

**Class Time and Place**

Fall 2015

**Time:** MW5 (2:50 – 4:10 pm)

**Classroom:** FH-A2

The final exam will be held on Dec. 22, 12 pm - 3 pm, in the regular classroom.

**Course Number**

01:615:441:01 *Linguistics and Cognitive Science*

**Contact Information**

**Instructor:** Dr. Bruce Tesar

**E-mail:** [tesar@rutgers.edu](mailto:tesar@rutgers.edu)

**Phone:** 848-932-0477 (Ling. Dept. Office)

**Office:** SEM 109

**Office Hours:** Wednesdays 11:00 am - 12:00 noon, or by appointment

**Prerequisites**

615:201 **and** (615:305 **or** 615:315 **or** 615:325)

**Course Description**

This course examines some of the many connections that exist between linguistics and cognitive science. The very beginning of the course will examine some of the philosophical arguments that led to the development of cognitive science, in particular arguments from the nature of language phenomena. The next part of the course is an introduction to the theory of formal languages and automata; this section will illustrate how the search for a psychological basis for linguistic phenomena ultimately had a great influence on the development of theoretical computer science. That will be followed by an examination of the relationships between computational approaches to parsing and experimental studies of human sentence processing. The course will also include an introduction to speech errors, and the way in which they provide independent support for the representations used in linguistic theories. Some connectionist network models of memory will be studied, along with the alternative view of computation that they provide. The final part of the course will examine how efforts to reconcile symbolic and connectionist approaches to language unexpectedly resulted in a powerful new approach to linguistic theory, Optimality Theory.

Throughout the course, an emphasis will be placed on the ways in which ideas from different traditional disciplines interact and work together. The course will demonstrate both how ideas from different traditional disciplines combine to create what is known as cognitive science, and how the effort to conduct interdisciplinary cognitive science can have a strong impact on the original disciplines themselves.

**Learning Goals**

By the end of this class, students should:

- Understand the basic nature of Cognitive Science.
- Understand key relationships between Linguistics and other cognitive disciplines.
- Appreciate the ways in which different academic disciplines can influence each other, and can combine to provide greater insight into major issues.
- Have an introductory grasp of several formal tools relevant to Linguistics and Cognitive Science.

**Text**

The primary text is a course packet available from the Rutgers University Bookstore, CAC. It is ISBN 978-1-59271-229-8. The

bookstore lists the price of the course packet as \$66.15 new, and \$49.60 used.

**NOTE:** the content of this course packet is the same as it was in Fall 2014. If you consider buying a used copy, make sure that it is from Fall 2014 or later.

### Course Sakai Site

The Sakai site for the course is **LING & COG SCIENCE 01 F15**. Handouts and problem sets will be downloadable from this site, and grades and last-minute announcements will be posted there.

### Requirements

**Problem Sets:** Eleven problem sets will be given during the semester, for 55% of the final grade. Collaboration between students on graded problem sets is not permitted. *Late problem sets will not be accepted.*

Exercises will be assigned occasionally; they will be discussed in class, but not graded. Students may freely work together on exercises.

**Exams:** One midterm and one final (cumulative) exam will be given. The midterm will count for 20% of the grade, and the final for 25% of the final grade. Exams will be in-class, closed-book, and closed-notes, with no student collaboration allowed.

### Academic Integrity

[The Rutgers University Policy on Academic Integrity](#) is available online on the university's [Academic Integrity website](#). If you are uncertain about anything regarding the assignments or exams, **please ask the instructor first**. The syllabus section on course requirements indicates when collaboration between students is allowed, and when it is not.

### Extra Credit

Participate in an experiment! The Linguistics Department runs experiments. You can participate in these experiments and get extra credit. Participation in one experiment for at least an hour, or in several experiments totaling at least an hour, will earn 10 homework points. This is a one-time opportunity (e.g., you cannot earn 20 extra points by participating in two hours of experiments).

The Linguistics Department has a policy that it is unethical to exclude students from participating in any experiment even if the participant does not speak the target language or has a language disorder. This is because every student must be given an opportunity to earn the extra credit that is being offered.

### Attendance Policy

Students are expected to attend all classes, and that includes arriving before class begins. Students should use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for necessary absences (an email is automatically sent to me). This includes absences for religious observances, health issues, and university activities. If a student must miss classes for a period longer than one week, they must see their Dean of Students for assistance in verifying the circumstances of the absence.

Students normally have a week to complete each graded assignment. If a student will be absent on the day that an assignment is due, the student will be expected to submit the assignment in advance, either via the course Sakai site, or by leaving a paper version in the instructor's mailbox on the first floor of the Linguistics Department building, or by some other means agreed to in advance by the instructor.

### Anonymous Comments to the Instructor

Students may send anonymous comments to the instructor via the Anonymous Comments tool on the course Sakai site. Students are welcome (but not required) to use this any time during the semester. The Anonymous Comments tool uses a ScarletDocs form (part of Rutgers ScarletApps).