

# Syllabus: LING 8210

## Introduction to Syntactic Processing

University of Minnesota  
Spring 2018

### Course

LING 8210 Introduction to Syntactic Processing  
Monday, 2:30 PM – 5:00 PM  
Elliott S225  
<http://www.dustinalfonso.net/teaching/2018gsentproc>

### Instructor

Dustin Alfonso Chacón  
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Office hours: Wednesday 2:30 – 4:30  
Please let me know in advance if you plan on coming to office hours Elliott Hall S313

### Course description

Intuitively, we understand sentences in "real-time" – we do not wait until the end of a sentence in order to determine its meaning. Instead, we rapidly coordinate our grammatical knowledge, memory, attention, and prediction systems to build syntactic structure "on-line". In this class, we will examine how exactly this happens, by examining primary literature on the topic. Topics will include: grammatical fidelity in sentence comprehension, "syntax-first" theories of sentence comprehension, sources of processing difficulty, active dependency formation, memory retrieval, and explicit computational/mathematical models of sentence comprehension. We will also survey the methods used to investigate sentence comprehension, including self-paced reading, eye-tracking, and EEG (electroencephalography). Students will also be asked to design and run an experiment, including performing data analysis.

## Workload and grade calculation

- Participation 20%
  - Leading Class Discussion 10%
- Group Experiment 40%
  - Materials 10%
  - Participants 10%
  - Final Write-Up 20%
- Final Paper 40%:
  - Final Draft 25%
  - Proposal 5%
  - Presentation 10%

Your **letter grade** for the class will be assigned on the following scale.

A	93–100%	B	83–87%	C	73–77%	D	60–65%
A–	90-93%	B–	80-83%	C–	70-73%	F	0–60%
B+	87–90%	C+	77–80%	D+	65–70%		

## Policies and other remarks

**Final paper.** At the end of the semester you’ll be asked to write a final paper proposing an experiment that tests some aspect of syntactic processing. This paper should be 8–10 pages. Your paper should include a short literature review, a description of the experiment design (including sample materials and methods), and a description of the hypothesized outcomes.

There will be a number of milestones throughout the semester for the final paper, including a proposal (1-2 pages maximum) and a presentation (15-20 minutes). Both of these are a chance for you to get feedback to incorporate into the final paper.

**Presentation.** At the end of the semester, you will be asked to provide a presentation on your final paper. This should be approximately 15-20 minutes, plus 5-10 minutes for questions. You will be graded on conciseness, preciseness, and organization. You should also have a handout or slides (preferred) to accompany your talk. It’s best to think of this as a “mini-conference”, i.e., you should pitch your talk to an audience of professionals in psycholinguistics and syntax, but not necessarily presuppose fine-grained knowledge of the particular phenomenon or language under investigation.

**Participation.** Participation and attendance are crucial. I will make an effort to upload the slides to the course website. However, much of the learning process will center around discussing and critically analyzing the results of studies in-class. If you need something clarified, your first course of action is to e-mail me, and your second course of action is to come to office hours.

Half of the participation grade will come from in-class presentations. Depending on the class's size, each student will be asked to lead discussion in class at least once.

**Homework.** There is no traditional homework in this class.

**Group Experiment.** We will design, run, and analyze the results (using R) of an experiment as a class. We will devote 20–30 minutes of each class time to discuss the development of this project, including discussing practical and methodological concerns of running a sentence processing study (experimental design, software, statistics, data visualization, proper reporting of experimental findings). Credit will be assigned for performing the relevant parts of this study, and an individual write-up of the group experiment. This is, in part, to ensure that everyone contributes fairly to the design and running of the study.

**Papers and Software.** At this stage, I expect that homeworks are turned in on-line in PDF format through e-mail. That means you will need to draw your trees electronically somehow. There are countless ways of doing this, and they depend on your word processor/document formatting package. Personally, I highly suggest that you learn to use L<sup>A</sup>T<sub>E</sub>X, as this comes with many tools (and accessible tutorials) for tree-drawing, but also tableaux drawing, example formatting, IPA, logic characters, etc. Googling “Latex for Linguists” will give you many options, and it's definitely a skill that students in Linguistics should eventually become used to. Personally, I use the forest package for tree-drawing and the linguex package for example formatting. I can provide the template code that I use for formatting documents with examples if you would like.

Relatedly, we may need to do some elementary Python scripting or statistical analysis in R. I will not expect any student to do this work from scratch. Instead, I will be sure to provide the relevant code. However, because I am not an expert in every possible operating system, there may still be unforeseen complications. If the need arises, we can work out alternative arrangements on a case-by-case basis. Additionally, the Group Experiment will either be conducted on (1) your personal computer, or (2) the lab computer in S521. We will take time to examine and practice using Linger in-class.

**Textbooks.** There is no official textbook for this course. Sentence processing is primarily a field that draws from papers. However, a few useful resources are Julie Sedivy's 2014 textbook *Language in Mind: An Introduction to Psycholinguistics*, which surveys sentence processing in the second half of the book, and the edited volume *Sentence Processing* by Roger P.G. van Gompel. If this is an area of research that you are particularly interested in, I'd recommend checking out those two books specifically. The former is a textbook geared towards undergraduates, so by the end of this course it might be somewhat elementary, but it does a good job introducing a number

of other theoretical concerns in psycholinguistics more broadly. The edited volume is a topic-by-topic discussion of specific theoretical issues (“syntax-first” processing, serial parsing vs. parallel parsing, constraint-based parsing), plus active areas of research (sentence processing in children, second language sentence processing).

## Tentative Schedule:

This schedule is tentative.

Wk	Topics	Readings	Notes
1	Introduction	Lewis & Phillips (2015)	
2	Methodologies	TBD	
3	Historical Perspectives	Frazier & Fodor (1978); Townsend & Bever (2001)	
4	Incrementality	Altmann & Kamide (1999); Kukona et al (2011)	
5	Syntax-First, Pt. I	Frazier & Rayner (1982); Trueswell et al (1994)	
6	Syntax-First, Pt. II	Christianson et al (2001); Spivey-Knowlton et al (1994)	
7	Memory, Pt. I	McElree et al (2003); van Dyke & Lewis (2003)	
8	Memory, Pt. II	Wagers et al (2009); Dillon et al (2013)	[GE] Materials Due
9	Active Gaps, Pt. I	Stowe (1986); Traxler & Pickering (1996)	
10	Active Gaps, Pt. II	Phillips (2006); Yoshida et al (2014)	[IP] Proposal Due
11	Late Closure in Spanish	Cuetos & Mitchell (1988); Grillo & Costa (2014)	
12	Semantic P600	Kim & Osterhout (2005); Chow & Phillips (2013)	[GE] Ptcpts Ran
13	Resumption	Hofmeister & Norcliffe (2013); Chacón & Phillips (2018)	
14	Reanalysis	Trueswell et al (1999); Novick et al (2014)	
15	Presentations		
Finals			[IP; GE] Write-Up Due

## Bibliography

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