

Lecture 0

Syllabus

Course: Parsing and Syntactic Processing
Course#: Lin630 (officially Lin650)
Time: M 3:00–3:50, W 2:00–3:45
Course Website: on Blackboard

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0.1 Overview

- **Big Questions**

- What is the relation between competence and performance, grammar and parser?
- Are syntactic processing effects conditioned by the grammar?
- What qualifies as a parser as opposed to a recognizer or a parsing procedure?

The first two are common questions for any processing course. The third one hints at the special twist of this course: we approach these issues from a computational perspective! Parsing theory is a big (albeit messy) area of computer science, there's tons of parsing models on the market. So let's bring all these insights to bear on how humans parse natural language.

- **Teaching Goals**

At the end of this course you will

- be familiar with a variety of common parsing models (top-down, bottom-up, left-corner, Earley, CYK)
- know the most common syntactic processing effects (in particular those related to memory usage)
- be able to evaluate claims in the psycholinguistic literature from a computational perspective
- possibly have a paper ready to publish (there's some low-hanging fruits here)

- **Prerequisites**

None beyond basic syntax skills — you should be able to draw a reasonable tree

for a sentence like *The fact that the employee who the manager hired stole office supplies did not go unnoticed by the janitor.*

0.2 Course Requirements

- **Readings**

- Read every assigned paper (there won't be that many)

- **Homeworks**

- Short homeworks for each parsing model
- Participate in discussion of selected homework exercises

- **Paper (3 credits only)**

The second half of this course is meant to be run like a research group where we play around with current parsing models of Minimalist grammars. Depending on how things develop, we might get a joint paper out of this, or maybe you'll work on something on your own. At any rate you must hand in a paper of at least 8 pages with your name on it by the end of the course.

0.3 Outline

<i>Wk</i>	<i>Date</i>	<i>Topic</i>
1	Aug 25, 27	Marr's levels, parser VS grammar, phrase structure grammars
2	Sep 3	what is a parser (technical answer)
3	Sep 8, 10	top-down parsing
4	Sep 15, 17	bottom-up parsing
5	Sep 22, 24	left-corner parsing
6	Sep 29, Oct 1	Earley & CKY
7	Oct 6, 8	everything our parsers miss
8	Oct 13, 15	why the grammars aren't right
9	Oct 27, 29	Moving to Minimalist grammars
10	Nov 3, 5	Minimalist top-down parsing of derivation trees
11	Nov 10, 12	More on MG parsing
≥12		research meetings