

Viewing: **PHIL 202 : Symbolic Logic**

Last approved: 11/30/22 3:51 am

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History

1. Feb 15, 2022 by Teresa Spence (tcspence)
2. Nov 30, 2022 by Deb Forgacs (dforgacs)

Catalog Pages
referencing this course

[PHIL - Philosophy](#)

Programs referencing
this course

[0332: Philosophy Minor](#)

[10KV0332BALA: Philosophy, BALAS](#)

[10KV5876BSLA: Brain & Cognitive Science, BSLAS](#)

General Information

Effective Term:

College: Liberal Arts & Sciences

Department/Unit: Philosophy (1715)

Name (ORG
Code):

Course Subject: Philosophy (PHIL)

Course Number: 202

Course Title:

Abbreviated Title: Symbolic Logic

Course

Description:

Introduction to the techniques of formal logic, dealing primarily with truth-functional logic and quantification theory.

Justification

Justification for change:

Please Note: a syllabus is
required for General
Education review:

Course Information

Course Credit

Course credit:

Undergraduate: 3

Graduate:

Professional:

Registrar Use

Only:

Banner Credit: 0 OR 3

Billable Hours: 0 OR 3

Grading Type

Grading type: Letter Grade

Alternate Grading
Type (optional):

Available for DFR: No

Repeatability

May this course
be repeated? No

Credit Restrictions

Credit
Restrictions:

Advisory Statements

Prerequisites:

Concurrent
Enrollment
Statement:

Restricted
Audience
Statement:

Cross-listing

Cross Listed
Courses:

Class Schedule Information

Class Schedule
Information:

Fees

Is a fee requested No
for this course?

Course Description in the Catalog Entry

This is how the above information will be represented in the Catalog:

Introduction to the techniques of formal logic, dealing primarily with truth-functional logic and quantification theory.

Additional Course Notes

Enter any other
course
information
details to be
included in the
catalog:

Course Detail

Frequency of
course:

Every Fall
Every Spring

Duration of the Full
course

Anticipated 50
Enrollment:

Freshman:	Sophomore:	Junior:	Senior:
50 %	50 %	N/A	N/A

Expected distribution of student registration:

General Education

General Education Quantitative Reasoning I
Category

General Information

Is the course required for a major concentration? Yes

Specify which ones
(program or department)
BALAS in Philosophy

Is the course part of a sequence? No

What is the frequency with which the course will be offered?:
(For Example: every semester, once a year)

Every semester

Briefly describe how the course fulfills the General Education objectives:

Phil 202 introduces students to logic as the science of correct reasoning. On the one hand, as a relatively formal and technical course, Phil 202 empowers students to thrive in courses where logical skills are critical, such as particular philosophy, linguistics, computer science, and mathematics courses. On the other hand, this course is sufficiently general to train students in the most abstract of abstract reasoning. Upon successfully completing the course, students will have a deep understanding of the normative and descriptive aspects of arguments and reasoning, a better understanding of the logical aspects of natural language, and have the foundation to study the scope and limits of logic should they choose to pursue the study of logic further. Given the nature of the material and the format and requirements of the course (i.e., quantifiable logic exercises and logical proofs), this course does not easily lend itself to materials focused on issues related to women and gender. However, as the committee will see from the revised syllabus we are submitting (dated 2-10-22), the Philosophy faculty who teach 202--and the department overall--recognize the importance of these issues as part of a student's work in general education. Therefore, they have revised the course schedule to include a focus in five weeks during the semester on lesser-studied and/or overlooked prominent women logicians in history, namely Ruth Barcan Marcus,

Mary Everest Boole, Ada Lovelace, and Angelika Kratzer. The syllabus also now forecasts this material in its introductory section. Each of these added elements on the syllabus are highlighted in yellow, for the committee's convenience.

Describe the instructional format and provide special justification, if necessary:

Regardless of the modality (online or face-to-face) this courses involves a mixture of three main elements: lectures, assessments, and collaborative discussions and problem solving in three, 50-minute lectures each week. Lectures will present and explain new material. In addition, there is time set aside for more interactive sessions where the class can discuss practice problems or review for exams. Phil 202 requires the building and honing of a set of skills, which students learn via many problem sets. The course is also more traditionally philosophical. Thus, discussions involve collaborating on problem sets and sometimes discussing the more philosophical aspects of logic.

The student-instructor ratio is roughly 1:25, as the online sections for Fall 2022 are to be capped at 50 students each, with one faculty member and one TA/grader. The two sections offered f2f in Spring 2022 are capped at 19 each, both taught by a TA independently.

