Linguistics 106: Introduction to Formal Linguistics

FALL 1999

Tuesdays, 5:30–8:10pm; Room 316, Williams Hall

Instructor: Alexis Dimitriadis
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Office Hours: By appointment
Email is the preferred (and most reliable) way to reach me.

Prerequisites: This class has no prerequisites. No prior knowledge of linguistics is expected.

Fulfills General Requirement IV: Formal Reasoning and Analysis.

Content: This course will introduce you to the abstract structures and processes that underlie the structure of language. Although no prior background in linguistics is needed, this course is not a general introduction to Linguistics.

In order to understand our subject matter, we will develop some facility with simple, but rigorous, mathematical reasoning. (Some mathematical background would be helpful, but no particular math knowledge will be assumed).

Class attendance and participation are very important.

Readings: Course readings (all required) will be distributed in class as photocopied course packs. (You will have to pay for them). If you prefer, you may buy one or both of the books from which the readings are drawn:

  - The Language Instinct, by Steven Pinker.

Readings from Sipser will be presented in class before you are required to read them. To get the most out of them they should be skimmed before class, then read carefully after being presented in class.

Grading:

  - Homework assignments: 30%
  - Exam I: 30%
  - Exam II (Final): 40%

Approximate Schedule (will definitely change!!)

Sept 14 Administrative matters. What is language? What is linguistics?

Sept 21 Introduction to the formal study of language.
  Reading: Pinker, chapter 2. (To be read before class).
  Homework 1 assigned.
Sept 28 Mathematical Preliminaries.
Reading: Sipser, chapter 0.
Homework 1 due, homework 2 assigned.

Reading: Sipser, chapter 1.1.
Homework 2 due, homework 3 assigned.

Oct 12 Nondeterminism. Regular Languages and Regular Grammars.
Reading: Sipser, chapter 1.2.
Homework 3 due, homework 4 assigned.

[Fall Term Break (Oct 16–18) does not include any Tuesdays]

Oct 19 Equivalence of finite state automata and regular grammars.
Reading: Sipser, chapter 1.3
Homework 4 due, homework 5 assigned (due on Nov. 2).

Oct 26 EXAM I

Nov 2 The pumping lemma for regular languages. Pushdown automata.
Reading: Sipser, chapter 1.4
Homework 5 due, homework 6 assigned.

Nov 9 Context-free Grammars.
Reading: Sipser, chapter 2.1.
Homework 6 due, homework 7 assigned.

Nov 16 Pushdown automata. Equivalence with context-free languages.
Reading: Sipser, chapter 2.2.
Homework 7 due, homework 8 assigned.

Nov 23 Limits of context-free languages. The pumping lemma for context-free languages. Context-sensitive languages.
Reading: Sipser, chapter 2.3.
Homework 8 due. (No homework over Thanksgiving weekend).

Nov 30 X-bar syntax
Reading: Pinker, chapter 4. (To be read before class).
Homework 9 assigned.

Dec 7 Overflow, or extra review.
Homework 9 due.

Dec 14 OPTIONAL REVIEW SESSION (READING WEEK).

Dec 21 EXAM II