

PHIL 4 Course Outline as of Spring 2003

CATALOG INFORMATION

Dept and Nbr: PHIL 4

Title: INTRO SYMBOLC LOGIC

Full Title: Introduction to Symbolic Logic

Last Reviewed: 4/12/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**  
An introduction to modern symbolic logic from Statement Logic (SL) through first order Predicate Logic (PL) plus identity. The course explores the relationship between modern symbolic logic and developments in analytic philosophy. Areas of possible content include the relation between logic and computer systems.

**Prerequisites/Corequisites:**

**Recommended Preparation:**  
Concurrent enrollment or completion of ENGL 100 or ESL 100 and concurrent enrollment or completion of MATH 150A.

**Limits on Enrollment:**

**Schedule of Classes Information:**  
Description: Development of modern symbolic logic through first order predicate logic plus identity. Emphasis on translation and proof techniques. Provides a basis for understanding recent analytic trends. Content can include the relation between logic and computer systems. (Grade or P/NP)

**Prerequisites/Corequisites:**

Recommended: Concurrent enrollment or completion of ENGL 100 or ESL 100 and concurrent enrollment or completion of MATH 150A.

**Limits on Enrollment:**

Transfer Credit: CSU;UC. (CAN PHIL6)

Repeatability: Two Repeats if Grade was D, F, NC, or NP

**ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>		Effective:	Inactive:
	B	Communication and Analytical Thinking	Fall 1981	
<b>CSU GE:</b>	<b>Transfer Area</b>		Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>		Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective:	Fall 1981	Inactive:
<b>UC Transfer:</b>	Transferable	Effective:	Fall 1981	Inactive:

**CID:**

CID Descriptor:PHIL 210 Symbolic Logic

SRJC Equivalent Course(s): PHIL4

**Certificate/Major Applicable:**

Not Certificate/Major Applicable

**COURSE CONTENT****Outcomes and Objectives:**

Upon completion of this course, the student will be able to:

1. Distinguish arguments from non-arguments in ordinary language.
2. Examine ordinary statements for ambiguity, equivocation and clarity.
3. Generate translations from ordinary language into symbolic notations.
4. Distinguish valid from invalid argument forms.
5. Analyze complex expression into simple forms.
6. Determine truth values for complex expressions.
7. Deduce valid conclusions using proof strategies and rules.
8. Develop First Order Predicate Logic as an extension of Statement Logic.
9. Evaluate recent analytic philosophical positions using symbolic notations.
10. Describe the relation between modern symbolic notations and other formal systems, for example, computer languages.

**Topics and Scope:**

1. The nature of logic, arguments, and deduction
2. Ordinary language and formal notation
3. Statement logic and well formed expressions
4. Truth table construction
5. Truth table analysis for arguments and complex expressions

6. Truth trees
7. Rules of natural deduction
8. Predicate logic
9. Translation into quantified expressions
10. Quantification Rules
11. Identity theory
12. Modern formal systems

### Assignment:

Read approximately 50 pages of text per week.

Complete chapter end problems.

Demonstrate problem solving skills in class.

Occasionally assign and organize class problem solving presentation.

Formal problem solving exams.

In class quizzes.

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Exams

Problem solving  
10 - 30%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Proof derivations and Truth Table applications

Skill Demonstrations  
10 - 30%

**Exams:** All forms of formal testing, other than skill performance exams.

Completion, Creating proofs, Quizzes

Exams  
40 - 70%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

### Representative Textbooks and Materials:

Barwise and Etchemendy; LANGUAGE PROOF AND LOGIC, 2000  
Robert McArthur, FROM LOGIC TO COMPUTING, 1991