PH136-15 Logic 1: Introduction to Symbolic Logic

24/25

Department
> Philosophy

Level
> Undergraduate Level 1

Module leader
> Hemdat Lerman

Credit value
> 15

Module duration
> 10 weeks

Assessment
> 100% exam

Study location
> University of Warwick main campus, Coventry

Description

Introductory description

This module provides a study of formal logic, covering both propositional and first-order logic. We will study formal languages, which will allow us to define precise notions of logical validity, and to develop methods to establish the validity or invalidity of arguments. In particular, we will introduce a system of proof (of the natural deduction kind) which can be used to establish that an argument is valid. We will also learn how to translate English sentences into formal language ones and vice versa.

Module aims

To introduce students to first-order logic.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

The module is based on Barwise & Etchemendy: Language, Proof and Logic (CSLI publications,

Stanford)

Learning outcomes

By the end of the module, students should be able to:

- Subject knowledge and understanding: students should be familiar with the notion of a logically valid argument and related notions; they should understand various ways to establish the logical validity or invalidity of arguments; and they should understand how to form and evaluate sentences in the propositional and first-order languages.
- Key skills: students should be able to use logical notions and formal techniques (specifically truth tables and formal proofs) in assessing (or establishing) the validity of arguments; they should be able to construct counterexamples to arguments; and should be able to translate first order sentences – including sentences involving multiple quantifiers, identity and number – to and from English.

Subject specific skills

- An understanding of the notion of logical validity and related logical notions.
- Enhancement of the ability to articulate and evaluate arguments with clarity and precision by enhancing (a) the ability to identify and articulate structural logical relations between English sentences, and (b) the ability to detect and articulate structural ambiguities in English.

Transferable skills

Enhancement of analytic skills, in particular the ability to: (a) articulate ideas and arguments with clarity and precision, (b) analyse and assess complex reasoning, (c) pay careful attention to detail.

Study

Study time

Type	Required
Lectures	9 sessions of 2 hours (12%)
Seminars	8 sessions of 1 hour (5%)
Private study	124 hours (83%)
Total	150 hours

Private study description

Private study.

Students are set weekly exercises on an online system. Feedback is provided online by the system and by the seminar tutors, and further support is provided in the seminars.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group BA

	Weighting	Study time
In-person Examination	100%	

- Answerbook Gold (24 page)

Feedback on assessment

Feedback on examinations will be provided in the form of a summary report.

[Past exam papers for PH136](#)

Availability

Post-requisite modules

If you pass this module, you can take:

- PH342-15 Philosophy of Mathematics

Courses

This module is Core for:

- Year 1 of UPHA-VL78 BA in Philosophy with Psychology
- Year 1 of UHIA-V1V5 Undergraduate History and Philosophy
- UMAA-GV17 Undergraduate Mathematics and Philosophy
  - Year 1 of GV17 Mathematics and Philosophy
  - Year 1 of GV17 Mathematics and Philosophy
  - Year 1 of GV17 Mathematics and Philosophy
- Year 1 of UMAA-GV19 Undergraduate Mathematics and Philosophy with Specialism in Logic

and Foundations
- UPHA-V700 Undergraduate Philosophy
  - Year 1 of V700 Philosophy
  - Year 1 of V700 Philosophy

This module is Optional for:

- UIPA-V5L8 Undergraduate Philosophy and Global Sustainable Development
  - Year 1 of V5L8 Philosophy and Global Sustainable Development
  - Year 1 of V5L8 Philosophy and Global Sustainable Development