

## **Course Outline Introduction to Formal Logic**

### Course Description:

This course offers students an introduction to the basics of formal deductive logic. The course begins by examining the translation of English sentences into formal symbolic language. Following this, students will be introduced to two methods for evaluating formal symbolic language: truth tables and proofs. In the remainder of the course, students will learn the basics of quantificational logic.

### Course Texts:

I am aware of the financial impediments posed by acquiring materials for class. To remove this potential barrier to your academic success, all readings are free-to-use and made available electronically.

### Course Reading Schedule:

#### **Day 1: Introduction**

#### **Day 2: Arguments and Sentences**

Reading: Magnus, *forallx* (pp. 5-7)

#### **Day 3: Validity and Soundness**

Reading: Magnus, *forallx* (pp. 7-9)

#### **Day 4: Truth Values, Equivalence, and Consistency**

Reading: Magnus, *forallx* (pp. 10-12)

#### **Day 5: Formal Language**

Reading: Magnus, *forallx* (pp. 12-14)

#### **Day 6: Sentence Letters**

Reading: Magnus, *forallx* (pp. 16-17)

#### **Day 7: Connectives**

Reading: Magnus, *forallx* (pp. 18-27)

#### **Day 8: Sentential Logic Sentences**

Reading: Magnus, *forallx* (pp. 27-31)

#### **Day 9: Truth Tables I**

Reading: Magnus, *forallx* (pp. 35-38)

#### **Day 10: Truth Tables II**

Reading: Magnus, *forallx* (pp. 39-40)

#### **Day 11: Truth Tables III**

Reading: Magnus, *forallx* (pp. 40-42)

#### **Day 12: Proofs: Conjunction and Disjunction**

Reading: Magnus, *forallx* (pp. 102-106)

**Day 13: Proofs: Conditionals**

Reading: Magnus, *forallx* (pp. 106-109)

**Day 14: Proofs: Biconditionals and Negation**

Reading: Magnus, *forallx* (pp. 110-111)

**Day 15: Proofs: Rules of Derivation I**

Reading: Magnus, *forallx* (pp. 112-113)

**Day 16: Proofs: Rules of Derivation II**

Reading: No Readings

**Day 17: Proofs: Rules of Replacement I**

Reading: Magnus, *forallx* (pp. 113-115)

**Day 18: Proofs: Rules of Replacement II**

Reading: No Reading

**Day 19: Proofs: Solution Strategies**

Reading: Magnus, *forallx* (pp. 122-123)

**Day 20: Introduction to Quantified Logic (QL)**

Reading: Magnus, *forallx* (pp. 46-48)

**Day 21: Basics of QL**

Reading: Magnus, *forallx* (pp. 48-51)

**Day 22: Quantifiers**

Reading: Magnus, *forallx* (pp. 52-55)

**Day 23: QL Translations I**

Reading: Magnus, *forallx* (pp. 55-60)

**Day 24: QL Translations II**

Reading: Magnus, *forallx* (pp. 60-65)

**Day 25: QL Sentences**

Reading: Magnus, *forallx* (pp. 65-67)

**Day 26: Identity**

Reading: Magnus, *forallx* (pp. 68-72)