

## Syllabus

**Text:** Patrick Hurley. *A Concise Introduction to Logic*, 8th edition. Wadsworth.

### Topics to be Covered:

- Basic Concepts. Chapter 1. §§1, 4 (pp. 43-47, 51-52, only)
- Propositional Logic. Chapter 6. §§1, 2, 3, 4, 5
- Deductions in Propositional Logic. Chapter 7. All sections.
- Predicate Logic. Chapter 8. All sections.

### Requirements:

- Attendance
- Homework, for each class (see below)
- Two mid-term tests (60%, 30% each)
  - Note: All exams are mandatory. There are *no* make-up exams.
- Final Exam (40%)

### Schedule:

Date	Topic Name	Homework to do for next class (see below for explanatory notes)
Sept 3	Arguments; Validity and Soundness; Translation using Propositional Logic	§1.1: I.1, 2, 5, 8, 11, 13, 14, 20 §1.4: I. 1, 3, 4, 7, 9, 10, 12, 14 §6.1: I.1-9, 11, 13-16, 19-23, 26, 29, 30, 33, 38, 39, 44, 46, 49; II.3-5, 7-10, 15-18
Sept 10	Wffs Truth Functions	§6.1: III.1-10 §6.2: I.1-4, 9, 10; II.1-3, 6-9, 12; III.1-3, 6-10, 13, 15, 18, 23, 24; IV.1-8, 11, 12, 14
Sept 17	Truth Tables; Propositions; TT's for Arguments	§6.3: I.1, 2, 3, 6, 9, 11, 12, 14; II.1-5, 8, 11; III.2, 4, 7, 8, 10 §6.4: II.1, 3, 5, 6, 14, 15, 18; I.1, 4, 5, 8
Sept 24	Invalidity; Inconsistency; Rules of Implication	Review for Test
Oct 1	Test 1: Chapters 1 and 6	§6.5: I.3, 6, 7, 10, 12, 15; II.2, 3, 5, 9 §7.1: III.1-6, 8-11, 14, 15, 18, 20; IV.1, 4, 8 §7.2: III.1-4, 7-9, 11, 12, 16, 17; IV.1, 3, 5, 9 Note: If you struggle with the exercises in III, in §7.1 and §7.2, try doing some problems in I and II, first.

<b>Date</b>	<b>Topic Name</b>	<b>Homework to do for next class (see below for explanatory notes)</b>
Oct 8	Rules of Replacement	<b>§7.3:</b> <b>III.</b> 3-10. 17, 20, 21, 24, 27, 29; <b>IV.</b> 1, 3, 4, 9 <b>§7.4:</b> <b>III.</b> 2, 5, 11-14, 19, 24-27; <b>IV.</b> 1-3, 5, 8, 10 Note: If you struggle with the exercises in <b>III</b> , in §7.3 and §7.4, try doing some problems in <b>I</b> and <b>II</b> , first.
Oct 15	Conditional Proof; Indirect Proof; Logical Truths	<b>§7.5:</b> <b>I.</b> 1, 3, 5, 7, 10-12, 14, 17, 18; <b>II.</b> 1-3 <b>§7.6:</b> <b>I.</b> 1-4, 7, 9-12, 16, 17, 19; <b>II.</b> 2, 4 <b>§7.7:</b> 1-3, 9, 12, 16, 17
Oct 22	Translation to Predicate Logic	Review for Test
Oct 29	Test 2: Chapter 7	<b>§8.1:</b> 1-11, 20, 26, 30-34, 38, 40-45, 49-53, 57-60
Nov 5	Quantifier Introduction and Elimination; Changing Quantifiers	<b>§8.2:</b> <b>I.</b> 1-5, 7-10, 12, 14; <b>II.</b> 1, 3-7, 10 <b>§8.3:</b> <b>I.</b> 1-8, 10, 11, 13, 15; <b>II.</b> 1, 3, 5-7
Nov 12	Conditional and Indirect Proof, Predicate Versions; Invalidity	<b>§8.4:</b> <b>I.</b> 1-3, 6-8, 10, 12, 15, 19, 21; <b>II.</b> 1-4, 6, 9 <b>§8.5:</b> <b>II.</b> 1, 2, 4, 6, 9; <b>III.</b> 2, 4, 5
Nov 19	Relational Predicates, Translation and Derivation	<b>§8.6:</b> <b>I.</b> 1-4, 7-10, 13, 14, 17, 19, 20, 23, 24, 27, 28, 30; <b>II.</b> 1-4, 7-9, 13-15, 19 'Translating to English' Handout
Dec 3	Identity, Translation	<b>§8.7:</b> <b>I.</b> 2, 3, 6, 7, 9, 10, 13, 14, 17, 20, 21, 24-27, 29, 31, 33, 34, 35, 37, 39, 40, 42, 43, 45, 46
Dec 10	Identity, Derivations	<b>§8.7:</b> <b>II:</b> 2, 3, 4, 6, 11, 13, 16, 18, 20; <b>III.</b> 1, 6, 8, 10, 14, 16 Review for Final

Final: December 17

Notes on Homework:

Chapter and Chapter Section Numbers (e.g. **§6.3**) and Exercise Section Numbers (Roman Numerals) appear in bold. Specific exercise numbers appear in normal font.

These HW problems are assigned to help you master the material. If you need more work, do more problems. I strongly encourage you to use the text as a reference guide. The chapter sections include excellent examples, and solutions. Read on a need-to-know basis: when you have difficulty with specific problems, read the relevant sections of the chapter.