Universidad de Navarra

Introduction to Logic (Gr. PPE)

Guía docente 2026-27

INTRODUCTION

The target of Logic is something characteristically human: reasoning. The application of mathematical concepts to the study of reasoning in the work of philosophers and mathematicians such as Frege, Whitehead and Russell, gave rise to what is nowadays known as *Classical Logic*. The target of this course is introducing the student to the basic concepts of Logic, and to classical propositional and first-order logic. The course covers general techniques on proof systems aiming to train students towards the autonomous learning of Logic.

- **Carácter**: Básica.
- **ECTS**: 6
- **Curso y semestre**: Primer curso
- **Idioma**: Inglés.
- **Título**: Philosophy, Politics and Economics.
- **Módulo I**: Fundamentos humanísticos y filosóficos
- **Materia 2**: Fundamentos de Filosofía.
- **Profesor responsable de la asignatura**: Prof. Pablo Cobreros.
- **Profesores**: Prof. Pablo Cobreros
- **Horario**:
- **Aula**:

LEARNING OUTCOMES (Competencies)

CG1 Formular razonamientos críticos y bien argumentados, empleando para ello terminología precisa, recursos especializados y documentación que avale dichos argumentos en los ámbitos de la filosofía, la política y la economía.

CB1 Que los estudiantes hayan demostrado poseer y comprender conocimientos en un área de estudio que parte de la base de la educación secundaria general, y se suele encontrar a un nivel que, si bien se apoya en libros de texto avanzados, incluye también algunos aspectos que implican conocimientos procedentes de la vanguardia de su campo de estudio.

PROGRAM

1. What is Logic about? Sentences, propositions and arguments. Validity and logical consequence.

2. Classical Propositional Logic. The language of propositions, semantics and logical consequence. Proofs by trees.

3. First-order Classical Logic. Motivation. First-order languages and semantics. Proofs by trees.

EDUCATIONAL ACTIVITIES

The contents of this course are highly cumulative. **Students are encouraged to start working from the very first day and weekly not too loose the thread.** As a reward, up to 3 points of the final grades (of 10 points) can be obtained by handing questionnaires and exercises.

Educational activities:

a) Attendance to Master Classes: 50 h.

b) Case studies and in-person practical activities: 20 h.

c) Elaboration and presentation of guided work: 20 h.

c) Personal study: 60 h.

ASSESSMENT

The student can obtain a maximum of 3 points (out of 10 points) of the final grades by handing the practical cases (questionnaires) and the elaboration and presentation of guided work (exercises) in time and form.

A. Case studies and in-person practical activities: 1 point.

B. Elaboration and presentation of guided work: 2 points.

IMPORTANT: Questionnaires and exercises won't be accepted after the deadline without a formal justification.

B. Written exams:

- Pratial exam: 20%
- Final exam: 50%

If a student fails the class they may take a make up exam in June. The 3 points related to submissions can be recovered by handing the exercises prior to the June exam. This exam is 70% of the final marks.

OFFICE HOURS

Pablo Cobreros Wednesday from 9:30 to 11:00

Office 2180

Building Ismael Sánchez-Bella.

BIBLIOGRAFÍA

- Cobreros, Pablo (2013), “Lógic and Paradoxes: lesson 1”. https://www.youtube.com/watch?v=Fph-_PSGXI0

A collection of videos explaining the key concepts in the first subject of the course, including proofs by trees.

- Priest, G. (2008). *An introduction to non-classical logic: From if to is*. Cambridge University Press. Localízalo en la Biblioteca

The course covers a small part of this book. Chapters 1 and 12 are connected to subjects 2 and 3 of this course. In this book you'll find exercises.

- Una oda a los árboles (Spanish)

A book covering some recent developments on non-classical logics.