

PHIL 210: SYMBOLIC LOGIC

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2021
Credits:	3
Total Contact Hours:	54
Lecture Hours :	54
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	108
Strongly Recommended:	ENGL 101.
District General Education:	A2. Communication & Analytical Thinking
Transferable to CSU:	Yes
Transferable to UC:	Yes - Approved
Grading Method:	Standard Letter

Catalog Course Description

A course concentrating on formal logic, including both sentential and predicate logic, methods of symbolization and proof. Differs from PHIL 110 in omitting informal logic and going further in the study of formal logic. Previous completion of PHIL 110 not required. 54 lecture hours.

Course Objectives

- Understand the formal nature of reasoning, and to symbolize an argument and prove its validity or invalidity using an appropriate formal method.
- Construct a truth table for an argument in sentential logic and understand what it shows about the validity or invalidity of an argument.
- Construct a formal proof for an argument in either sentential or predicate logic.
- Construct a truth tree for an argument in either sentential or predicate logic.

Major Course Content

1. Elements of an Argument
2. Deduction
3. Induction
4. Truth & Validity
5. Soundness
6. Consistency
7. Symbolizing in Sentential Logic
8. Truth Tables
9. Proofs
10. Conditional and Indirect Proofs
11. Sentential Logic Truth Trees
12. Predicate Logic Symbolization
13. Logic Semantics
14. Predicate Logic Proofs
15. Relational Predicate Logic
16. Four Quantifier Rules

17. Predicate Logic Truth Trees
18. Identity and Philosophical Problems of Symbolic Logic
19. Syllogistic Logic

Suggested Reading Other Than Required Textbook

Jeffery, Richard. Formal Logic: Its Scope and Limits. McGraw -Hill, inc. New York. 1991.

Examples of Required Writing Assignments

Logic is a form of philosophic and linguistic mathematics. Formal logic is essentially a calculation based activity that is concerned with the formulation and discernment of logical proofs to evaluate the truth value of arguments. It does this by assessing arguments, reducing them to atomic variables and logical operators, and applying the rules of inference to discern the truth or falsity of the assertion. Some assignments would include the writing of the lines of proof into colloquial verbiage in translation.

Examples of Outside Assignments

Adhere thirty 3 x 5 index cards together to form a book. Write the 19 Rules of Inference on them to be used for memorization.

Instruction Type(s)

Lecture, Online Education Lecture