PHIL 4 Course Outline as of Fall 2015

CATALOG INFORMATION

Dept and Nbr: PHIL 4 Title: INTRO SYMBOLIC LOGIC
Full Title: Introduction to Symbolic Logic
Last Reviewed: 10/27/2014

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:
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.

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. (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.
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:
IGETC:	**Transfer Area**		Effective:	Inactive:

CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	
UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:	

CID:
CID Descriptor: PHIL 210 Symbolic Logic
SRJC Equivalent Course(s): PHIL4

Certificate/Major Applicable:
Major Applicable Course

COURSE CONTENT

Student Learning Outcomes:
Upon completion of the course, students will be able to:
1. Reduce complex English sentences into the simpler component parts.
2. Translate typical English connectives.
3. Perform valid proofs for valid arguments using the statement logic.
4. Perform valid proofs in the predicate logic using four additional quantifier rules as extension of the statement logic.

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 attempt to provide a method of analysis and as a possible foundation for mathematics
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.
11. Trace the historical development of modern symbolic logic and show the attempt to base mathematics on the foundation of the extended predicate logic.

12. Translate English statements with “or” “and” “if, then” “not” into the statement logic notation

Topics and Scope:

I. The nature of logic, arguments, and deduction
II. Ordinary language and symbolic notation
III. Statement logic and well formed expressions
IV. Truth table construction
V. Truth table analysis for arguments and complex expressions
VI. Truth trees
VII. Rules of natural deduction
VIII. Predicate logic
IX. Translation into quantified expressions
X. Quantification rules
XI. Identity theory
XII. Modern formal systems
XIII. Identify ambiguous and equivocal statements

Other topics may include:
XIV. The relation between logic and computer systems

Assignment:

1. Read approximately 50 pages of text per week
2. Complete weekly chapter end problems
3. Demonstrate problem solving skills, including demonstrations and proofs, in small group class discussion on a weekly basis
4. 2-5 problem solving exams
5. Weekly in-class quizzes
6. Final exam
7. Additional assignments may include: Individual problem solving presentation

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, In class demonstrations and proofs, problem solving presentation	Problem solving 40 - 70%

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.

Quizzes, Midterm exams, Final	Exams 30 - 60%

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

None	Other Category 0 - 0%

Representative Textbooks and Materials:

A Concise Introduction to Logic, 11th Edition. Hurley, Patrick J. Wadsworth Publishing: 2013

Formal Logic: Its Scope and Limits, Fourth Edition. Jeffrey, Richard. Hackett Publishing Co.: 2006 (classic)

Introduction to Logic, 14th edition. Copi, Irving. Prentice Hall: 2010

Introduction to Logic. Gensler, Harry. Routledge: 2010

Language Proof and Logic. Barwise, Jon and Etchemendy, John. University of Chicago Press: 2011

Logic: The Laws of Truth by Smith, Nicholas JJ. Princeton University Press: 2012

The Logic Book, 6th Edition. Bergmann, Merrie. McGraw Hill: 2013

Modern Logic: A Text in Elementary Symbolic Logic. Forbes, Graeme. Oxford University Press: 1994 (Classic)