Describe the means by which the Communication Skills goal will be achieved:

Introductory logic begins as a model of argumentative validity for particular subsets of natural languages. In learning these models, students gain insight into the logical structure of natural languages and into the structure and quality of natural language arguments. Students learn to translate natural language arguments into symbolic languages and evaluate the results for various argumentative properties. The course's progression coincides with a greater focus on symbolic languages generally, abstracting away from natural languages. The successful student exists the course with greater communicative fluency than when they entered.

Describe how evaluation and adherence to General Education guidelines will be monitored:

Please indicate the timeline for such evaluations

The Department of Philosophy will maintain and improve the adherence of the course to the General Education guideline as well as the quality of instruction through the following measures: Review of the syllabus by the department's Undergraduate Program Committee before each semester; Class observations by the department head and other faculty members during the semester; Student response to the ICES form at the end of the semester, and Reflective self-evaluations by the instructor conducted during and after the semester.

Through class observations, feedback is sought from faculty members who are not specialized in symbolic logic, with a view to ensuring the accessibility of the course to students with no previous exposure to symbolic logic, and to keeping the course from being narrowly focused on symbolic elements of logic (i.e., not paying enough attention to communication skills and other necessary elements of a General Education course).

The department is also mindful of the ongoing development of the General Education Learning Outcomes Assessment Plan, and will implement any assessment measures the Plan will eventually provide.

Indicate those who will teach the course and describe procedures for training & supervising teaching assistants:

This course will be taught by several members of the Department of Philosophy: Profs. Jesse Fitts, Kohei Kishida, Ben Levinstein, Christopher Weaver, and graduate teaching assistants. The course has a cap of 50-75 students and usually fills to about 75% of that cap. The Philosophy department assigns graders for faculty on a basis of 1 grader per 80 students enrolled. That grader has a 50% appointment for the semester (therefore it is the grader's only appointment). As noted above, if a faculty member teaches the course, a graduate student serves as a grader. In other semesters, a graduate student may teach the course as an independent instructor. As a grader, they will attend and observe lectures. The instructor will monitor the interaction the grader has with students (including but not limited to feedback given in the grading), and provide them with supervision and guidance over regular meetings. When a graduate student is to teach the course independently, it will have a smaller cap (19 students) and the instructor will be chosen from graduate students with extensive experience of serving the course as a grader, based on recommendations by the faculty members who teach the course. The graduate instructor will be supervised by faculty members through regular meetings and occasional class observations.

Quantitative Reasoning I

Which type of course is this?

Symbolic Logic

How does the course emphasize the algebra of symbolic and scientific reasoning, and introduce the techniques of formal logics, including truth-fundamental logic and quantification theory, methods for the valuation of scientific evidence, and the use of scientific information in decision making?

The entire course focuses on (in roughly equal parts) truth-functional and quantificational logic. In addition to this, the course gives students a precise understanding of what it means for a logic to be truth functional, contrasting truth-functional connectives with non-truth functional. Similarly, the course touches on the philosophical aspects of quantification.

How does the course teach the student the translation of verbal arguments into their symbolic counterparts, the manipulation of symbols, and the translation of word problems into their symbolic representations?

For roughly half the course, students translate English language arguments into symbolic representations. For the other half of the course, students determine (1) whether the conclusion of those arguments follows deductively from the argument's premises and (2) whether the conclusion can be proved, in a particular proof system, from the argument's premises, which involves manipulating symbols.

Interpreting "word problem" broadly, all of these problems are word problems. Nevertheless, the course regularly stresses that these symbols can always be regarded as abbreviations that stand for both logical words (e.g. "and", "or") and substantive words / phrases / sentences from scientific, scholarly, civic, and any other discourses, so that students will not lose the perspective that all these arguments and proofs underlie "real" reasoning and thinking in such discourses.

Additional Course Information

Does this course replace an existing course? No

Does this course impact other courses? No

Does the addition of this course impact the departmental curriculum? No

Has this course been offered as a special topics or other type of experimental course? No

Will this course be offered on-line?
Online and Face-to-Face

Faculty members who will teach this course:

Course ID: 1005695

Comments to

Reviewers:

The course is being taught in both online and f2f formats. In Fall 2021 and Fall 2022, it is/will be an online course. In Spring 2022, it is a f2f course. We have provided a revised syllabus for the online version (Fitts) in our resubmission to the Gen Ed Board.

Please see added comments in "instructional format" section for information about student: faculty ratio in the course.

KR 2-10-22

Course Edits

Proposed by:

Key: 7564