

Spring 2008 • MW 10:35am-11:50am • 428 Pupin Laboratories

Office Hours T 2:30pm–4:30pm • 702 Philosophy Hall • tel. 4-3531 • email: av72 • url: ~av72

Course website: <http://www.columbia.edu/~av72/elementarylogic>

- ❖ **SUBJECT.** An elementary introduction to the basic concepts and methods of modern logic, with emphasis on their significance for the analysis of meaning and the appraisal of complex patterns of reasoning.
- ❖ **REQUIREMENTS.** There will be two one-hour tests and a final three-hour examination. Each test will be worth 25% of the final grade, while the final examination will account for 40% of the grade. The remaining 10% will be based on weekly home assignments. (Unless otherwise specified, homework will be assigned on Wednesday and due the following Monday.)
- ❖ **TEXT.** The textbook is J. Nolt et al., *Logic, Second Edition*, New York, McGraw-Hill (Schaum's Outline Series), 1998. Copies of this book are available at the Columbia University Bookstore.
- ❖ **SCHEDULE.** A tentative schedule is given below; HW assignments (and solutions) will be posted on the web.

| <i>Week</i> | <i>Date</i> | <i>Topic</i> | <i>Reading(s)</i> | <i>HW due</i> |
|---------------------|-------------|---|-------------------|---------------|
| 1. | 1/23 | Introduction: What is logic? | § 1.1 | |
| 2. | 1/28 | Argument structure (1): Identifying arguments | § 1.2 — § 1.3 | |
| | 1/30 | Argument structure (2): Diagrams | § 1.4 — § 1.5 | |
| 3. | 2/4 | Argument structure (3): Refinements | § 1.5 — § 1.8 | #1 |
| | 2/6 | Argument evaluation (1): A brief overview | Ch 2 | |
| 4. | 2/11 | Propositional logic (1): Argument forms | § 3.1 — § 3.2 | #2 |
| | 2/13 | Propositional logic (2): Formalization | § 3.3 | |
| 5. | 2/18 | Propositional logic (3): Semantics of the logical operators | § 3.4 | #3 |
| | 2/20 | Propositional logic (4): Truth tables for formulas | § 3.5 | |
| 6. | 2/25 | Review Session | / | #4 |
| | 2/27 | TEST # 1 (25%) | / | |
| 7. | 3/3 | Propositional logic (4): Truth tables for argument forms | § 3.6 | |
| | 3/5 | Propositional logic (5): Refutation trees | § 3.7(a) | |
| 8. | 3/10 | Propositional logic (6): Refutation trees, cont'd | § 3.7(b) | #5 |
| | 3/12 | Propositional logic (7): Puzzles and Applications | / | |
| <i>Spring Break</i> | | | | |
| 9. | 3/24 | Categorial statements (1): Formalization | § 5.1 | #6 |
| | 3/26 | Categorial statements (2): Venn diagrams and immediate inferences | § 5.2 — § 5.3 | |
| 10. | 3/31 | Categorial statements (3): Categorial syllogisms | § 5.4 | #7 |
| | 4/2 | Categorial statements (4): Syllogistic figures | / | |
| 11. | 4/7 | Review Session | / | #8 |
| | 4/9 | TEST # 2 (25%) | / | |
| 12. | 4/14 | Predicate logic (1): Quantifiers and variables | § 6.1 | |
| | 4/16 | Predicate logic (2): Predicates and names | § 6.2(a) | |
| 13. | 4/21 | Predicate logic (3): More on formalization; formation rules | § 6.2(b) – § 6.3 | #9 |
| | 4/23 | Predicate logic (4): Formalizations involving identity | § 6.6(a) | |
| 14. | 4/28 | Predicate logic (5): Refutation trees | § 6.5(a) | #10 |
| | 4/30 | Predicate logic (6): Refutation trees, cont'd | § 6.5(b) | |
| 15. | 5/5 | Predicate logic (7): Refutation trees, cont'd | § 6.6(b) | #11 |
| | tba | Review Session(s) | | |
| | tba | FINAL EXAMINATION (40%) | | |