Syllabus of the Logic pre-course
University of Calabria
Academic year 2022-2023

1. Basic logical concepts
   1.1. What is logic?
   1.2. Preliminary definitions
      1.2.1. Sentences and propositions
      1.2.2. Arguments, premises and conclusions
      1.2.3. Complex arguments
   1.3. Some clarifications
      1.3.1. Validity and truth
      1.3.2. Deduction and induction
   1.4. Exercises

2. Categorical propositions
   2.1. The theory of deduction
   2.2. Categorical propositions
   2.3. The traditional square of proposition
   2.4. Exercises

3. Categorical syllogisms
   3.1. Standard-Form categorical syllogism
   3.2. Syllogistic rules
   3.3. Fifteen valid forms of the categorical syllogism
   3.4. Natural language and syllogism
   3.5. Exercises

4. Fallacies
   4.1. What is a Fallacy?
   4.2. Classification of fallacies
      4.2.1. Fallacies of relevance
      4.2.2. Fallacies of presumption
      4.2.3. Fallacies of ambiguity
   4.3. Syllogistic fallacies
   4.4. Exercises

5. Symbolic Logic
   5.1. Modern logic and its symbolic language
   5.2. The Three principles of logic
   5.3. Logical connectives
      5.3.1. Conjunction and disjunction
5.3.2. Negation
5.3.3. Material implication and co-implication
5.4. Truth-tables
5.5. Exercises

6. Predicate Logic: Quantification theory
   6.1. Singular propositions and subject-predicate propositions
   6.2. Universal and existential quantifiers
   6.3. Exercises

7. A Brief overview of the propositional calculus and some logical theorems

Syllabus is subject to change at instructor’s discretion to accommodate the needs of the class and specific learning outcomes.

References