

Course Syllabus
11-721: Grammars and Lexicons
Fall Term 2007
Language Technologies Institute
Carnegie Mellon University

Time: Monday, Wednesday 1:30-2:50 pm

Place: 3002 Newell-Simon Hall

Instructors:

Lori Levin	Associate Research Professor Language Technologies Institute Newell-Simon Hall 4631 268-6193 lsl@cs.cmu.edu Office hours by appointment and by chance
Teruko Mitamura	Research Professor Language Technologies Institute Newell-Simon Hall 4621 268-6596 teruko@cs.cmu.edu Office hours by appointment and by chance

Teaching Assistant

????	Ph.D. Student Language Technologies Institute Office hours to be announced
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Prerequisites:

Introductory linguistics course
Familiarity with Unix/Linux and Emacs
Or permission of instructors

Course Description:

Grammars and Lexicons is an introductory graduate course on linguistic data analysis and theory, focusing on methodologies that are suitable for computational implementations. The course covers major syntactic and morphological phenomena in a variety of languages. The emphasis will be on examining both the diversity of linguistic structures and the constraints on variation across languages. Students will be expected to develop and defend analyses of data in a variety of languages. The goal is for students to become familiar with the range of phenomena that occur in human languages so that they can generalize the insights into the design of computational systems. The theoretical framework for syntactic and lexical analysis will be Lexical Functional Grammar. Grades will be based on problem sets, a midterm exam, and a laboratory exercise.

Goals for Language Technologies Students

- Students will be familiar with a basic set of syntactic structures and will be able to identify them in any language.
- Students will be able to construct grammar rules and other models of syntactic knowledge for any language.
- Students will be able to accurately label corpora with syntactic information in any language, and will be able to evaluate labeled corpora. (This is an application of the knowledge covered in the course, but may not be directly covered in the course.)
- Students will be able to perform qualitative (not quantitative) error analysis on the output of language technologies such as machine translation. (This is an application of the knowledge covered in the course, but may not be directly covered in the course.)

Texts:

There are two texts in the bookstore:

- *Transformational Grammar*, Radford, Cambridge University Press. Make sure that you get the most recent edition. If it has three horizontal black lines on the cover, it is not the right edition. The right one has one thick horizontal white line and some very thin black lines at the bottom.
- *Analyzing Syntax*, Paul Kroeger, Cambridge University Press.

In addition, there will be readings from the following books, which will be available in the LTI library and another location to be agreed on. You may also purchase these books from your favorite book vendor.

- *Introduction to Syntax*, Robert Van Valin.
- *Language Universals and Linguistic Typology*, Bernard Comrie.
- *Language Typology and Syntactic Description*, Timothy Shopen (ed.), Cambridge University Press, 1985. Copies of selected chapters will be available from the LTI.
- *Lexical-Functional Syntax*, Joan Bresnan.
- *Formal Issues in Lexical Functional Grammar*, Dalrymple, Kaplan, Maxwell, and Zaenen (eds). CSLI Publications, 1995.
- Other items identified in the reading list will be available in the LTI library and another location.

Some of the reading is difficult for students who are taking classes in English for the first time or for students who do not have a background in humanities. Please try to understand the reading as much as you can and ask questions in class. Asking questions in class is good. It helps you learn things. We will also hand out lecture notes in each class to help explain the material.

Requirements:

- Grades will be based on about six problem sets (30%), a midterm exam (35%), and a laboratory exercise (35%).
- Attendance and class participation will be an important factor in borderline cases.
- If you miss class, it is your responsibility to obtain handouts and assignments, and to find out any schedule changes announced in class.
- Readings and assignments are to be completed by class time (1:30 pm) on the day indicated.
- Please note that in order to control late submissions, late assignments may be assigned the next lower grade than they would otherwise have earned.
- In no case will late papers be accepted after graded papers are returned and discussed in class.
- If problems arise, talk to us.

