained, and submitting it to fulfill academic requirements.”

You are responsible for having read about the various types of academic conduct enumerated under University Policy F15-7 at <http://www.sjsu.edu/senate/docs/F15-7.pdf>.

### On Availability:

Timely communication and feedback between students and instructors are an important part of our learning community. Students are responsible for checking all notices and postings through Canvas.

I will be available by email and strive to respond to your emails within 24 hours during the school week. I will be more likely to respond to emails in the early morning hours and daytime hours than in the evenings, especially if you email after 8 or 9pm. Please plan ahead by emailing questions regarding homework or papers well in advance of their due dates.

### Participation and Attendance:

Per University policy F69-24, “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Nonetheless, participation is vital to our class, both in terms of discussion and students’ mastery of the materials. Strong participation in class means asking questions, trying to make connections between concepts and readings, and being responsive to your classmates when they do the same. It is unlikely that a student will be able to master the course learning outcomes with prolonged or repeated absences.

If you are absent, you are responsible for following up with the instructor, Canvas and a classmate to inquire about missed content and completing any out-of-class assignments. Make-ups for in-class work (like quizzes) will not be given.

### On Accommodations:

If you are a student with a disability and believe you will need accommodation for this class, it is your responsibility to contact and register with the Accessible Education Center and provide them with documentation of your disability, so that they can determine what accommodations are appropriate for your situation. With your permission they will discuss with me those reasonable and appropriate accommodations. To avoid any delay you should contact the AEC office as early as possible in the semester, and contact me for assistance in developing a plan to address your academic needs in this course. Please note that accommodations are not retroactive and that reasonable disability accommodations cannot be provided until I have received an accommodation letter from and discussed your case with the AEC office. You can reach Disability Support Services at (408) 924-6000 or [aec-info@sjsu.edu](mailto:aec-info@sjsu.edu).

### University Policies (Required)

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs’ [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

## L123, Sound and Communication, Fall 2018, Course Schedule

*The schedule below is subject to change with fair notice. In the event of a change, notice will be made through Canvas.*

### Abbreviated Course Outline

This outline is subject to change with reasonable notice.

| Week | Date | Topics   | Reading   | Assignments Due                                     |
|------|------|--|---|---|
| 1    | 8.21 | Course introduction                                |   |   |
|      | 8.23 | Introduction to animal communication               | Gillam 2012   |   |
| 2    | 8.28 | <i>Great Transformations</i> (video)               |   | <b><i>Print and bring video notes to class</i></b>  |
|      | 8.30 | Sound waves  | <i>The Physics Classroom</i> (online), Lesson 1 (a, b, c) |   |
| 3    | 9.4  | Complex waves, Acoustic analyses with <i>Praat</i> | <i>The Physics Classroom</i> (online), Lesson 2 (a-d)     |   |
|      | 9.6  | <i>Sound Lab 1</i> practice                        |   | <b><i>Print and bring instructions to class</i></b> |
| 4    | 9.11 | Frog advertisement calls                           | Zelick et al. 1999, pp. 386-411                           |   |

|    |       |   |  |  |
|----|-------|---|--|--|
|    | 9.13  | <i>Signals and Songs</i> (video)  |  | <b>SOUND LAB 1 DUE;<br/>Print and bring video notes to class</b> |
| 5  | 9.18  | Bird song: introduction   | Beckers 2006; Naguib & Riebel 2006                                 |  |
|    | 9.20  | Bird song: ontogeny   | Wada 2012; McCallum 2010   |  |
| 6  | 9.25  | Bird calls  | Templeton et al. 2005  |  |
|    | 9.27  | Bees  | NCSU honeybees; Gadagkar 1996                                      |  |
| 7  | 10.2  | Signaling theory  | Bradbury & Vehrencamp, 1998; Hauser 2.2, 6.4                       |  |
|    | 10.4  | Midterm Review  |  | <b>ESSAY 1 DUE</b>   |
| 8  | 10.9  | MIDTERM EXAM  |  |  |
|    | 10.11 | Evolution of language   | Pinker, Ch. 11   |  |
| 9  | 10.16 | Articulatory phonetics  | Ghazanfar & Rendall 2008   |  |
|    | 10.18 | Acoustics of speech   | Ladefoged 2010   |  |
| 10 | 10.23 | <i>Sound Lab 2</i> practice   |  | <b>Print and bring instructions to class</b>                     |
|    | 10.25 | Phonology   | Ladefoged 2010   |  |
| 11 | 10.30 | <i>Families in the Wild</i> (video)   | Zuberbuhler 2012   | <b>SOUND LAB 2 DUE;<br/>Print and bring video notes to class</b> |
|    | 11.1  | Predator alarm calls  | Seyfarth et al. 1980; Hauser & Marler 1993; Cheney & Seyfarth 1985 |  |
| 12 | 11.6  | Theory of mind  | Pearce 2008, pp. 312-325   |  |
|    | 11.8  | <i>Monkey in the Mirror</i> (video)   |  | <b>Print and bring video notes to class</b>                      |
| 13 | 11.13 | Child language acquisition  | Pinker, Ch. 2 & 9; Saffran et al. 2001                             |  |
|    | 11.15 | Language and the brain  | Pinker, Ch. 10   |  |
| 14 | 11.20 | Student presentations   |  | <b>ESSAY 2 DUE</b>   |
|    |       | <b>Happy Thanksgiving! (No class)</b>   |  |  |
| 15 | 11.27 | Student presentations   |  |  |
|    | 11.29 | Student presentations   |  |  |
| 16 | 12.4  | Student presentations   |  |  |
|    | 12.6  | Student presentations   |  |  |
| 17 | 12.14 | <b>FINAL PAPER DUE Wednesday, December 12<sup>th</sup> by 12pm<br/>***Student presentations <i>may</i> continue through the assigned Final Exam time slot, dependent on scheduling***</b> |  |  |