

Phi 305: Elements of Symbolic Logic
Spring 2009; 12 MWF/STRONG 201
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Text: Gustafson and Ulrich, *Elementary Symbolic Logic* 2nd edition (Waveland Press, Inc., 1989)
Supplement to phi 305, prepared by Baker Bookstore

Course Requirements:

There will be four examinations during the semester, spaced approximately one month apart. Since the last exam will cover materials from the beginning of the semester it will receive greater weight in determining final grades. The exams will consist of logical problems and will test knowledge of the textbook and handouts.

Doing well in logic requires consistency, in study and practice. Accordingly, class time will emphasize homework and in-class exercises. Attendance is required.

All exams must be completed on the days they are assigned in order to pass the course. An unexcused absence for an exam means a zero for that exam.

Semester grades will be determined in the following way:

Exams 1, 2 and 3	20% each
Final exam	40%

I have set aside 11 to noon MWF and 2 to 3 MW for office hours. This is your time, so please feel welcome to use it. My office is Strong Hall 226 and my phone is 836-5923.

Requests for make-up exams must be documented, and will be judged by university rule, to wit:

"Instructors are encouraged to cooperate with those students who are absent because of circumstances over which the student has no control or when the student is participating in University sponsored activities."

Moreover, please respect my right to set the dates for approved make-ups.

Finally, be aware that cheating on an examination will result in a course grade of "F." (For University policy regarding academic dishonesty, see <http://www.smsu.edu/acadaff/AcademicIntegrity.html>.) Please bring to my attention class needs or learning aids required because of a handicap or disability. For more technical support, contact Disability Services, Plaster Student Union, Suite 405.

Class Schedule:

Chapter 1. Introduction

Jan 14 h1 "validity and soundness"

Jan 16 1.2 'And', 'Or', and 'Not', pp 10-15: exercises I and II, pg 15

Jan 21 1.3 Ampersand, wedge and tilda, pp 16-21: exercise I, pp 21-22; h2
>symbolization"

Jan 23 1.3 Ampersand, wedge and tilda continued, pp 22-27: exercises I and II, pp 27-28

Jan 26 1.4 Material conditionals and biconditionals, pp 29-34: exercise I, pp 34-35

Jan 28, 30 Translation exercises: h3 "more symbolization;" h4 "symbolizing arguments"

Chapter 2. Sentential Logic: semantic methods

Feb 2 2.1 Truth tables, 39-44: exercises I and II, pg 45; 2.2 Truth-tables for horseshoe and tribar, 46-49: exercises I, II, III and IV, pg 50; h5 "extra symbolization" assigned for independent work

Feb 4 Testing for validity: the truth-table method explained: exercises I, II, III and IV, pp 57-58; Testing for validity continued: bi-conditionals: exercises II and V, pp 62-63; apply truth-tables to h4

Feb 6, 9 2.4 Another test: the method of assigning truth-values: pp 64-68: exercise I, pp 68-69: translations provided; application to h5; h6 "short method truth tables"

Feb 11, 13 Truth Trees, pp 277-289; h19 "exercise for truth trees"

Feb 18 Exam #1

Chapter 3. Sentential Logic: deductive methods

Feb 20 professional exam puzzles

Feb 23 3.1 Rules of inference and replacement for ampersand, wedge and tilda, pp. 79-93: exercise I, pg 85 and exercises pg 93-95 [translation provided]

Feb 25, 27 3.2 Rules of inference and replacement for horseshoe and tribar, pp 99-106: exercises I, II and III, pp 106-109 [translation provided]

Mar 2 3.3 Conditional proof, pp 110-117: exercises I and II, pg 113 and exercises I and II, pp 117-118 [translation provided]

Mar 4 3.4 Indirect proof, pp 119-122: exercises I, II and IV, pp 122-124 [translation provided]

Mar 6, 9 h8 "indirect and conditional proofs;" h9 "more derivations;" h10 sample exam

March 11 Exam #2

Chapter 5. Quantificational Logic: translation

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- March 13, 16 Introduction to quantification symbolization: h11 "predicate logic;" h12 "more predicate symbolization;" h12.5 "symbolization self help"
- Mar 18 5.1 Quantifiers and related apparatus, pp 139-151: exercise I, pg 151
- Mar 20 5.1 Quantifiers and related apparatus (continued), pp 152-154: exercise II, pp 154-156
- Mar 30 5.2 Multiple quantification and relations, pp 157-168: exercise, pp 168-169; work sheet for 5.1 and 5.2 provided
- April 1, 3 5.2 Multiple quantification and relations (continued), pp 169-176: exercises II and III (selected), pp 177-179
- April 6, 8, 13 h13 "extra predicate symbolization;" h14 sample exam; h15 "predicate symbolization again"

April 15 Exam #3

Chapter 7. Quantificational Logic: deductive methods

- April 20, 22 7.1 The rules for EI, EG, UI, UG and QN, pp 213-232: exercises pp 219-220, 229-230 and 232 [translation provided]
- April 24, 27, 29 7.2 Stratagems, pp 233-240: exercises I, II, III and IV, pp 240-243 [translation provided]
- May 1 h16 "extra symbolization"
- May 4, 6 h17 sample exam; h18 "more derivations"

Wednesday, May 13, 11:00 a.m. to 1:00 p.m. Exam #4

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