INSTRUCTOR: Brendan S. Gillon
LOCATION: 1085 Docteur-Penfield rm. 119
TIME: Mn Wd: 9h35–10h25
and by appointment
CONTACT: tel. no.: 514 398 4868

COURSE MATERIAL:


  A hard copy of the textbook sells for $US 80 ($CDN 106, GST not included). At *The Word*, it sells for $CDN 107, which includes GST. MIT Press provides access to an electronic edition of the book for 4 months for $US 32 ($CDN 42.50, GST not included).


AIMS OF THE COURSE and METHOD OF EVALUATION:

The aim of the course (LING 460: Semantics 2) is to introduce students to the two most fundamental tools in semantic theory, namely, the Lambek calculus and the Lambda calculus, a thorough understanding of which is necessary for advanced work in semantic theory. The Lambek calculus, due to Jim Lambek, late professor emeritus of McGill University's Department of
Mathematics and Statistics, is a generalization of the propositional calculus and it has applications in a variety of domains in mathematics, and perhaps surprisingly, in linguistics too, where it provides the mathematics of syntactic categories. In other words, the propositional calculus can be adapted to be used to formalize the syntactic categories of natural language expressions. The Lambda calculus is a notation developed by Alonzo Church to represent all functions in mathematics. It is widely used by natural language semanticists to express the values which can be associated with the expressions of a natural language. It turns out that there is a deep and elegant connection between the Lambek calculus and the Lambda calculus, which natural language semanticists find very useful to exploit. This connection is known as the Curry-Howard isomorphism. Making all this clear as well as showing how these tools apply in an enlightening way to a variety of natural language expressions, including those involving coordination, quantificational expressions and comparative expressions, is what the course aims to do.

The course presupposes LING 360, though a diligent student with knowledge of introductory logic (e.g., what is covered in PHIL 210) should be able to keep up and is welcome to enroll. Success in the course requires that one is at ease with, and not at all a whiz at, elementary logic and that one has the self discipline to work regularly at studying the material. Assessment is based on problem sets and class participation only. I anticipate giving ten problem sets. (All written work may be submitted either in English or in French.)
SCHEDULE:

WEEK 1 (06 Jan): set theory review  Gillon ch. 2
WEEK 2 (13 Jan): set theory review  Gillon ch. 2
WEEK 3 (20 Jan): classical quantificational logic  Gillon ch. 11
WEEK 4 (27 Jan): classical quantificational logic  Gillon chs. 11
WEEK 5 (03 Feb): enriched quantificational logic  Gillon ch. 12
WEEK 6 (10 Feb): deduction: classical propositional logic  Gillon ch. 7
WEEK 7 (17 Feb): deduction: classical propositional logic  Gillon ch. 7
WEEK 8 (24 Feb): Lambek Calculus  Gillon ch. 13.1–2
WEEK 9 (02 Mar): READING WEEK
WEEK 10 (09 Mar): Lambda calculus  Gillon ch. 13.3
WEEK 11 (16 Mar): minimal English clauses  Gillon ch. 10
WEEK 12 (23 Mar): simple English noun phrases  Gillon ch. 14
WEEK 13 (30 Mar): simple English noun phrases  Gillon ch. 14
WEEK 14 (6 Apr): catch up
WEEK 15 (13 Apr): conclusion  Gillon ch. 15

STATEMENT FROM THE ADMINISTRATION:

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