

Logic

Code: 100314
ECTS Credits: 6

2025/2026

Degree	Type	Year
Philosophy	OB	2

Contact

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

None.

Objectives and Contextualisation

The objective of this subject is, first of all, to provide an introduction to the fundamental logical notions: logical consequence, satisfiability, consistency, and logical equivalence. Secondly, it aims to equip students with the basic techniques for the logical analysis of deductive reasoning, with special attention to philosophical reasoning. However, the subject can be taken by individuals from other specialties. The nature of the subject is fundamentally practical, but there will also be reflection on the main problems of Philosophy of Logic. We will use a game-based learning methodology, with the aim of enhancing creativity in philosophical argumentation.

Competences

- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Using the symbology and procedures of the formal sciences in the analysis and building of arguments.

Learning Outcomes

1. Ability to maintain an appropriate conversation.
2. Autonomously searching, selecting and processing information both from structured sources (databases, bibliographies, specialized magazines) and from across the network.

3. Correctly, accurately and clearly communicating the acquired philosophical knowledge in oral and written form.
4. Effectively communicating and applying the argumentative and textual processes to formal and scientific texts.
5. Explaining the specific notions of the History of Philosophy.
6. Formulating arguments for and against an issue, using proper vocabulary, conceptual precision and argumentative coherence.
7. Producing an individual work that specifies the work plan and timing of activities.
8. Recognising and implementing the following teamwork skills: commitment to teamwork, habit of cooperation, ability to participate in the problem solving processes.
9. Regularising arguments of any source and calculating its logical correctness.
10. Solving problems autonomously.

Content

1. Introduction to formal logic.
2. Propositional logic: First steps towards symbolization. Connectives. Statements.
3. Semantics of propositional logic. Assignments of truth values. Truth tables. Tautologies, contradictions, and contingent formulas.
4. Satisfiability and logical consequence. Logical equivalence.
5. Natural deduction for propositional logic.
6. History of logic.
7. Syntax and semantics of first-order logic.
8. Logic and artificial intelligence. Computability, Turing machines. Symbolic, connectionist, and neuro-symbolic paradigms of artificial intelligence.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
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Type: Directed			
Deductive games workshop and RPG	20	0.8	2, 3, 4, 6, 1, 8, 10
Solve problems in classroom	41	1.64	9, 6
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Type: Supervised			
Writing of arguments	24	0.96	2, 3, 4, 6, 1, 8, 10
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Type: Autonomous			
Solve problems	30	1.2	9, 10
Study of concepts	25	1	9, 6, 10
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- Combination of theoretical and practical lectures.
- Game-based learning.
- Deductive and RPG workshop.
- Joint resolution of exercises.
- Self-learning activities.
- Introduction of different levels of difficulty in the practical lessons.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Deductive and RPG workshop work.	15%	6	0.24	2, 7, 4, 6, 1, 8, 10
Practical test on first-order logic, Turing machines, and computability.	35%	2	0.08	3, 5, 4, 9, 1, 10
Synthesis Test	50%	2	0.08	3, 5, 9, 6, 10

In this subject, there is no single assessment. There will be three types of evaluative activities: a synthesis test (on the content of points 1-5 of the syllabus), a practical test (on the content of points 6-8 of the syllabus), and participation in a workshop on deductive and role-playing games. The synthesis test will be worth 50% of the grade, the practical test 35%, and the assessment of participation in the games workshop 15%. The activities in the workshop are not recoverable.

The Department of Philosophy agreed that the first-semester students would have two periods dedicated to assessment activities and one week during which students could specifically prepare for the exams, in the format that each instructor will specify at the beginning of the course. The dates for the review week and the assessment periods are:

- October 27 - October 31: week of individual and group tutorials.
- November 3 - November 7 (evaluation week): synthesis test.
- January 8, 9, 12, 13, 14 (assessment week): practical test.

This subject allows the use of AI technologies as an integral part of the submitted work of the games and RPG workshop, provided that the final result reflects a significant contribution from the student in terms of analysis and personal reflection. The student must clearly (i) identify which parts have been generated using AI technology; (ii) specify the tools used; and (iii) include a critical reflection on how these have influenced the process and final outcome of the activity. Lack of transparency regarding the use of AI in the assessed activity will be considered academic dishonesty; the corresponding grade may be lowered, or the work may even be awarded a zero. In cases of greater infringement, more serious action may be taken. These technologies cannot be used neither in the synthesis test nor in the practical test.

On carrying out each evaluation activity, lecturers will inform students (on Moodle) of the procedures to be followed for reviewing all grades awarded, and the date on which such a review will take place.

To take part in the recovery process, the student must have achieved a minimum average grade of at least 3.5 in the subject. All students with an average of 3.5 in the subject have the right to participate in the recovery.

Students will obtain a Not assessed/Not submitted course grade unless they have submitted more than 30% of the assessment items

In the event of a student committing any irregularity that may lead to a significant variation in the grade awarded to an assessment activity, the student will be given a zero for this activity, regardless of any disciplinary process that may take place. In the event of several irregularities in assessment activities of the same subject, the student will be given a zero as the final grade for this subject

Erasmus students who request to reschedule an exam must present a written document from their home university to the professor justifying their request. Note: 15 minutes of a class will be reserved, within the schedule established by the center/degree, for students to complete the evaluation surveys of teacher performance and the evaluation of the subject.

Bibliography

Mandatory: *Forallx Barcelona*, translation and adaptation by P. Dellunde, of the book of P. D. Magnus, *Forallx*, University at Albany, State University of New York, under creative commons licence.

Extensions:

Badesa, C., Jané, I., & Jansana, R. (2007). *Elementos de lógica formal*. Ariel.

Copi, I. M., Cohen, C., & Rodych, V. (2018). *Introduction to logic*. Routledge.

Doxiadis, A., & Papadimitriou, C. H. (2011). *Logicomix: Una búsqueda épica de la verdad* (novela gráfica). Sinsentido.

Lavin, A. (2025). *Thinking well: A logic and critical thinking textbook*, under creative commons licence. [Thinking Well - A Logic And Critical Thinking Textbook 4e \(Lavin\) - Humanities LibreTexts](#)

Sider, T. (2010). *Logic for philosophy*. Oxford University Press.

Software

No specific software is needed

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	11	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	12	Catalan	first semester	morning-mixed
(TE) Theory	1	Catalan	first semester	morning-mixed