Schedule and Reading Assignments:

Part One: Lori Levin

Phrase Structure, Categories, and Argumentation

August 27	Syllabus and course requirements <i>Reading:</i> Kroeger, Pages 1-5 Sag et al, <i>Syntactic Theory</i> , Pages 1-20 Pinker, <i>The Language Instinct</i> , Chapters 4 and 5. Manning, Probabilistic Syntax
August 29	Preliminary definitions, Tests, Grammaticality, Lexical and Phrasal Categories <i>Reading:</i> Schacter, Parts of Speech Systems, in Shopen (ed.) Radford, Pages 50-69
September 3	Labor day, No class
September 5	Tests for constituency, Phrase Structure Rules, Unexpected sub-constituents of noun phrases <i>Reading:</i> Radford, Pages 69-166 Kroeger, Pages 22-52
September 19	Constraining, generalizing, and eliminating categorial rules <i>Reading:</i> Radford, Pages 167-286

Part Two: Lori Levin

Simple sentences: Diversity and Universals:

September 12 Semantic Roles

Reading:

Van Valin, 21-33

Andrews, The Major Functions of the Noun Phrase,
Pages 62-70, 80-96, in Shopen (ed.)

September 17 Grammatical Relations

Reading:

Van Valin, Pages 33-41

Andrews, Pages 71-77, 97-108

Comrie, Pages 86-102, 124-136

Reflexive pronouns; behavioral property of subjects

Reading:

Van Valin, Pages 41-43

Kroeger, Pages 88-89, 95-97

Andrews, Pages 117-118

September 19 Passives, Dative Shift and Applicatives

Reading:

Kroeger, Pages 53-80

Van Valin, Pages 59-69

Andrews, Pages 119-130

Keenan, Passive in the World's Languages, in Shopen (ed.)

September 24 Topic and Focus

Reading:

Kroeger, Pages 135-161

Comrie, Pages 62-65

Ward and Birner, Information Structure and Non-canonical Syntax
in Horn and Ward (eds.), *The Handbook of Pragmatics*

Grundel and Fretheim, Topic and Focus, *Handbook of Pragmatics*

Cross Linguistic Variation

Reading:

Comrie, Pages 70-74, 110-116

Andrews, Pages 130-184

Van Valin, Pages 70-85

Part Three: Lori Levin

Complex sentences: Diversity and Universals:

September 26 Coordination and Switch Reference

Reading:

Van Valin, Pages 56-58

Comrie, Pages 104-115

Payne, Complex Phrases and Complex Sentences, in Shopen (ed.)

Andrews, Pages 115-117

Complement clauses

Reading:

Noonan, Complementation, in Shopen (ed.)

Radford, Pages 287-332

Andrews, Pages 113-115

October 1 Control of understood subjects

Reading:

Kroeger, Pages 103-132

Van Valin, Pages 49-56

Davies and Dubinsky, Pages 3-16, copies will be available

Andrews, Pages 112-113

October 3 Adjunct Clauses

Reading:

Andrews, Pages 108-112

Thompson and Longacre, Adverbial Clauses, in Shopen (ed.)

Serial verbs

Reading:

Kroeger, Pages 222-254

October 8 Causatives

Reading:

Kroeger, Pages 192-219

Comrie, Pages 165-184

October 10 Wh-questions, relative clauses, clefts

Reading:

Kroeger, Pages 165-189

Van Valin, Pages 43-49

Keenan, Relative Clauses, in Shopen (ed.)

Comrie, Pages 138-163

Part Four: Lori Levin
Introduction to Lexical Functional Grammar

October 15 Overview of LFG

Reading:

Kroeger, Pages 6-21

Bresnan, *Lexical Functional Syntax*, Pages 1-25

October 17 Overview of LFG

Reading:

Bresnan, Pages 44-64

Kaplan, The Formal Architecture of Lexical Functional Grammar

**October 22 Review for midterm exam:
time and location to be announced.**

October 24 Some basic English constructions in LFG

Reading:

Bresnan, Pages 64-86

Kaplan and Zaenen, Long Distance Dependencies, Constituent Structure, and Functional Uncertainty, in Dalrymple et al.

October 29 Some basic English constructions in LFG

Reading:

Kaplan and Maxwell, Constituent Coordination in Lexical Functional Grammar in Dalrymple et al.

October 30 ????

Part Five: Teruko Mitamura
Grammar Writing

November 5	Grammar Writing - Introduction
November 7	Grammar Writing
November 12	Grammar Writing
November 14	Grammar Writing
November 19	Grammar Writing
November 21	Thanksgiving Break: No Class
November 26	Grammar Writing
November 28	Grammar Writing
December 3	Grammar Writing
December 5	Grammar Writing