



**Cognitive
Science**

FACULTY OF PSYCHOLOGY UW
INSTITUTE OF PHILOSOPHY UW



UNIVERSITY
OF WARSAW

Course syllabus

Course title	Modern semantics
Instructor(s)	prof. Adam Przepiórkowski
Contact details	Preferred contact: via the KAMPUS on-line learning platform. Office hours: Mondays 16:30–18:00, Faculty of Philosophy (Krakowskie Przedmieście 3), room 304 (by earlier appointment).
Affiliation	Faculty of Philosophy, University of Warsaw / Institute of Computer Science, Polish Academy of Sciences
Course format	seminar
Number of hours	30 hours
Number of ECTS credits	3 ECTS credits = 90 hours work load: <ul style="list-style-type: none">– 30 hours – attendance– 20 hours – reading– 20 hours – homeworks– 20 hours – preparing for classtests
Brief course description	How is it possible that we understand sentences we have never heard before? This course will cover – in some formal detail – compositional semantics, i.e., the principles governing the composition of meanings of larger syntactic units (sentences, phrases) from the meanings of the constituents (phrases, words) of these units. The course is based on the textbook “Invitation to Formal Semantics” (Elizabeth Coppock and Lucas Champollion) and makes use of the “Lambda Calculator” tool (http://lambdacalculator.com/).
Full course description	<p>The objective of the course is to present compositional semantics of natural languages such as English or Polish – methods of combining meanings of words and larger syntactic units into meanings of sentences.</p> <p>The main bulk of the seminar will be devoted to logic-based methods of constructing meanings, methods based on first order logic (some familiarity with logic is assumed but it will also be reviewed) and on typed lambda calculus (to be introduced). The backbone for meaning composition is a syntactic structure – we will broadly follow the kind of syntactic structures assumed within generative grammar, i.e., syntactic</p>

trees. After covering the basics, we will look at particular constructions, including various argument structures, modifiers, generalised quantifiers, relative clauses, definite nominal phrases, etc. We will also discuss how the methods of meaning construction introduced in this course satisfy the principle of compositionality, usually attributed to Gottlob Frege. The students will apply in practice the theoretical mechanisms introduced in this course. To this end, we will use the “Lambda Calculator” tool (<http://lambdacalculator.com/>), which makes such application easy and maybe even fun.

Learning outcomes As a result of the course, students will get to know:

- the lambda calculus and its role in semantic compositionality (K_W02)
- the basics of the generative approach to the syntax–semantics interface (K_W02, K_U01)
- the mechanisms of semantic compositionality as understood in contemporary linguistics (K_W01, K_W02, K_U01, K_K01)

Students will also learn in practice how to:

- represent meanings of natural language sentence in the language of logic (K_U01, K_U05, K_K02)
- derive such meaning representations from meanings of particular words (K_U05, K_U08, K_K02)

Because of the interactive nature of the course, students will also enhance their ability to:

- concisely articulate arguments concerning abstract and formal issues (K_U07)
- listen to – and evaluate – arguments of others (K_U07)

Learning activities and teaching methods The course will be maximally interactive – students will learn via problem solving, with “lecture mode” kept to the minimum. The understanding of the solutions reached in class will be verified via relatively simple homeworks and classtests.

List of topics/classes and bibliography The course follows the forthcoming textbook “Invitation to Formal Semantics” by Liz Coppock and Lucas Champollion, which in turn is largely consistent with the classical 1998 textbook “Semantics in Generative Grammar” by Irene Heim and Angelika Kratzer. The course aims to cover almost all of the textbook, with the possible exception of a couple of chapters.

Assessment methods and criteria Formal assessment will be made on the basis of homeworks and classtests. There will be 3 or 4 classtests, in the case of each at least 50% of points should be obtained. The average of these percentages will be the basis of grading:

- < 55% – fail
- < 64% – 3
- < 72% – 3+
- < 79% – 4

< 88% – 4+

< 95% – 5

>= 95% – 5!

However, additional points may be given for class activity. On the other hand, the final mark will be lowered in the case of failed or not returned homeworks (1/4 of grade for each lacking homework). Homeworks will in general be rather simple – often they will be the exercises set in the textbook. Some of them will use the “Lambda Calculator” tool, which provides immediate feedback to students.

Attendance rules

Attendance is formally required but will not be enforced. However, it is also practically important, as it will be difficult to score high in classtests without solving problems in class.

Prerequisites

Students should be familiar with the basics of set theory, propositional logic and predicate (‘first order’) logic, for example at the level of chapters 1–7 (without sections 6.6 and 7.5) of “Mathematical Methods in Linguistics” by Partee, ter Meulen and Walls (Kluwer 1993).

Academic honesty

Students must respect the principles of academic integrity. Cheating and plagiarism (including copying work from other students, internet or other sources) are serious violations that are punishable and instructors are required to report all cases to the administration.

Remarks

Any remarks you would like students to know
