Course Instructor: Dr. Michael Johnson  
Email: micjohns@hku.hk  
Office: Run Run Shaw Tower 10.05  
Course Number: PHIL1068  
Meeting Times: 14:30-17:30  
Meeting Location: TBA

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.

Course Reading

We will be using an open-access textbook for this course, which I will post on Moodle.


You are expected to read the relevant materials before class. There is no marked homework for this course: homework is always to do the reading!

Assessment

Participation: 20%  
In-class exercises (10): 20%  
Exams (3): 60%

Course Schedule

Week 1 Introduction to Sentential Logic

18 July Basic Logical Concepts  
Read: Magnus & Ichikawa, Ch. 1

19 July Syntax and Semantics of SL; translation into SL  
Read: Magnus & Ichikawa, Ch. 2

20 July Truth-tables  
Read: Magnus & Ichikawa, Ch. 3
21 July Entailment and Models for SL
Read: Magnus & Ichikawa, Ch. 4

22 July SL Trees
Read: Magnus & Ichikawa, Ch. 5
**Exam #1 administered**

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Week 2 Natural Deduction

25 July Natural Deduction Proofs for SL Part I
Read: Magnus & Ichikawa, Ch. 7

26 July Natural Deduction Proofs for SL Part II
Read: Magnus & Ichikawa, Ch. 7

27 July Natural Deduction Proofs for SL Part III
Read: Magnus & Ichikawa, Ch. 7

28 July Natural Deduction Proofs for SL Part IV
Read: Magnus & Ichikawa, Ch. 7

29 July Quantified Logic
Read: Magnus & Ichikawa, Ch. 8
**Exam #2 administered**

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Week 3: Quantified Logic

1 August Semantics of QL
Read: Magnus & Ichikawa, Ch. 9

2 August Natural Deduction Proofs for QL Part I
Read: Magnus & Ichikawa, Ch. 13

3 August Natural Deduction Proofs for QL Part II
Read: Magnus & Ichikawa, Ch. 14

4 August Natural Deduction Proofs for QL with Identity
Read: Magnus & Ichikawa, Ch. 12

5 August **FINAL EXAM**