

**San José State University**  
**Department of Linguistics and Language Development**

**LING 123-04: Sound & Communication**  
**Fall 2018**

**Course and Contact Information**

|                                  |   |
|----------------------------------|---|
| <b>Instructor:</b>               | Chris Donlay  |
| <b>Office Location:</b>          | Clark Hall (CL) 406M  |
| <b>Telephone:</b>                | (408) 924-1352 (only during office hours)   |
| <b>Email:</b>                    | chris.donlay@sjsu.edu   |
| <b>Office Hours:</b>             | M/W 10:30a-12n, T/R 4p-4:30p; and by appointment  |
| <b>Class Days/Time:</b>          | M/W 1:30p-2:45p   |
| <b>Classroom:</b>                | Clark Hall (CL) 216   |
| <b>Prerequisites:</b>            | Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Completion of or co-registration in 100W is strongly recommended. |
| <b>GE/SJSU Studies Category:</b> | R: Earth and Environment  |

**Course Description**

In this class we will explore the intertwining ethological and linguistic issues related to the evolution of auditory communication systems in humans and other animals. The course has a strongly multi-disciplinary nature; our lectures and readings will jump eclectically among multiple scientific fields, most notably: acoustics (the science of sound), linguistics (the science of human language), and ethology (the science of animal behavior and cognition, 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.

**Required Texts/Readings**

*Readings*

All readings, as well as other class materials, will be available via Canvas. There is no textbook required for this class.

*Other technology requirements*

Students are expected to have access to a computer on which they can download the free software Praat in order to do the Sound Lab assignments. Laptops are preferable in this regard as they can be brought to class for group work.

**Course Website**

Course materials such as syllabus, handouts, assignments, notices, etc. can be found on Canvas. Students are responsible for regularly checking Canvas to learn of any updates.

## **GE Learning Outcomes (GELO)**

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

GELO 1: Demonstrate an understanding of the methods and limits of scientific investigation;

GELO 2: Distinguish science from pseudo-science; and

GELO 3: Apply a scientific approach to answer questions about the earth and environment.

Each of the GELOs is fulfilled as you engage in the following specific coursework:

### **GELO 1**

-- In-class acoustic practices

-- Sound Lab assignments (Sound Lab 1 and 2)

-- Discussions on methodologies used in experimental studies and debates around these studies.

### **GELO 2**

-- Critical readings of research papers

-- In-class activities to distinguish facts from opinions and to locate, interpret, evaluate, and synthesize evidence in support of one's ideas

-- Critical analysis essay assignments (Essay 1 and 2)

### **GELO3**

-- Class discussions on acoustic analyses as research methodology

-- Sound Lab assignments (Sound Lab 1 and 2)

-- Class discussions on qualitative and quantitative data analysis

-- Critical analysis essay assignments (Essay 1 and 2)

## **Course Learning Outcomes (CLO)**

In addition to the three GLOs listed above, there are five more course-specific learning outcomes for LING 123. Upon successful completion of this course, students will be able to:

CLO 1: Understand sound as a physical phenomenon and be able to solve simple problems in acoustics, such as calculating a sound's frequency and distance from its source (Sound Labs);

CLO 2: Analyze recorded human speech and animal vocalization on a computer and draw conclusions on those data (Sound Labs);

CLO 3: Understand the biological mechanisms that allow humans and certain other animals to produce and process vocalized signals (Essays, Presentation);

CLO 4: Understand how to study animal communication systems in terms of the four explanatory principles of ethology: adaptation, mechanism, ontogeny, and phylogeny (Essays, Presentation);

CLO 5: Discuss the essential design features of human language and explain how our language differs from the communication systems of other animal species (Essays).

## **Course Requirements and Assignments**

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.

This course has seven different required activities — two homework assignments, two essays, one presentation and two in-class examinations. To the extent possible, assignments will be turned in digitally, unless otherwise specified.

### ***Sound Labs***

There will be two Sound Lab homework assignments, each of which is worth 10% of your final grade. In the first Lab you will analyze two recordings of animal calls. In the second Lab you will analyze the sounds of human speech. The

instructions for each assignment will be posted on Canvas. These assignments require the use of a computer on which you can download the Praat software. (These assignments address GELO 1 & 2 and CLO 1 & 2.)

