

PHIL 4 Course Outline as of Fall 1981**CATALOG INFORMATION**

Dept and Nbr: PHIL 4 Title: INTRO SYMBOLIC 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 symbolic systems as means for representing deductive logic and reasoning. The course will examine the nature of logic, as well as the principles and techniques relevant to sentential and predicate logic.

Prerequisites/Corequisites:

Completion of or concurrent enrollment in ENGL 100A or ENGL 100, or MATH 150A or the equivalent.

Recommended Preparation:**Limits on Enrollment:****Schedule of Classes Information:**

Description: Intro to symbolic systems as means for representing deductive logic & reasoning.

Lect/discussions focus on concepts that range from simple to complex. (Grade or P/NP)

Prerequisites/Corequisites: Completion of or concurrent enrollment in ENGL 100A or ENGL 100, or MATH 150A or the equivalent.

Recommended:

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:

AS Degree:	Area	Effective:	Inactive:
	B	Communication and Analytical Thinking	Fall 1981

CSU GE:	Transfer Area	Effective:	Inactive:
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IGETC:	Transfer Area	Effective:	Inactive:
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CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
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UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:
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CID:

CID Descriptor:PHIL 210 Symbolic Logic

SRJC Equivalent Course(s): PHIL4

Certificate/Major Applicable:

Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:

The student will:

- 1) Review the fundamental concepts of deductive logic.
- 2) Acquire the understanding of the artificial languages of
(a) sentential logic and (b) first order functional calculus.
- 3) Demonstrate understanding of the elementary valid inference forms
as expressed in the symbolic system given in standard texts.
- 4) Demonstrate ability to construct various types of proofs employing
elementary deductive forms with varying degrees of complexity.
- 5) Construct successful conditional proofs and indirect proofs.
- 6) Demonstrate knowledge of concepts associated with transition to
advanced symbolic logic.

Topics and Scope:

PART ONE:

Unit 1: The Nature of Logic

Argument, premises, conclusions, deduction, induction.

Unit 2: Truth and validity

PART TWO:

Unit 3: Sentential logic

Not, and, inclusive or.

Truth table construction.

Unit 4: Statement construction and complex operators.

If, only if, if and only if, not both, neither nor,
exclusive or.

Well formed/ill formed constructions.

Unit 5: Determining truth value of complex statements through truth tables.

Unit 6: Determining the validity status of deductive arguments through truth tables.

Wang's algorithm.

Unit 7: Natural deduction.

Rules of inference.

Rules of replacement.

PART THREE:

Unit 8: Predicate logic.

Quantification: individuals, properties, constants, variables.

Quantifier scope, free and bound variables.

Unit 9: Quantifier inference rules.

Assignment:

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 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, Quizzes, Exams

Problem solving
0 - 20%

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

None

Skill Demonstrations
0 - 0%

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

Completion, Creating proofs

Exams
60 - 70%

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

None

Other Category
0 - 0%

Representative Textbooks and Materials:

Copi, Irving: Introduction to Symbolic Logic

Kahane, Howard: Logic and Philosophy

Schagrin, Morton: Logic: A computer Approach