COURSE INFORMATION FOR PHILOSOPHY 521

Instructor: Tom Weston

Office: AL-442

Computer lab: PSFA-136

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Texts:

P. Teller, *A Modern Formal Logic Primer,* available at Cal Copy (not in bookstore). Available soon. Available immediately on Blackboard.

Requirements:

Three midterm exams, only best two count, 30% each.

Comprehensive final, 35%.

Homework and lab work, 5%.

It is possible to take this course successfully without having taken a lower division logic course, but it quite difficult to do this. A previous course in logic is strongly recommended.

Brief Outline:

We will learn two artificial languages for representing arguments, propositional language and predicate language. We will develop a number of specific competencies in both of these languages and get some practice in using them to philosophical arguments.

For propositional language, we will study logical equivalences, translation to and from English, truth table tests for validity, and natural deduction proofs.

For predicate language, we will first study simplified syntax and interpretation of predicate logic, and translation to and from English. Then we will learn the full predicate language, full interpretations, proofs of invalidity by counterexamples, natural deduction proofs, and philosophical examples.

Remarks:

This course does not require previous experience with computers.

Attendance will not be taken, but failure to attend the lectures and the lab regularly is guaranteed to cause you problems.

This course becomes somewhat more difficulty toward the end, so try not fall behind. Seek the instructor's assistance early if you do not understand something after reading the text, listening in class, and attempting the problems.

The instructor will be happy to meet with any student who may need support services due to a disability. He will cooperate with DSS in providing authorized accommodations or support services for students.

Readings and Exercises:

Read Volume I, Chapter I, *Basic Ideas*, pp. 1-20

Ex. 1-2, a, c, e, g, i
Ex. 1-4, b, d
Ex. 1-5, a, b, e, f
Ex. 1-6, b, d, f

Read Chapter II, *Transcription Between English and Sentence Logic*, pp. 21-28

Ex. 2-2, a, c, e, g, i, k, m, o, q, s, u

Read Chapter III, *Logical Equivalence, Logical Truths, and Contradictions*, pp. 29-39

Ex. 3-2, a, c, e, g, i
Ex. 3-6, a, b, h

Read Chapter IV, *Validity and Conditionals*, pp. 46-57 Ex. 4-2, a, c, e; 4-5, a, c, e
Ex. 4-8, a, c, e, g, i, k

Do truth-table and translation exercises on computer

Read Chapter V, *Natural Deduction for Sentence Logic: Fundamentals*, pp. 59-74

Do proof exercises on computer

Read Chapter VI, *Natural Deduction for Sentence Logic: Strategies*, pp. 75-93

Do proof exercises on computer

FIRST MIDTERM

Read Chapter VI, *Natural Deduction for Sentence Logic: Derived Rules*, pp. 94-106

Do proof exercises on computer

Read Volume II, Chapter I, *Predicate Logic: Syntax*, pp. 1- 12

Ex. 1-1, a, c, e, g
Ex. 1-2, a, c, e, g, i
Ex. 1-3, b, c, g, i
Ex. 1-4, a, c, e, f, g, j, m
Ex. 1-5, a, c, g, g, i, h, m

Read Chapter II, *Predicate Logic: Semantics and Validity*, pp. 13-27

Ex. 2-1, a, b, d
Ex. 2-2, a, c, e, g, i
Ex. 2-4, a, c, e, g, i
Ex. 2-5(b), b1, b3, b5, b7, b9
Ex. 2-6, a, c, e, g, h (added problem)

Read Chapter III, *More About Quantifiers*, pp. 28-39

Ex. 3-1, a, c, e, f
Ex. 3-2, a, c, e, g, i

Read Chapter IV, *Transcription*, pp. 40-61

Ex. 4-3, a, c, e, g, i, k, m, o
Ex. 4-4, a, c, e, g, g, k, r, s, w, x, aa

Read Appendix "Translation Strategies: Successive Refinement"

Ex. 4-8, a, c, h, i, n, q, x, aa, ee, gg, mm, rr, uu, kkk

Do translation, truth, and validity exercises on computer.

Read Appendix "Proving Invalidity," do exercises

SECOND MIDTERM

Read Chapter V, *Natural Deduction in predicate logic*, pp. 62-90

Do proof problems on computer

Read Chapter VI, *More on Natural Deductions for Predicate* Logic, pp. 91-105

Do proof problems on computer

THIRD MIDTERM

Read about philosophical arguments in the Appendix, do exercises

FINAL EXAM (comprehensive)