### **Essays**

You will write two essays, each worth 15% of your final grade. Each essay must be at least 1500 words long. Detailed essay prompts will be posted on Canvas and discussed in class. Essays must be handed in to the instructor in two ways: (1) emailed directly to the instructor, and (2) uploaded as a document file (.doc, .docx, or .pdf format) to *TurnItIn* via Canvas. (These assignments address GELO 2 & 3 and CLO 3, 4 & 5.)

### **Presentation**

You will research the communication system of an animal of your choice and present your findings to the class. Required elements will be posted on Canvas and discussed in class. (This assignment addresses CLO 3 & 4.)

### **Exams**

There will be one in-class midterm on the topics covered during the first half of the course and a final exam on the topics covered in the second half of the course (i.e., a non-cumulative final). Exams are closed-book and closed-note. No calculators or any other electronic devices (phones, ipads, laptops, iwatches, et al.) are allowed during exams. Most questions will draw on material from the lecture slides, with some questions based on videos and required readings.

### **Grading Information**

- Assignments are due on or before the specified due date/time.
- All work must be typed and submitted via email, unless otherwise specified.
- Each assignment and exam is scored on a basis that allows for easy conversion to a percentage. These scores are then weighted as part of your final grade. For example, if you scored 100% on the first assignment, this would be weighted as 10 out of 10 points in the course's final 100-point total; if you got a 90, this would count as 90% of 10 (or  $0.9 \times 10 = 9$  points towards the final 100).
- Scores are made visible via Canvas as they are recorded. Students may check their cumulative scores with the instructor via email at any time.
- Extra credit is not available for this course.
- Late policy: Except in the case of a documented emergency, assignments submitted after the due date/time but within 24 hours of the due date/time will be assessed a 10% penalty. Those submitted after the first 24-hour period will be penalized an additional 10% for each late day.
- Exams may not be taken at times other than their originally scheduled dates and times. Exceptions must be negotiated with the instructor well in advance of the stated exam time.
- The table below provides the weighting of course tasks in the final grade:

| <b>Assignment</b> | <b>% of Final Grade</b> |
|-------------------|-------------------------|
| Sound Lab 1       | 10%                     |
| Sound Lab 2       | 10%                     |
| Essay 1           | 15%                     |
| Essay 2           | 15%                     |
| Presentation      | 10%                     |
| Midterm Exam      | 20%                     |
| Final Exam        | 20%                     |
| Total             | 100%                    |

- Your final grade is based on the percentage of total points earned in the class. The table below gives the approximate expected point-values of each grade. Possible grades are A through F.

|    |         |    |         |    |         |    |         |
|----|---------|----|---------|----|---------|----|---------|
| A+ | 98-100  | B+ | 87-89.9 | C+ | 77-79.9 | D+ | 64-66.9 |
| A  | 94-97.9 | B  | 84-86.9 | C  | 74-76.9 | D  | 60-63.9 |
| A- | 90-93.9 | B- | 80-83.9 | C- | 70-73.9 | F  | < 60    |

- A minimum aggregate GPA of 2.0 in GE Areas R, S, & V shall be required of all students.

### **Classroom Protocol**

- It is important to arrive in class on time, as late arrivals are disruptive to everyone.
- Put your cell phone on silent or vibrate and don't text or take calls in class.
- Personal computers may be used in class only to support activity directly related to the course, for example, to take class notes or follow a link suggested by the instructor.
- Absolutely no access to electronic devices (phones, ipads, laptops, iwatches, et al.) will be allowed during exams.
- Each assignment must be the original work of the student who turns it in. Students may discuss homework assignments with classmates, but everything you turn in must be your own original writing.
- Bringing food or drink to class is discouraged.
- If you miss a class, it is your responsibility to contact me or a fellow student to find out what you've missed.
- No late-add petitions can be signed or approved by the instructor, chair or Dean of H & A.
- The instructor reserves the right to reschedule lecture topics, assignments and exams with adequate advance notice.

### **University Policies**

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](#) at <http://www.sjsu.edu/gup/syllabusinfo>. Students are strongly urged to read this information at the beginning of the semester.

