Elementary Logic

Fall 2019

Course Instructor: Jennifer Nado
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Office: Run Run Shaw Tower 10.05
Office Hours: M 2:30-3:30 or by appointment
Course Number: PHIL 1068
Time: M 3:30-5:20
Location: CYPP4

Course Description:

This course is a comprehensive introduction to first-order logic. We will begin with sentential logic, covering its syntax and semantics, and covering truth-table and natural deduction methods for evaluating validity for arguments in that language. We will then cover the same topics for the more advanced language of first-order predicate calculus.

Readings:

We will be using an open-access textbook for this course – Jonathan Ichikawa's expanded version of P.D. Magnus's 'forall x'. A pdf version is downloadable from the course Moodle page.

Readings for this class are intended as a supplement to the lectures. You can choose to read the listed chapters before class, after class, or not at all; all the material you need to know for tests will be in the lecture slides (posted on Moodle).

Assessment:

Exam 1: 35%
Exam 2: 35%
Exercises: 30%

Grading scale:
97% or higher = A+
93-96.99% = A
90-92.99% = A-
87-89.99% = B+
83-86.99% = B
80-82.99% B-
77-79.99% = C+
73-76.99% = C
70-72.99% = C-
67-69.99% = D+
60-66.99% = D
Below 60% = F

Exams:

There will be two exams for the course, both held during class periods. There will be multiple choice and short answer questions. There will not be an official final exam during exam week – exams will be held in-class during normal lecture times. Practice problem sets will be available about two weeks before each exam.

Exercises:

There will be five problem sets given as homeworks during the term. They will be due one week after the assigned date. These may be turned in during class, or dropped off at the philosophy department office. Late homeworks will be penalized by one point (out of six). Homeworks more than one week late will not be accepted without extraordinary circumstances (email me if needed).

Tutorials:

Tutorials for the course will consist of two optional, informal review sessions, during the weeks before the exams. The course tutor will be available to answer questions, and to work through practice problems. Exact dates and venues will be announced on Moodle.

Schedule:

Week 1. Sept 2 – Basic logical concepts

Ichikawa ch. 1

Week 2. Sept 9 – Syntax and semantics of SL; translation

Ichikawa ch. 2

SEPT 16 – NO CLASS (Prof. out of town)

Week 3. Sept 23 – Truth tables, interpretations, entailment (HW 1 assigned)

Ichikawa ch. 3, 4

Week 4. Sept 30 – Natural deduction I (HW 2 assigned)

Ichikawa ch. 7 – rules for conjunction, disjunction, and conditional elimination in 7.1

OCT 7 – NO CLASS (Chung Yeung Festival)

OCT 14 – NO CLASS (Reading Week)

Week 5. Oct. 21 – Natural deduction II (HW 3 assigned)

Ichikawa ch. 7 – all other rules in 7.1, sections 7.4-7.6

Week 6. Oct. 28 – EXAM 1

Week 7. Nov. 4 – Syntax and semantics of predicate logic (HW 4 assigned

Ichikawa ch. 8, 9

Week 8. Nov. 11 – Predicate logic – Natural deduction I (HW 5 assigned)

Ichikawa ch. 13.1, 13.2

Week 9. Nov. 18 – Predicate logic – Natural deduction II, Identity

Ichikawa ch. 12, ch 13.3, 13.4

Week 10. Nov. 25 – EXAM 2