**LING 123-04: SOUND & COMMUNICATION (Fall 2018)**  
**COURSE SCHEDULE**

*The schedule is subject to change with fair warning; changes will be announced  
in class and posted on Canvas.*

| Week | Date    | Topics                               | Reading  | Assignments  |
|------|---------|--------------------------------------|--|--|
| 1    | 8/22 W  | Course introduction                  |  |  |
| 2    | 8/27 M  | Introduction to animal communication | Gillam 2012  |  |
|      | 8/29 W  | <i>Great Transformations</i> (video) |  | <b>Print and bring video notes to class</b>                  |
| 3    | 9/03 M  | LABOR DAY HOLIDAY                    |  |  |
|      | 9/05 W  | Sound waves                          | <i>The Physics Classroom</i> (online), Lesson 1 (a, b, c)          |  |
| 4    | 9/10 M  | Complex waves                        | <i>The Physics Classroom</i> (online), Lesson 2 (a & c)            |  |
|      | 9/12 W  | <i>Sound Lab 1</i> practice          |  | <b>Bring laptop &amp; instructions to class</b>              |
| 5    | 9/17 M  | Frog advertisement calls             | Zelick et al. 1999, pp. 386-411                                    |  |
|      | 9/19 W  | <i>Signals and Songs</i> (video)     |  | <b>SOUND LAB 1 DUE; Print and bring video notes to class</b> |
| 6    | 9/24 M  | Bird song: introduction              | Beckers 2006; Naguib & Riebel 2006                                 |  |
|      | 9/26 W  | Bird song: ontogeny                  | Wada 2010; McCallum 2010   |  |
| 7    | 10/01 M | Bird calls                           | Templeton et al. 2005  |  |
|      | 10/03 W | Bees                                 | NCSU honeybees; Gadagkar 1996                                      |  |
| 8    | 10/08 M | Signaling theory                     | Bradbury & Vehrencamp, 1998; Hauser 2.2, 6.4                       |  |
|      | 10/10 W | Midterm review                       |  | <b>ESSAY 1 DUE</b>   |
| 9    | 10/15 M | MIDTERM EXAM                         |  |  |
|      | 10/17 W | Evolution of language                | Pinker, Ch. 11   |  |
| 10   | 10/22 M | Articulatory phonetics               | Ghazanfar & Rendall 2008   |  |
|      | 10/24 W | Acoustics of speech                  | Ladefoged 2010   |  |
| 11   | 10/29 M | <i>Sound Lab 2</i> practice          |  | <b>Bring laptop &amp; instructions to class</b>              |
|      | 10/31 W | Phonology                            | Ladefoged 2010   |  |
| 12   | 11/05 M | <i>Families in the Wild</i> (video)  | Zuberbuhler 2012   | <b>SOUND LAB 2 DUE; Print and bring video notes to class</b> |
|      | 11/07 W | Predator alarm calls                 | Seyfarth et al. 1980; Hauser & Marler 1993; Cheney & Seyfarth 1985 |  |
| 13   | 11/12 M | VETERANS DAY HOLIDAY                 |  |  |
|      | 11/14 W | Theory of mind                       | Pearce 2008, pp. 312-325   |  |

| <b>Week</b> | <b>Date</b> | <b>Topics</b>                          | <b>Reading</b>                         | <b>Assignments</b>                                 |
|-------------|-------------|--|--|--|
|             |             |  |  |  |
| 14          | 11/19 M     | <i>Monkey in the Mirror</i><br>(video) |  | <b><i>Print and bring video notes to class</i></b> |
|             | 11/21 W     | THANKSGIVING HOLIDAY                   |  |  |
| 15          | 11/26 M     | Child language acquisition             | Pinker, Ch. 2 & 9; Saffran et al. 2001 |  |
|             | 11/28 W     | Language and the brain                 | Pinker, Ch. 10                         |  |
| 16          | 12/03 M     | Student presentations                  |  |  |
|             | 12/05 W     | Student presentations                  |  |  |
| 17          | 12/10 M     | Final exam review                      |  | <b>ESSAY 2 DUE</b>                                 |
| FINAL EXAM  |             | TBC                                    |  |  |